SOCIAL TENSIONS, EMPLOYMENT GENERATION AND ECONOMIC POLICY IN LATIN AMERICA Inter-American Development Bank

Paris, 2-4/XI/1994

- a. Provisional programme
- b. Provisional list of participants
- c. Supplement to the provisional list of participants
- 1. "Latin American employment prospects in a more liberal trading environment"/ Juan Carlos Collado, David Roland-Holst, Dominique van der Mensbrugghe
- 2. "The employment problem in Latin America"/ Gustavo Márquez
- 3. "Inequality as a constraint on growth in Latin America"/ Nancy Birdsall, Richard Sabot
- 4. "Poverty, redistribution, and political conflicts: a theoretical framework with application to Latin America"/ Gilles Saint-Paul
- 5. "Financial factors in education and economic growth"/ José De Gregorio
- 6. "The German experience4 with employment policies"/ Frank Stille
- 7. "Micro-enterprise development and employment"/ Christian Morrisson
- 8. "Social tensions and social reform in Latin America"/ Louis Emmerij
- 9. "Labour policy in democratic Chile"/ René Cortázar
- 10. "Employment problems and challenges in Colombia"/ Alvaro Reyes Posada
- 11. "Disinflation with unemployment in Latin America: sustainable?"/ Helmut Reisen, Guillermo Larraín
- 12. "Inflation and economic policy reform: social implications in Brazil"/ Edward Amadeo, Gustavo Gonzaga
- 13. "Labour-market consequences of the economic reform in Argentina"/ Carola Pessino
- 14. "Economic opening, financial liberalisation and employment: the Mexican experience"/ Roberto Villarreal Gonda, Adrián Jiménez Gómez

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INTER-AMERICAN DEVELOPMENT BANK OECD DEVELOPMENT CENTRE



International Forum on Latin American Perspectives Paris, 2, 3, & 4 November 1994 Social Tensions, Employment Generation and Economic Policy in Latin America



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EXPERTS SEMINAR Wednesday, 2nd November 1994 OECD, Château de la Muette Roger Ockrent Room

- Co-Chairmen: Jean Bonvin, President, OECD Development Centre Enrique V. Iglesias, President of the Inter-American Development Bank
- 10:00 10:15 Welcoming Remarks: Jean Bonvin, President, OECD Development Centre
- 10:15 10:45 Overview: David Turnham (OECD Development Centre)
- 10.45 11.45 Session I: INTERNATIONAL OUTLOOK AND EXPERIENCE

"Latin American Employment Prospects in a More Liberal Trading Environment"

Juan Carlos Collado (Fundación Tomillo, Spain) David Roland-Holst (OECD Development Centre) Dominique van der Mensbrugghe (OECD Development Centre)

"Policy Conclusions from the OECD Employment Study" John Llewellyn (Head of the Private Office of the Secretary-General, OECD)

- 11.45 12.00 Coffee
- 12.00 13.00 Session II: EMPLOYMENT, INEQUALITY AND GROWTH

"The 'Employment Problem' in Latin America" Gustavo Márquez (Instituto de Estudios Superiores de Administración - IESA, Venezuela)

"Inequality as a Constraint on Growth in Latin America" Richard Sabot (Williams College, USA)

- 13.00 15.00 Working lunch
- 15.00 16.00 Session III: STIMULATING JOB CREATION

"Poverty, Redistribution, and Political Conflicts: A Theoretical Framework with Application to Latin America" Gilles Saint Paul (Département et Laboratoire d'Economie Théorique et Appliquée - DELTA, France)

"Financial Factors in Education and Economic Growth" José De Gregorio (IMF)

- 16.00 16.15 Coffee
- 16.15 18.00 Session IV: HUMAN CAPITAL AND COMPETITIVENESS

"The German Experience with Employment Policies" Frank Stille (German Institute of Economic Research, Berlin)

"Micro-Enterprise Development and Employment" Christian Morrisson (OECD Development Centre)

Thursday, 3rd November 1994 OECD, Château de la Muette Roger Ockrent Room

- 10.00 10.15 "Social Tensions and Social Reform in Latin America" Louis Emmerij (IDB)
- 10.15 11.15 Session V: LABOUR, EMPLOYMENT AND ECONOMIC POLICY

"Labour Policy in Democratic Chile" René Cortázar (former Minister of Labour, Chile)

"Employment Problems and Challenges in Colombia" Alvaro Reyes (Deputy Director, ECONOMETRIA, Colombia)

- 11.15 11.30 Coffee
- 11.30 13.00 Session VI: MANAGING INFLATION WITH JOB CREATION

"Disinflation with Unemployment in Latin America: Sustainable?" Helmut Reisen (OECD Development Centre) Guillermo Larraín (OECD Development Centre)

"Inflation and Economic Policy Reform: Social Implications in Brazil" Gustavo Gonzaga (Pontificia Universidade Católica do Rio de Janeiro, Brazil)

- 13.00 15.00 Working lunch
- 15.00 16.00 Session VII: ECONOMIC OPENING AND SOCIAL TRANSITION

"Labour-Market Consequences of the Economic Reform in Argentina" Carola Pessino (Centro de Estudios Macroeconómicos de Argentina - CEMA, Argentina)

"Economic Opening, Financial Liberalisation and Employment: the Mexican Experience" Adrián Jiménez (Ministry of Trade, Mexico)

- 16.00 16.15 Coffee
- 16.15 18.00 Session VIII: SUMMARY AND CONCLUSIONS

"Social Tensions, Employment Generation and Economic Policy in Latin America"

Juan Somavía, United Nations

CONFERENCE Friday, 4th November 1994 Ministry of Economy and Finance, Paris

8.30 Registration

9.30 Opening of Conference

Co-Chairmen: Jean Bonvin, President of the OECD Development Centre and Enrique V. Iglesias, President of the Inter-American Development Bank

WELCOMING REMARKS: Edmond Alphandéry, Minister of the Economy, France

Panel: Guillermo Perry, Minister of Finance, Colombia
Guillermo Ortiz, Under-Secretary of Finance and Public Credit, Mexico
Christian Noyer, Director of the Treasury, France
André Icard, Director General of Studies, Bank of France
Gert Rosenthal, Executive Secretary, United Nations Economic Commission for
Latin America and the Caribbean

DISCUSSION

13.00 - 15.00 Buffet lunch offered by the organisers

 Panel: Domingo Cavallo, Minister of the Economy, Argentina José Luis Dicenta Ballester, Secretary of State for International Co-operation and for Latin America, Spain
Manuel Marfán, Under-Secretary of Finance, Chile Ryokichi Hirono, Professor of Economics, Seikei University, Japan Juan Prat, Director General for North-South Relations, European Commission Alain Touraine, Professor, Maison des Sciences de l'Homme, France

DISCUSSION

SUMMARY AND CONCLUSIONS: Jean Bonvin and Enrique V. Iglesias

18.00 End of Conference



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BANQUE INTERAMÉRICAINE

BANQUE INTERAMÉRICAINE DE DÉVELOPPEMENT CENTRE DE DÉVELOPPEMENT DE L'OCDE



DE DÉVELOPPEMENT

Forum International sur les Perspectives Latino-américaines Paris, les 2, 3, et 4 novembre 1994 Tensions sociales, création d'emplois et politique économique en Amérique latine

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INTER-AMERICAN DEVELOPMENT BANK OECD DEVELOPMENT CENTRE

International Forum on Latin American Perspectives Paris, 2, 3, & 4 November 1994 Social Tensions, Employment Generation and Economic Policy in Latin America

Liste provisoire des participants

(28.10.94)

Provisional List of Participants

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N.B. Cette liste a été mise à jour le 28 octobre 1994. This list corresponds to information received up to 28 October 1994.

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International Forum on Latin American Perspectives Paris, 2, 3, & 4 November 1994 Social Tensions, Employment Generation and Economic Policy in Latin America

Draft LATIN AMERICAN EMPLOYMENT PROSPECTS IN A MORE LIBERAL TRADING ENVIRONMENT by Juan Carlos Collado **David Roland-Holst** Dominique van der Mensbrugghe



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Introduction

The last decade has seen a proliferation of regional trading agreements, and now these may be embedded in a more liberal global scheme following the successful conclusion of the Uruguay Round. The implications of these trends for industrialised countries can be inferred from recent history. The advent of the EEC and steady liberalisation among most OECD members have led to dramatic growth in trade and contributed substantially to rising living standards. For developing countries, on the other hand, the consequences of regional or global liberalisation can be more difficult to ascertain. While these economies have certainly benefited from expanding participation in the world economy, many have also passed through difficult adjustments during the same period. In some cases their problems are traceable to domestic or inward-looking policies, but there have also been negative experiences originating from external sources. These include instabilities transmitted from commodity-market volatility and intensification of traditional comparative advantages which lead to low levels of human capital formation and unsustainable patterns of resource utilisation.

It is now generally accepted that fuller and more transparent participation in the global economy can be beneficial to developing countries. Given their variegated past experiences, however, it is clear that the right domestic policies are necessary (if not sufficient) for success in this new trade environment. Thus the appropriate co-ordination of domestic and trade policies poses a significant challenge. Given the diversity of these countries in terms of endowments and institutions, it is doubtful that general rules like those applied to trade will generally yield optimal or even implementable domestic policies. For this reason, it is important to examine the adjustment process in these countries empirically, so that policies can be devised which better facilitate realisation of gains from trade.

Nowhere is the challenge of domestic and external policy co-ordination more apparent than in labour markets, where endowment and institutional variations sharply differentiate domestic responses to similar external market conditions. A central theme which emerges from our analysis is that the opportunities created by greater outward orientation can only be fully realised by a labour force with rising productivity levels. This is the reason trade expansion has been so beneficial to OECD and dynamic Asian economies. Productivity can be raised by a variety of means, including education, training, and investment (domestic or foreign), but it is essential if the accelerated resource use which trade liberalisation induces is to translate into sustainable growth and higher and more equitable living standards.

General principles derived from successful experiences elsewhere can provide some guidance, but transferring specific policies can be difficult. Judging from the most rapidly emerging Asian economies, for example, an activist approach to domestic labour markets, education, productivity, and social affairs can greatly facilitate the growth effects of trade. While the principle of activism may be a laudable one, however, the specifics of policy design and implementation must differ between the Asian Pacific, Latin America, and Africa. What is certainly necessary in all these cases is a means of appraising the effects of trade on the economy, its interactions with labour and labour markets, and the expected effects of government policies.

This paper presents one such approach, an empirical tool for evaluating trade and labour policies in developing countries. Using a calibrated general equilibrium (CGE) of the global economy, we study the domestic consequences of more liberal trade regimes, i.e. the structural adjustments, resource pulls, and income changes occasioned within countries. Using detailed specifications of domestic labour markets, we evaluate the changing composition of labour demand by sector and occupational status. These results indicate how labour requirements evolve with trade expansion, and reveal where bottlenecks can occur in terms of human capital and productivity, limiting growth and gains from trade.

The economies of Latin America are of particular interest in this context, since many of them now combine affirmative approaches to trade liberalisation with recent histories of dramatic domestic adjustments and policy reforms. As a variety of authors have pointed out, labour markets have played a central role in the leading Latin American adjustment, stabilisation, and reform experiences¹. Human resources and labour markets will also be decisive in determining the capacity of these economies to grow with trade, and for this reason we examine three of these economies in detail: Argentina, Brazil, and Chile.

The next section of the paper provides a brief discussion of demographic and employment data on the three countries, followed by a survey of global and regional trade patterns. We then provide a brief overview of the South American Labour Simulation Analysis (SALSA) modelling facility, followed by our simulation results for a variety of regional and global trade liberalisation schemes. Our final paragraphs are devoted to conclusions and discussion of how this approach can be applied to other countries and policy issues.

An Overview of Demographics, Labour Markets, and Trade Patterns

Before assessing the economic consequences of alternative future scenarios, it is useful to review the historical context in which these events might take place. This section provides some background information on demographic and economic indicators for the three South American countries which are the focus of our study, as well as a survey of regional and global trade patterns prevailing in the base period of 1990. For all three countries, the interplay of labour markets and trade appears to be of particular significance historically and will to have a commensurate influence on the gains they ultimately realise from more liberal trade in the future.

Demographic and Labour Indicators

In a world of increasing capital mobility, demographic trends are becoming increasingly important determinants of international comparative advantage². Like any natural resource endowment, however, the economic quality of labour can be as important as the quantity³. Indeed, one of the main lessons derived from Asian economies is that their ample endowments of relatively young labour contribute most to rapid and sustainable growth when they are educated, trained, or otherwise prepared for higher productivity (and thus higher wage) employment. Other parts of Asia are replete with examples of populous countries which have been very slow to develop the potential of their labour force, and growth has been correspondingly slower. While inward-oriented trade policies may have abetted low productivity growth in some cases, the observed differences have more to do with domestic, than with external policies.

To get a general idea of demographic trends and their economic significance in the subject countries, we examine a few population statistics for Argentina, Brazil, Chile, and a reference aggregate of all OECD Member countries. The most arresting feature of Figure 1 is the disparity between the three South American countries and the OECD's population growth over the last forty years. Despite an acceleration by Chile in the 1980s, the three are relatively similar in overall growth during this period. Clearly they face significant challenges in terms of education and other human-resource development. In per capita terms, they also have considerably less resources to meet this challenge than their OECD counterparts.

Looking a little deeper into the composition of population, dependency ratios over the same period (Figure 2) reveal a potential silver lining in the cloud of rapid population growth. This ratio estimates the size of the retired population as a percentage of the economically active population, the ratio of those over 64 to those between 15 and 64. As has long been predicted, the OECD population is aging rapidly, and its ability to sustain living standards will increasing rely on accelerated productivity growth and returns to foreign investment. For Argentina and Brazil, the picture is somewhat more optimistic, since their dependency ratios begin at lower levels and consistently



progress more slowly because of larger average family sizes. Their ratios are now at levels the OECD countries enjoyed in the middle of their economic boom years. The potential thus exists for a large productive population which could comfortably support its young and elders, but this depends on economic opportunities and the qualitative human assets, in terms of skills and productivity, required to exploit them fully.

The real outlier in this context is Chile, which has maintained virtually constant dependency ratios for the last twenty-five years. Its current level is about that of the OECD in the early 1960s, and this combined with wage and employment trends discussed below, bode well for the growth and sustainability of household incomes in this country.

Interactions between demographic conditions and labour markets can be elucidated by labour force participation rates. Participation by males (Figure 3) is broadly similar among the three countries and the OECD reference, but important differences can still be discerned. Argentina and Brazil have higher participation among the very young, and this is usually associated with greater inequality and more limited educational opportunities. The latter factor is of particular importance, since most evidence indicates that the lifetime productivity/earnings gains from education exceed those of on-the-job training until beyond secondary school⁴. Given the two countries' rising dependency ratios and relatively flat population pyramids, school retention or/and formal sector vocational development should be primary objectives of sustainable development policy. Chile has substantially lower youth participation rates, and direct estimates of school attendance bear out this result. All three South American countries have large informal sectors with high levels of youth employment, however, so comparisons with the OECD reference should be made with care. In all likelihood, rates are higher than indicated in all age groups and probably exceed OECD rates.

It is apparent that all three countries are far from realizing the economic potential of their female populations, particularly in their mature years (Figure 4). While it is true that women play a prominent role in informal activities in South America, it is doubtful that this explains participation



Figure 5. Labour force participation total, 1990





rates so far below those of the OECD. South American participation exceeds its OECD counterpart only for the youngest Brazilian women, a group which would make a greater long-term contribution by remaining in school. The institutional factors at work here are of course very complex, but female workers clearly make a difference for the OECD, raising it from last in male participation rates to first in overall participation (Figure 5), and raising its production possibilities and real incomes accordingly.

Real wage rates in the three countries have exhibited considerable volatility since 1980 (Figure 6), particularly during the main adjustment period of the mid-1980s. Manufacturing compensation, corrected for domestic purchasing power, has recently returned to its 1980 level, and conditions appear to be improving, but the only reliable upward trend at the moment is in Chile. As will be apparent from the trade data discussed below, contemporaneous differences between wage adjustment in these countries may have to do more with domestic than external forces.



These differences are even more pronounced in trends in total employment (Figure 7). Argentina and Brazil exhibit remarkable stability in unemployment rates, with about the same variance and a significantly lower mean than the OECD. The latter is probably due to the large informal sectors and underemployment in both countries, which provide relatively easy entry and exit from the "looking for work" category used to define unemployment rates⁵. Chile also has a large informal sector, however, and the contrast with its neighbours is striking. Comparison of their wage and employment trends suggests fundamental differences in the dynamics of domestic labour markets, with Chile relying more on quantity adjustment while Argentina and Brazil rely on price adjustment. This inference is consistent with institutional studies, which generally agree that Chilean wages and unemployment reflect more competitive labour markets and external policies during the difficult adjustments of the 1980s⁶.

If the implications of these differences were important over the last fifteen years, they could be even more so in the future. Labour-market rigidities are increasingly associated with slower growth of employment, productivity, and real incomes, even in advanced economies where substantial investments in human capital have already been made. Developing countries, where flexibility in wages and labour mobility often compensate for lower initial productivity levels, can ill afford rigidities which may rob them of early growth opportunities and the externalities these confer on their labour force. These investment externalities include complementary- and productivity-enhancing capital goods, private education in the form training, enlargement of the private tax base to finance public education, and all the downstream benefits of a more productive and affluent labour force⁷.

What can also be inferred from the wage and unemployment trends is that employment security may have been a largely illusory short term benefit. Real wage volatility in Argentina and Brazil was quite comparable to unemployment volatility in Chile and, by the second half of the adjustment period, the combined trends in Chilean wages and employment appear much more favourable. Chilean real wage gains were certainly abetted by more successful deflationary policies, but that success is itself partly ascribable to the export advantages of more flexible labour markets.

A general picture emerges of three economies with important demographic similarities and institutional differences. All three have populations whose growth rates and age composition resemble the OECD three decades ago. The labour markets in each country differ substantially, however, not only with respect to the OECD (average) but to one another. This is revealed by their varied adjustment experiences, underlying which are domestic policies and institutions with very different capacities take advantage of a more liberal global trading environment.

Global and Regional Trade Patterns

The SALSA simulation model is calibrated to a detailed matrix of bilateral trade flows for the base year (1990). Before proceeding to discuss the formal model structure and reporting on simulation experiments, some insights can be gained from this data on the existing composition of trade. For the three South American countries in particular, these numbers reveal the patterns of new opportunity for trade expansion.

The three South American economies relied on western OECD countries to buy between half (Argentina) and two-thirds (Brazil) of their exports in 1990 (first suitable of Table 1). Brazil and especially Chile had significant exports to the Pacific Asian group (Japan, Korea, Chinese Taipei, and Singapore), but Argentina had a limited commitment to that rapidly emerging market. What is perhaps most conspicuous about the export patterns is the sparsity of intra-regional trade. Only Argentine exports to Brazil represented more than 10 per cent of national exports for any of the three countries in this region.

The same patterns generally emerge from the import perspective (second suitable of Table 1), with relatively low intra-regional import dependence, high levels with respect to Europe and NAFTA. Again the three reveal a low level of participation in the Pacific economy, with only Chile indicating import shares in excess of 10 per cent. All three of these factors indicate that the influence of historical trade patterns has been slow to yield to emerging market opportunities. This is probably due to a combination of domestic and external factors, including customary private and public relationships, incomplete information, and domestic and foreign trade distortions.

What exactly is the potential of the regional and Asian Pacific markets? The results of the next section will give some indication of this in the context of reduced trade distortions, but from these trade matrices it is reasonable to infer that the potential of a South American trading community is far from being realised. These economies should be sufficiently differentiated to permit more specialisation and significant gains from expanded regional trade. the NAFTA and European groups, by contrast, retain 42 and 72 per cent of their exports and 35 and 71 per cent of their imports, respectively.

While trade patterns in 1990 may conform to historic bilateral relations, they were far from symmetric. Global export/import ratios in this year indicate substantial imbalances in bilateral regional trade and large overall imbalances for individual countries (third suitable of Table 1). In this year, all three South American countries had substantial export surpluses. Argentina in particular experienced export outflows over two and a half times their import absorption, the difference largely taking the form of debt service (not shown).

On a bilateral basis, the imbalances are even more extreme, and reveal a relatively specialised mosaic of trade relationships. Argentine exports to China, for example, were more than eight-fold the reverse flow, while NAFTA had a large bilateral current account deficit with China. Either those sought-after Chinese imports were redundant in the Argentine market, or informational and other institutional barriers have limited growth of this trade. The same observation applies to Brazil regarding China and to all three South American countries regarding India. Admittedly the latter

country is less accessible than those of the Asian Pacific, but both the NAFTA and Other Latin America groups maintained more balanced trade with India. Healthy exports of primary products from Argentina, Brazil, and Chile are understandably in light of their endowments, but unit labour costs in East and Southern Asia should make their imports attractive to high wage South American economies.

A more focused image of trade patterns is presented in Tables 2 and 4, which detail the regional composition of sectoral trade flows for the three countries. Each table depicts export and import patterns separately, with sectoral shares in total trade in the rightmost column. These sectoral shares reveal patterns of comparative advantage for exports and import dependence, while the totals for each column measure the same regional trade patterns appearing in the rows of Table 1.

Argentina's exports in 1990 were concentrated in agriculture and food processing, with most of these goods going to Europe, Brazil, NAFTA, OLA, and the composite Rest of World (ROW) group. Sectors with lower export shares but greater regional trade diversification include nonmetal minerals, metals, and motors & machinery. On the import side, Argentina relies heavily on foreign sources of chemicals, including agrochemicals in particular, with most of this coming from NAFTA and Europe. Machinery and advanced manufactures are also major import categories, and here the PAC group plays a more significant role. Imports from lower-wage Asian countries are negligible in all product groups, however.

It is noteworthy that NAFTA, which delivers over one quarter of Argentina's imports, only purchases about 16 per cent of its exports, while trade with Europe is more balanced. Major Argentine exports to Brazil are agricultural goods, processed foods, and chemicals, while its main imports from there are minerals, chemicals, metals, and machinery. Trade shares with Chile were quite small at the time the data was assembled, dominated in the export side by energy, food processing, chemicals, and metals, and on the import side by agriculture and metals. The relatively extensive (though small in absolute terms) intra-industry trade flows between the three countries indicates considerable scope for specialisation, reinforcing the case for trade expansion in the region.

Brazilian exports are concentrated in primary, extractive, and immediately downstream sectors, with agriculture, minerals, food processing, and metals representing over 55 per cent. While this country's exports are still targeted primarily at NAFTA and Europe, they have more extensively developed Asian ties than those of Argentina. Export shares with PAC and China are more than double those of Argentina. Brazilian imports are more dispersed sectorally and regionally than imports, but the country is heavily dependent on foreign energy, chemical products, and advanced manufactures. Its trade with NAFTA is more balanced, but relatively imbalanced vis-à-vis Europe. Exports to Chile were fairly small in 1990, consisting mainly of chemicals and manufactures, while its Chilean imports were divided among agriculture, minerals, wood products, chemicals, and metals.

Judging from the trade data available for 1990, Chile is at once the most regionally diversified and sectorally specialised exporter among the three countries. Over three quarters of its exports were in four sectors, agriculture, minerals, food processing, and metals. Geographically, Chile is more articulated into the Pacific economy, to where (including NAFTA) more than 40 per cent of its exports are directed. Especially interesting is the degree to which Chile has developed its Asian-Pacific opportunities, sending about one quarter of its exports there. Its access to Chinese and Indian markets remained limited, however. Chile had significant import dependence in chemicals and advanced manufactures, but its import bill was otherwise fairly balanced. Regionally, it was significantly more import dependent than export dependent on Argentina and Brazil, and its trade with the former was particularly asymetric.

Examining the geographic and sectoral dispersion of trade for these three large and diversified economies gives one a strong impression of opportunities forgone, particularly with respect to trade within this group and with the rapidly emerging Asian Pacific. As these countries expand their outward trade orientation, they will encounter a combination of external and domestic impediments, many of which have probably reinforced the more specialised trade patterns prevailing until 1990. The new regionalism and multilateralism provides an historic opportunity to overcome the external

obstacles, but identifying and overcoming the domestic ones remains a challenge for public and private institutions alike.

A Brief Description of the SALSA Modelling Facility

Dimensions

The SALSA model is global, with the totality of world production and trade aggregated into ten regions. Table 5 provides a definition of the regional decomposition. Latin America has been divided into Argentina, Brazil, Chile, and an aggregate region including all the other Latin American and Caribbean countries except Mexico. The three North American countries, Canada, Mexico, and the United States, are aggregated into a single NAFTA region. The European region contains all the countries of the European Union (EU) and the European Free Trade Area (EFTA). There are three Asian regions. The first is an aggregation of Japan and the four "tigers", Korea, Taiwan, Hong Kong, and Singapore. The other two Asian regions are China and India and each is modelled individually. To close the model, there is a rest of the world region, ROW, which includes all other countries.

The second key dimension of the model is the commodity (or sectoral) breakdown of economic activities. The model incorporates 19 sectors listed in Table 6. The purpose of the commodity decomposition is to capture the essence of the trade patterns between the Latin American region and the rest of the global economy. It includes some key linkages, such as agriculture and food processing, textiles and apparel, and vehicle parts and vehicles. Construction and services represent two key non-tradable commodities.

The third key dimension is the disaggregation of the wage bill into its components by skill level. This will be described in more detail below in the discussion of the production structure of the model.

Finally, the model is recursive dynamic. The base year is 1990. The model solves for the years 1992, 1995, 1998, 2001, and 2004.

Production

As with many applied general equilibrium models, the SALSA model decomposes the production structure into a series of nested decisions allowing for a wide range of substitution possibilities between the various inputs. Figure 8 provides a graphical depiction of the nested production structure.

The top level of the production structure decomposes the production decision between aggregate non-energy inputs and an aggregate bundle composed of energy and value added (capital and labour). While there is the possibility for allowing some substitution between intermediate inputs and value added, for purposes, it is assumed that the substitution elasticity is zero, or in other words the value added-energy bundle are always mixed in fixed proportions with the non-energy intermediate inputs. It is also assumed that all the non-energy inputs are consumed in fixed proportion amongst themselves, though it is possible to substitute between domestic and imported intermediate goods.

The next level of the production structure decomposes the energy-value added bundle into aggregate labour demand, on the one hand, and a capital-energy bundle on the other. The capital-energy bundle is split into its two components allowing for substitution between the two.

The labour component is further disaggregated into labour demand by skill. Producers will choose the optimal mix of labour skills based on relative wages and the available production technology. The model disaggregates labour demand into four components: a) professionals and managers; b) clerical, sales, and service workers; c) agricultural workers; and d) production,



Figure 8. Production structure

transportation and other workers. The degree of substitutability across skills will be a key parameter in the simulation experiments.

Consumption

In each region, there is a single representative consumer (household), who allocates disposable income across the various commodities. The model uses an extension of the familiar Stone-Geary consumer demand system, known as the extended linear expenditure system (ELES). The ELES has several distinct advantages over other demand systems. It allows for commodity-specific income elasticities which can either be econometrically estimated or derived from literature searches, it is easy to calibrate and implement, and it integrates the household saving decision in the consumer optimisation process. In the ELES system, consumption is represented as the sum of two components, a subsistence minimum (also known as floor consumption), and a share of supernumerary income, which is the residual disposable income after subtracting expenditures on the subsistence minima. Household direct taxation is a fixed proportion of income.

Other Final Demand

There are two or three other final demand accounts: government expenditures, investment expenditures, and possibly changes in inventory. Aggregate real government expenditure is assumed to be fixed, while aggregate real investment expenditure will depend on the closure rule. The decomposition into demand for commodities is assumed to use fixed shares in both cases.

Trade

The model uses an extension of the familiar Armington hypothesis to implement trade equations. The principle behind the Armington assumption is that goods are differentiated according to region of origin. In practice this means that each agent specifies demand for a specific *aggregate* good (derived from maximising utility for example). This good is known as the Armington good which is a composite of two goods, one produced domestically, and the other produced abroad. At the next stage of the demand system, agents decompose demand for the aggregate good into its domestic and (aggregate) import components based on relative prices and (calibrated) penetration shares⁸. The final stage of the demand system is the disaggregation of the aggregate import demand into import demand from the different regions of the model. The modelling of trade in this fashion assures that the inter-regional trade matrices are always globally consistent. It also allows each country to implement partner-specific trade restrictions therefore encompassing the trend towards regional trading blocks.

Export supply is treated symmetrically to import demand, i.e. domestic producers are assumed to differentiate between domestic and export markets. A rise in export prices (relative to domestic prices), induces producers to shift production resources towards export markets. The model implements a constant elasticity of transformation (CET) curve to capture this assumption.

Equilibrium

Production occurs assuming constant-returns-to-scale technology, therefore domestic supply is determined identically to domestic demand plus exports, i.e. goods equilibrium is always insured.

Factor prices, wages and capital returns, are generally determined by equilibrium conditions. In both markets there is a wide range of possibilities. In a long term model, we assume that capital is perfectly mobile across sectors which leads to equalisation of profit rates. In a short term model, we assume that capital supply is sector-specific, or in other words, there is no capital mobility, and therefore the profit rates are also sector-specific. A medium term model would allow for some degree of capital mobility. The dynamic nature of the model allows us to integrate both short term capital immobility and long term capital mobility. This version of the model assumes a putty-semi putty structure for capital markets. In other words, old, or installed capital is assumed to be only partially mobile, while new capital is assumed to be perfectly mobile across sectors.

We usually assume that labour, at least in the short and medium term, is more mobile than capital. In general, we will assume that labour of a specific skill is perfectly mobile across sectors which implies a single economy-wide wage rate for each skill, assuming labour markets are competitive. The model includes a labour supply curve, which can vary in its degree of flexibility, i.e. it can be either completely vertical in which case labour supply is fixed, or it can have some slope, in which case labour supply would increase if real wages were to rise.

Closure

There are three key macro closure rules. The first concerns the government revenue-expenditure balance. For the purposes of the simulations, we assume real government saving is fixed in each region. The instrument used to achieve the balance is the household tax schedule which will shift either right or left to guarantee the balance holds⁹.

The second closure rule concerns the saving-investment balance. The SALSA model incorporates two potential closure rules, both have savings-driven investment. Under a more restrictive closure rule, domestic investment is equal to domestic saving plus an exogenous level of foreign saving, which is fixed in any given time period, but allowed to vary over time¹⁰. This has

significant implications for trade liberalisation scenarios since the level of foreign saving is not allowed to adjust endogenously to changing rates of return of investment. Under the alternative closure rule, aggregate world investment is equal to aggregate world saving, and the global pool of investment funds is allocated across countries as a function of the relative cost of investing¹¹. Domestic investment is therefore determined by global decision making, and foreign saving is endogenously determined as the difference between the level of domestic investment and domestic saving. Under this assumption countries are not constrained by domestic saving. Trade liberalisation scenarios tend to have a positive impact on foreign investment. With trade liberalisation, the local cost of investing typically decreases relative to the costs in the rest of the world leading to an inflow of foreign investment funds. All the simulations reported in this paper implement the second closure rule, i.e. endogenous foreign saving.

The third and final closure rule concerns the external account. It is assumed that the trade balance is equal to the level of foreign saving. Adjustment occurs through the real exchange rate. This has powerful implications. A unilateral action to open trading normally leads to an increase in import demand. With a given trade balance, this requires an increase in exports. If all else remains the same, this typically generates a decrease in the real exchange rate (which can be approximated by a decrease in domestic factor prices). The first investment closure rule reinforces this impact because the level of foreign saving is fixed. Under the second closure rule, new flows of foreign investment will mitigate the impact on the real exchange rate, possibly even leading to a reversal, or a real exchange rate appreciation.

Dynamics

The SALSA model is a recursive-dynamic model which covers the period 1990-2004. Each period is solved as a single static equilibrium, with transition equations used to link the static equilibria. There is no forward-looking behaviour in the model. There are several important features to the dynamics of the model: factor accumulation, putty-semi putty capital in production, and productivity.

The labour supply curve is assumed to shift out at an exogenously specified growth rate which is related to the population growth rate. Capital in each period is composed of two elements. Old capital is equal to the previous period's capital less depreciation. The depreciation rate is region-specific but constant over time. New capital is equal to the previous period's level of investment. As we have seen, old capital is assumed to be partially mobile across sectors, whereas new capital is perfectly mobile. In terms of the production structure, we also assume that the substitution possibilities for old capital, with energy and labour, are lower than the substitution possibility for new capital. This implies that the aggregate substitutability will be an average over old and new capital. Therefore, an acceleration of investment will lead to a more flexible economy over time.

There are three sources of productivity increases in the model: labour, capital, and energy. Both labour and energy efficiency are assumed to increase at an exogenously specified rate. Capital efficiency is also normally exogenous. The exception is in the specification of the reference, or base, scenario. The reference scenario is used as a benchmark for subsequent simulation analyses. In other words, the results from policy shocks will be compared to the results from the reference scenario. One of the exogenous elements which enters the reference scenario is the region-specific growth path for real GDP. In order to make the reference simulation results compatible with the exogenously specified path for real GDP, the capital efficiency factor is calibrated in the reference simulation. In all subsequent simulations, the capital efficiency factor is fixed at its value from the reference simulation.

In several simulations, we introduce an exogenous shift in the labour productivity factor. The empirical evidence linking trade reform to productivity shifts is sparse, but is commonly believed to be important. In simulations reported below, we exogenously add 1 per cent to the growth of labour

productivity in some of the regions to assess the impact of this additional factor in trade liberalisation scenarios¹².

Trade Liberalisation and Employment in Three South American Countries

In addition to the general market efficiency improvements, trade liberalisation has many dynamic effects. In particular, developing countries which liberalise often expect that trade expansion and international price discipline will lead to domestic market restructuring, foreign capital inflows, and accelerated productivity growth. Indeed it has often been argued that induced domestic efficiency and dynamic growth gains far outweigh the essentially static benefits of reduced import prices, improved export competitiveness, and trade realignments. Here, we examine the implications of a variety of liberalisation scenarios for the Americas in general and Argentina, Brazil, and Chile in particular. Our results accord with the view that dynamic effects can exceed static ones. Trade reform only opens to door to growth opportunities. It is domestic conditions, including adjustment capacity and productivity growth, which ultimately determine the course of real income growth.

The SALSA model was used to evaluate the effects of three types of multilateral trade liberalisation, variants of well-known alternatives which have been under discussion in the region for some time. The first experiment assumes that the three largest South American countries form an exclusive free trade zone. In this free trade area, termed the Three-Economy Single Trade Area (TESTA), it is assumed that Argentina, Brazil, and Chile eliminate all bilateral nominal tariffs and maintain their existing bilateral tariffs against other countries¹³. In a second scenario, we assume that the three join NAFTA to form the tariff-free Six Economy Single Trade Area (SIESTA). Third, we consider tariff abolition across both continents, a Pan American Single Trade Area (PASTA) including all the economies of the Americas.

Simulation results for the three scenarios (Table 7) indicate that regional trade agreements are generally beneficial to their participants, but may be detrimental to their neighbours because of trade diversion. Argentina, Brazil, and Chile all gain from the TESTA arrangement liberalising bilateral imports between them. By 2004, all three have real income and consumption levels well above their business-as-usual trends. Equivalent Variation (EV) income indicates the change in real purchasing power of domestic GDP. For the three members, this figure rises by \$1.4, \$2.2, and \$0.3 billion 1990 above its 2004 reference levels. Although the TESTA liberalisation appears beneficial, it is reasonable to conclude from this and subsequent results that this economic community is too small and specialised to realise extensive gains from trade expansion.

Employment rises by 17, 83, and 30 thousand workers per three-year interval by 2004. Both the Other Latin America (OLA) and NAFTA regions suffer slightly in this case because of reduced trade with the TESTA group. The fortunes of NAFTA are reversed if it joins with the other three to form SIESTA, but its gains are smaller than Brazil and only slightly larger than Argentina's because of smaller initial trade shares with this region. Employment for 2004 within the SIESTA region rises by about one million additional workers as a result of liberalisation. The OLA group experiences modest contraction as a result of their exclusion.

The most significant gains are for the comprehensive regional trade accord. By 2004, the PASTA region enjoys additional three-year employment of about two million workers, almost half in the newly included OLA region. EV income improves over the 2004 base by 2.7, 2.5, and 3.0 per cent for Argentina, Brazil, and Chile, respectively. For the region as a whole, EV income in 2004 is \$38 billion (1990) above its baseline level, real GDP (RGDP) \$40 billion higher, and real consumption \$25 billion higher. NAFTA is the only SIESTA member which gains less from the Pan American accord, but it still enjoys over 90 000 extra jobs per period by 2004

Capital flows appear to play an important role in expansion of the Latin American countries. Total Investment rises faster than Consumption in Brazil, Chile, and (in the PASTA scenario) in OLA and almost as fast in Argentina, indicating that the liberalising economies are beneficiaries of foreign investment. Indeed, judging from declines in Tinv for excluded countries and NAFTA in the PASTA scenario, capital diversion is almost as important a stimulus as trade diversion in determining the dynamic benefits of trade liberalisation. It is also apparent that capital inflows moderate and in a few cases reverse the real exchange rate depreciation ensuing from tariff liberalisation. This is the familiar cloud within the silver lining of successful FDI policies, where upward exchange rate pressure from foreign inflows can reduce export competitiveness

The response of trade patterns to liberalisation is particularly interesting, since it has many implications for bilateral relations. Results for the PASTA liberalisation (Table 8) indicate dramatic growth of trade between Argentina, Brazil, Chile and Other Latin America, with bilateral flows rising over 80 percent above 2004 reference levels in several cases. Trade between these three and their NAFTA partners also expands significantly, but this time with more asymmetry since imports from NAFTA rise much more steeply than exports from south to north. There also appears to be some trade diversion which might be detrimental to other regions, but this is far outweighed by trade creation. Global trade is \$14.9 billion above its baseline 2004 value, and total imports and exports for all the PASTA member countries increase by at least 5 per cent. While it appears that Latin American imports from non-members are reduced by trade diversion, only Argentina exports less outside the community by 2004.

The growth effects of removing market distortions and capital inflows have significant effects on domestic labour markets, and the composition of these is more revealing. In the first three experiments, it was assumed that average labour productivity remained constant during the period 1995-2004. In this case, the quality of labour becomes a limiting factor on growth and the realisation of gains from trade and foreign investment. Real wages rise significantly in the three South American countries and the Other Latin America Region (Table 9), particularly in the most highly skilled occupational categories of Professional Managers (ProfManag) and Other Labour (Olabour, including most skilled wage workers). While this is beneficial to incumbents, it indicates relative scarcity of skills and productivity levels which are needed to facilitate faster and more sustainable growth.

One of the most sought-after fringe benefits of trade liberalisation in developing countries is the constellation of so-called endogenous growth effects, including in particular labour productivity growth. Our results indicate that human capital does limit the expansionary potential of trade liberalisation in Latin America, and it is thus reasonable to ask what would be the growth potential of such endogenous effects within the region. While the SALSA model simulates international capital movements, it contains no specification of the domestic linkages between external effects and productivity growth, learning by doing, x-efficiency, etc. The literature on endogenous growth offers no consensus on a theoretical model, let alone one that could be implemented empirically. Despite the difficulty in explaining its origins, it is clear that, in countries with appropriate domestic conditions, we have chosen to specify productivity growth exogenously. This permits interpretation of our results subject to the reader's own assessment of the plausibility of productivity growth scenarios.

To elucidate the role of domestic efficiency and productivity growth, we have repeated the three liberalisation scenarios, assuming that each of the Latin American participants in each agreement enjoys annual productivity growth of one percentage point for each of their four labour categories. This labour productivity growth is specified as an exogenous counterfactual, without reference to a verbal or analytical rationale about how it might eventuate in each country. The one per cent figure is simply intended as a reference case for calibrating how productivity growth increases an economy's potential to benefit from trade liberalisation¹⁴.

The aggregate results for these scenarios indicate that domestic productivity effects can significantly amplify the domestic and regional gains from trade liberalisation. If a combination of tariff reductions and domestic policies fostering human capital formation achieve even the modest target of one per cent labour productivity growth per annum, gains from regional liberalisation will be amplified considerably. For Pan American Liberalisation (PASTA), regional real GDP (RGDP) rises

by \$118 billion (1990) above its 2004 reference level, equivalent variation income \$104 billion, and real consumption \$67 billion. Even with modest productivity growth, these results are more than double their no-growth counterparts. Gains in the other two scenarios are generally greater than in their no-productivity growth counterparts, but some results are ambiguous. The TESTA community, for example, appears to be too small to realise full gains from specialisation for Argentina's skilled workforce, and thus employment actually declines with productivity growth. This effect is offset by access to NAFTA markets in SIESTA, but the omitted Latin American countries are detrimentally affected.

The Pan American economic community is again a beneficiary of substantial foreign investment, and only the United States has total investment below baseline levels (a modest \$1 billion). These inflows are about two-thirds higher than those in the previous PASTA scenario, and are at once a response to and *raison d'être* for the assumed labour productivity growth. All that would be required, with investment levels rising at the same rate as consumption, are the domestic conditions and policies necessary to foster human-capital formation. It is also apparent that the income effects of this process may provide the fiscal means to sustain educational and other human-capacity development programmes which deliver the desired productivity growth as they have in Asia.

Under PASTA and by 2004, total trade in the region rises by \$19 billion (1990) over its business-as-usual level (Table 11), this despite contractions of exports and imports from non-member countries. Trade diversion does appear to represent most of the adjustment, since total world trade for the region expands only about 0.6 per cent. It is all the more remarkable then that this reorientation of trade achieves such efficiency gains¹⁵. In percentage terms, bilateral trade in the region rises by as much as 91 per cent, and even Latin American exports outside the community expand in most cases. Argentina and Brazilian trade expand the most in percentage terms, with Chile following close behind.

Effects on domestic labour markets vary significantly in terms of wages, but are comparable for employment. Productivity growth relieves the relative scarcity of labour and moderates wage gains, particularly in higher skill categories, but they still enjoy superior (i.e. above reference) employment and real wage growth everywhere except in Argentina. Despite these redistribution effects, per capita real GDP and consumption still increase substantially. It should be borne in mind, however, that we have made strong uniformity assumptions about both labour productivity growth and labour market adjustments. For the former, we assume that domestic policies and endogenous forces achieve uniformity of productivity growth across occupation groups. For the latter, we assumed that domestic labour markets operate after liberalisation, without reference to historical precedent, in a purely competitive manner. These are extreme referential cases, but they point in a very rewarding direction in terms of domestic living standards and sustainable development.

Conclusions and Extensions

While the economies of the Americas are increasingly preoccupied with fostering more extensive trade linkages, they would also do well to consider how domestic policies can best facilitate the realisation of gains from trade expansion. Experience elsewhere has demonstrated that domestic policies can be the most important determinant of success for regional trading blocs. Developing countries are now well aware of this linkage, indeed some of the most sought-after fringe benefits of trade reform are induced domestic changes which make their economies more conducive to growth. Without these so-called endogenous growth factors, trade liberalisation can lead simply to intensification of traditional comparative advantage, accelerated resource depletion, and stultified diversification, all of which undermine the basis for sustainable development.

We have used a multilateral simulation model to appraise the prospects for trade liberalisation in the Americas, with particular reference to Argentina, Brazil, and Chile. Our results indicate that there

are substantial gains to be obtained from more liberal trade in the region, and that the more inclusive the region, the greater are the overall gains. If, as one might reasonably expect, these market reforms led to labour productivity growth of as much as one per cent per annum, the results would be substantially more expansionary. If the Americas were to form a tariff-free zone in 1995, their regional real GDP would by 2004 be over \$100 billion (1990) above its level in the absence of liberalisation. In the absence of productivity growth, regional GDP still rises significantly above its 2004 reference level (\$40 billion higher), but this is only about one third of the growth accruing to one per cent annual labour productivity improvements over the same ten year interval.

Clearly, human-capital accumulation is important to the majority of the region's inhabitants, and domestic policies that foster it are essential companions to more outward oriented trade policies. The results obtained here amplify this point - trade reform and adjustment alone are not enough. While external policies can open the door to expanded market opportunities, domestic reforms are needed to attract capital inflows (from expatriate as well as foreign sources) and promote domestic efficiency and productivity growth. Most South American countries are still far from realising the potential of their populations, both in terms of resources for public education and the labour-market flexibility necessary to foster greater participation, efficiency, and human capacity development.

The empirical framework used for this research will be extended in several directions for more detailed analysis of Latin America and, eventually, developing countries in several other regions. Subsequent versions of the model will include a richer specification of labour markets, more detail on income distribution, some endogenous treatment of growth effects, and greater regional disaggregation. While conclusions about the need for external and domestic policy co-ordination will likely remain unchanged, we feel strongly that more empirical work of this kind is needed to support domestic policy reform in developing countries. Only with a better understanding of the complex linkages in their economies will they be able to design and implement policies that more fully realize their economic potential.

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Notes

- 1. See e.g. Horton, Kanbur, and Mazumdar (1994).
- 2. See e.g. Fischer and Reisen (1994) for a discussion of links between demographics and capital flows.
- 3. USDE (1988) provides more empirical background and source material on this subject.
- 4. There is a large literature on returns to education, including detailed work on Brazil and Chile. These studies find high rates of return to school retention well into the university level. See e.g. Berhman and Birdsall (1983), Lam and Schoeni (1993), Psacharopoulos (11985), and Riveros (1990c).
- 5. A large amount of migration between informal and formal employment does seem to have taken place during this period, accompanied by large shifts from agriculture to tertiary and urban informal activities. See Dieguez and Gerchunof (1984), Fiszbein (1992), Lindenboim (1985), Lubell (1991), and Marshall (1987) for more discussion. In all three countries, the volume and composition of government employment has made significant adjustments during the period. See e.g. Marshall and Romaguera (1981).
- 6. Compare e.g. Corbo and Meller (1984), Cortazar (1983), Infante and Klein (1991), Llach (1987), Lopez and Riveros (1988, 1990), Mann and Sanchez (1985), Paredes (1987), Riveros (1989, 1990a-c), Riveros and Diaz (1987), and Sánchez (1987). There is also a large regional literature on specific labour market rigidities such as minimum wages. See e.g. Almieda Reis and Guilherme (1989), Camargo (1988), Corbo (1981), Paldam and Riveros (1987), Riveros and Paredes (1988), Sánchez and Giordano (1988)
- 7. Results for Chile by Corbo and Stelcner (1983) indicate that education and experience contributes over 50 per cent more to earnings differences, and the majority of this is attributable to education.
- 8. The model uses the Constant Elasticity of Substitution (CES) functional form to implement the Armington assumption.
- 9. This is equivalent to lump sum taxation or rebates.
- 10. The sum across regions of foreign saving must of course equal 0.
- 11. A CES function is used to implement the decision making behaviour of the "global" investor.
- 12. If the pre-liberalisation productivity growth rate is 3 per cent, the post-simulation productivity factor is set to 4 per cent.
- 13. We do not consider the effects of nontariff barriers or export subsidies in any of the present scenarios.
- 14. By comparison, the dynamic Asian economies averaged two per cent annual total factor productivity growth over the period 1970-90.
- 15. Recall also that the baseline contains some growth in trade between the Americas and the ROW, but that this scenario contains no exogenous efficiency effects which could stimulate ROW growth.

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					(1990 perc	entages)					
· · ·					Destind	ution					
Exporter	Argentina	Brazil	Chile	OLA	NAFTA	Europe	PAC	China	India	Other	Total
Argentina	0	12	4	9	16	33	5	2	0	19	100
Brazil	2	0	1	6	27	35	13	1	0	14	100
Chile	1	6	0	5	18	36	25	0	0	8	100
OLA	0	3	0	11	41	22	5	0	0	15	100
NAFTA	0	1	0	4	42	22	18	1	0	10	100
Europe	0	0	0	0	8	72	4	0	0	13	. 100
PAC	0	0	0	2	34	20	20	4	0	19	100 ·
China	0	0	0	0	30	23	32	0	0	13	100
India	0	0	0	0	18	31	15	0	0	35	100
Other	. 0	0	0	0	12	34	21	2	1	28	100
					Orig	in					
Importer	Argentina	Brazil	Chile	OLA	NAFTA	Europe	PAC	China	India	Other	Total
Argentina	0	13	2	8	26	37	7	· 0	0	6	100
Brazil	7	0	. 2	8	25	26	7	0	0	25	100
Chile	8	. 8	0	8	29	28	13	0	0	6	100
OLA	2	4	0	11	34	26	. г. 14	0	0	7	100
NAFTA	0	i	0	4	35	20	26	2	0		. 100 .
Europe	0	0	0	0	7	71	.6	649 0 176	0	12	100
PAC	0	1	0	0	23	17	24	4	0	29	100
China	0	0	0	0	16	17	44		0	20	100
India	0	0	0	0	13	37	14	0	0	34	100
Other	0	. 0	0	2	10	39	- 17	1	1	29	100
					Partn	er		1. i		•	·1 **
Bilateral E	xport/Import I	Ratios					0.5			Call of the	
	Argentina	Brazil	Chile	OLA	NAFTA	Europe	PAC	:'China	India	Other .	, . Total
Argentina	0	223	461	290	152	226	206	865	2197	804	255
Brazil	45	0	97	128	158	203	273	213	780	87	150
Chile	22	103	0	80	80	164	257	68	532	172	130
OLA	35	78	125	100	123	87	34	97	117	223	102
NAFTA	66	63	126	81	100	92	57	. 49	88	80	83
Europe	44	49	61	115	109	100	69	65	145	113	100
PAC	48	37	39	297	176	146	100	124	116	78	121
China	12	47	147	103	203	154	80	[`] 100	183	73	111
India.	5	13	19	85	114	69	86	55	· 0	86	82
Other	12	115	58	45	126	89	127	137	116	100	102

Table 1: Regional Trade Flows (1990 percentages)

Trade in services is excluded. CHELEM (1993), COMTRADE Note:

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Sources:

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Exp	ort Composition					Destin	ation					
		Argentina	Brazil	Chile	OLA	NAFT	Europe	PAC	China	India	Other	Total
1	Agriculture	0.00	2.28	0.17	1.53	1.42	12.19	1.36	1.04	0.03	6.47	26.50
2	Minerals	0.00	0.12	0.00	0.02	0.00	0.11	0.03	0.00	0.00	0.00	0.30
3	Energy	0.00	0.12	0.78	1.01	3.73	0.51	0.12	0.00	0.00	0.28	6.53
4	FoodProcessing	0.00	4.65	0.65	2.37	4.12	14.18	1.27	0.42	0.13	8.13	35.93
5	Textiles	0.00	0.34	0.04	0.04	0.17	0.37	0.00	0.00	0.00	0.04	1.01
6	Apparel	0.00	0.03	0.03	0.09	0.28	0.10	0.00	0.00	0.00	0.00	0.53
7 [.]	Leather Products	0.00	0.28	0.04	0.22	2.13	1.51	0.26	0.03	0.00	0.51	5.00
8	Wood Prod	0.00	0.40	0.14	0.26	0.21	0.45	0.11	0.00	0.00	0.17	1.74
9	Chemicals	0.00	1.22	0.61	1.25	0.98	1.36	0.17	0.05	0.03	0.76	6.44
10	NonMetal Minerals	0.00	0.17	0.12	0.14	0.11	0.12	0.00	0.00	0.00	0.07	0.74
11	Metals	0.00	0.17	0.48	0.67	0.98	1.29	1.50	0.38	0.33	2.04	7.83
12	Motors&Machinery	0.00	0.78	0.27	0.52	0.26	0.14	0.00	0.00	0.02	0.05	2.07
13	Inst. Electnics&ElecAppl	0.00	0.23	0.11	0.33	0.22	0.16	0.49	0.00	0.00	0.16	1.69
14	Vehicle Parts	0.00	0.37	0.06	0.10	0.16	0.22	0.00	0.00	0.00	0.06	0.97
15	Vehicles	0.00	0.00	0.06	0.26	0.05	0.01	0.00	0.00	0.00	0.00	0.38
16	OtherTransport	0.00	0.09	0.02	0.06	0.05	0.03	0.00	0.00	0.00	0.01	0.26
17	Other Manufactures	0.00	0.28	0.19	0.44	0.70	0.31	0.04	0.00	0.04	0.08	2.08
·	Total	0.00	11.55	3.77	9.33	15.57	33.06	5.37	1.93	0.58	18.85	100.00

Table 2. Trade Flows by Sector - Argentina (1990 percentages)

Import Composition Origin Brazil Chile OLA NAFT Europe PAC China India Other Argentina Total 1 Agriculture 0.00 0.61 0.37 1.15 0.45 0.32 0.15 0.00 0.00 0.55 3.61 2 Minerals 0.00 2.27 0.06 0.18 0.32 0.09 0.00 0.05 0.00 0.08 3.04 3 0.00 0.16 0.00 4.96 0.86 0.24 0.08 0.00 0.00 0.67 6.97 Energy 4 FoodProcessing 0.00 0.38 0.17 0.31 0.15 0.41 0.02 0.00 0.00 0.06 1.48 5 Textiles 0.00 0.13 0.01 0.05 0.29 0.22 0.02 0.02 0.02 0.43 1.19 6 Apparel 0.00 0.01 0.00 0.08 0.09 0.08 0.00 0.00 0.00 0.02 0.31 7 Leather Products 0.00 0.00 0.02 -0.00 0.04 0.07 0.04 0.00 0.00 0.00 0.19 8 Wood Prod 0.39 0.22 0.55 0.93 0.00 0.00 0.06 0.00 0.15 0.03 2.32 9 Chemicals 0.00 0.24 0.72 0.03 0.74 3.63 0.81 9.18 9.82 0.19 25.36 10 NonMetal Minerals 0.00 0.14 0.00 0.03 0.05 0.00 0.00 0.00 0.90 0.11 0.56 11Metals 0.00 1.17 0.62 0.02 0.43 1.35 0.23 0.00 0.00 0.24 4.05 12 Motors&Machinery 1.38 0.01 0.03 0.02 0.00 0.32 0.002.85 11.67 0.60 16.89 0.00 13 Inst. Electnics&ElecAppl 0.00 0.93 0.06 0.07 5.55 4.50 3.41 0.09 0.43 15.02 14 Vehicle Parts 0.00 0.92 0.23 0.19 0.29 1.75 0.00 0.00 0.00 0.05 3.43 15 Vehicles 0.00 0.38 0.01 0.97 0.37 0.00 0.00 0.05 2.08 0.13 0.17 16 OtherTransport 0.05 0.00 0.00 0.04 0.00 0.00 0.00 0.00 2.26 1.46 3.82 17 Other Manufactures 0.00 0.62 0.09 0.06 2.38 2.68 0.65 0.17 0.00 2.68 9.33 Total 0.00 13.17 2.13 8.20 25.97 37.31 6.62 0.57 0.07 5.97 100.00

Sources: CHELEM (1993); COMTRADE.

Export	Composition			<u> </u>	3	Destination						
		Argentina	Brazil	Chile	OLA	NAFTA	Europe	PAC	China	India	Other	Total
1	Agriculture	0.09	0.00	0.02	0.12	2.22	6.69	1.51	0.08	0.03	1.24	11.99
2	Minerals	0.34	0.00	0.00	0.24	0.99	4.62	3.35	0.16	0.06	1.30	11.07
3	Energy	0.02	0.00	0.00	0.13	1.74	0.06	0.05	0.00	0.00	0.02	2.03
4	FoodProcessing	0.06	0.00	0.04	0.43	4.14	8.70	1.04	0.39	0.07	3.49	18.34
5	Textiles	0.02	0.00	0.05	0.13	0.40	0.69	0.04	0.00	0.00	0.21	1.55
6	Apparel	0.00	0.00	0.02	0.17	0.64	0.47	0.00	0.00	0.00	0.06	1.37
7	Leather Products	0.00	0.00	0.00	0.11	3.45	1.74	0.15	0.00	0.00	0.12	5.60
8	Wood Prod	0.06	0.00	0.07	0.32	0.82	2.02	0.52	0.00	0.00	0.77	4.59
9	Chemicals	0.55	0.00	0.23	1.05	1.45	1.77	0.64	0.11	0.16	0.73	6.69
10	NonMetal Minerals	0.02	0.00	0.03	0.19	0.21	0.16	0.02	0.00	0.00	0.10	0.74
11	Metals	0.18	0.00	0.19	0.59	2.63	2.47	4.90	0.37	0.25	3.00	14.59
12	Motors&Machinery	0.21	0.00	0.19	0.79	3.20	1.30	0.10	0.00	0.00	0.86	6.66
13	Inst. Electnics&ElecAppl	0.14	0.00	0.17	0.56	1.18	1.03	0.15	0.00	0.00	0.22	3.45
14	Vehicle Parts	0.14	0.00	0.11	0.14	0.82	0.27	0.02	0.00	0.00	0.18	1.68
15	Vehicles	0.06	0.00	0.24	0.71	0.45	1.18	0.05	0.02	0.02	0.25	2.96
16	OtherTransport	0.00	0.00	0.00	0.32	1.10	0.51	0.00	0.00	0.00	0.12	2.06
17	Other Manufactures	0.09	0.00	0.11	0.42	1.33	0.84	0.28	0.03	0.00	1.52	4.63
	Total	1.99	0.00	1.49	6.43	26.77	34.51	12.80	1.18	0.63	14.19	100.00

Table 3: Trade Flows by Sector - Brazil (1990 percentages)

Import (Composition					Origin						
		Argentina	Brazil	Chile	OLA	NAFTA	Europe	PAC	China	India	Other	Total
1	Agriculture	1.32	0.00	0.30	1.44	0.97	0.29	0.08	0.08	0.00	0.58	5.07
2 '	Minerals	0.07	0.00	0.78	0.62	0.86	0.07	0.00	0.00	0.08	0.33	2.81
3	Energy	0.07	0.00	0.00	1.45	1.69	0.16	0.08	0.47	0.00	20.89	24.81
4	FoodProcessing	2.69	0.00	0.18	1.37	0.14	1.49	0.01	0.00	0.00	0.38	6.27
5	Textiles	0.20	0.00	0.04	0.17	0.21	0.31	0.12	0.00	0.00	0.02	1.06
6	Apparel	0.02	0.00	0.00	0.18	0.04	0.08	0.02	0.00	0.00	0.00 '	- 0.35
7	Leather Products	0.16	0.00	0.00	0.44	0.08	0.08	0.08	0.02	0.00	0.13	0.99
8	Wood Prod	0.23	0.00	0.23	0.07	0.62	0.57	0.03	0.00	0.00	0.12	- 1.88
9	Chemicals	0.71	0.00	0.27	1.27	5.08	5.72	0.54	0.11	0.02	1.10	14.82
10 .:	NonMetal Minerals	0.10	0.00	0.00	0.04	0.18	0.25	0.06	0.00	0.00	0.00	0.64
H_{20}	Metals	0.10	0.00	0.50	0.39	0.46	0.94	0.23	0.01	0.00	0.26	2.88
12 :.	Motors&Machinery	0.45	0.00	0.00	0.02	2.84	6.17	0. 9 4	0.05	0.00	0.15	10.62
13 m	Inst. Electnics&ElecAppl	0.13	0.00	0.00	0.07	5.37	3.55	3.63	0.04	0.00	. 0.47	13.27
14	Vehicle Parts	0.21	0.00	0.00	0.00	0.51	1.46	0.23	0.00	0.00	0.00	· 2.42·
15	Vehicles	0.00	0.00	0.00	0.00	0.21	0.51	0.13	0.00	0.00	0.01	0.88
16	OtherTransport	0.05	0.00	0.00	0.00	4.48	1.87	0.01	0.00	0.00	0.00	6.41
17	Other Manufactures	0.16	0.00	0.00	0.03	1.64	2.04	0.82	0.04	0.00	0.09	4.83
	Total	6.68	0.00	2.31	7.57	25.38	25.54	7.03	0.83	0.12	24.54	100.00

Sources: CHELEM (1993); COMTRADE.

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Exp	ort Composition					Destinat	tion					
		Argentina	Brazil	Chile	OLA	NAFTA	Europe	PAC	China	India	Other	Total
1	Agriculture	0.22	0.79	0.00	0.48	7.48	7.43	3.97	0.02	0.04	2.06	22.48
2	Minerals	0.03	2.05	0.00	0.11	0.75	3.59	5.41	0.13	0.03	0.41	12.51
3	Energy	· 0.00	0.00	0.00	0.43	0.09	0.01	0.00	0.00	0.00	0.02	0.55
4	FoodProcessing	0.10	0.47	0.00	0.76	2.82	4.86	3.79	0.01	0.00	1.87	14.67
5	Textiles	0.00	0.10	0.00	0.08	0.12	0.05	0.00	0.00	0.00	0.00	0.36
6	Apparel	0.00	0.00	0.00	0.07	0.48	0.03	0.00	0.00	0.00	0.00	0.58
7	Leather Products	0.00	0.00	0.00	0.08	0.28	0.09	0.04	0.00	0.00	0.00	0.51
8	Wood Prod	0.13	0.61	0.00	1.04	0.23	1.80	1.08	0.24	0.03	0.17	5.33
9	Chemicals	0.14	0.71	0.00	0.63	0.82	0.90	0.34	0.00	0.06	0.12	3.73
10	NonMetal Minerals	0.00	0.00	0.00	0.04	0.02	0.01	0.00	0.00	0.00	0.03	0.11
П	Metals	0.37	1.31	0.00	0.83	4.03	16.92	10.57	0.00	0.11	2.00	36.13
12	Motors&Machinery	0.00	0.00	0.00	0.07	0.02	0.06	0.00	0.00	0.00	0.02	0.20
13	Inst. Electnics&ElecAppl	0.04	0.02	0.00	0.06	0.02	0.06	0.02	0.00	0.00	0.00	0.22
14	Vehicle Parts	0.14	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.18
15	Vehicles	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.04
16	OtherTransport	0.00	0.00	0.00	0.04	0.00	0.05	0.01	0.00	0.00	0.00	0.09
17	Other Manufactures	0.05	0.00	0.00	0.22	0.46	0.14	0.08	0.00	0.00	1.32	2.28
	Totai	1.26	6.05	0.00	4.97	17.63	36.06	25.32	0.41	0.27	8.04	100.00
Imp	ort Composition					Origi	n					
		Argenting	Brazil	Chile	OL A	NAFTA	Europe	PAC	China	India	Other	Total .

Table 4: Trade Flows by Sector - Chile (1990 percentages)

0.25 2.72 0.99 0.74 0.11 0.16 0.03 0.00 1 Agriculture 0.34 0.10 0.00 0.01 0.04 0.00 0.06 0.56 0.02 0.00 0.00 0.00 0.03 0.72 2 Minerals 3 1.52 0.00 0.00 4.32 0.89 0.33 0.06 0.03 0.00 2.74 9.90 Energy FoodProcessing 1.26 0.22 0.00 0.57 0.58 0.97 0.00 0.00 0.00 0.29 3.91 4 3.00 0.08 0.27 0.00 0.31 0.56 0.50 1.İ4 0.05 0.00 0.09 5 Textiles 0.05 0.09 0.00 0.24 0.24 0.00 0.12 1.25 0.10 0.27 0.13 6 Apparel 0.09 0.04 0.00 0.09 0.06 0.13 0.02 0.00 0.02 0.51 7 Leather Products 0.06 0.02 2.24 8 Wood Prod 0.26 0.35 0.000.11 0.54 0.82 0.12 0.00 0.00 1.20 0.00 1.04 4.91 4.98 0.92 0.09 0.01 0.43 14.76 9 Chemicals 1.18 NonMetal Minerals 0.23 0.14 0.00 0.07 0.43 0.03 0.02 0.00 0.04 1.19 10 0.21 0.94 0.98 0.00 0.42 4.24 11 Metals 0.00 0.15 0.42 0.98 0.34 0.00 -0.00 0.54 18.84 0.53 0.96 0.00 7:00 8.98 0.75 0.08 0.00 12 Motors&Machinery 14.57 13 Inst. Electnics&ElecAppl 0.21 0.88 0.00 0.14 3.81 4.72 4.20 0.12 0.00 0.49 Vehicle Parts 0.12 0.55 0.00 -0.00 0.45 0.59 0.19 0.00 0.00 0.01 1.90 14 0.12 0.00 -0.03 0.01 0.37 8.18 15 Vehicles 1.22 1.81 1.25 3.42 0.01 0.03 0.00 0.00 0.01 0.78 0.00 0.00 0.04 3.88 16 OtherTransport 2.98 0.03 0.02 0.16 8.19 17 Other Manufactures 0.38 0.56 0.00 0.26 2.93 2.69 1.02 0.18 Total 7.38 7.59 0.00 8.19 28.72 28.44 12.77 0.79 0.06 6.06 100.00

Sources: CHELEM (1993); COMTRADE.

1.	Argentina	ARG
2.	Brazil	BRA
3.	Chile	OLA
4.	Other Latin America All other Latin American and Car	LAT
5.	NAFTA Canada, Mexico, United States	NFT
6.	Europe The European Union, EFTA	The second s
7.	Pacific Hong Kong, Japan, Republic of K	Sorea, Singapore, Taiwan
8.	China	CHN
9.	India	IND
	Rest of the World All other countries	 A. States, and a second seco
		Bergaria and an anna 1900. Bergaria anna an anna an anna an anna an anna an an

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Table 5: Regional Decomposition of the SALSA Model

Table 6: Commodity Decomposition of the Model

1. Agriculture	Agric
Grains, other food and non-food agricultural products	
2. Mining	Mining
Iron, non-ferrous metals, non-metal minerals	
3. Energy	Energy
Coal, crude oil, natural gas, coke, refined oil, electricity	
(and water distribution)	
4. Food Processing	FoodProc
Grain based foods, fats (including dairy products), meat and fish,	
canned meats and vegetables, sugar, chocolate, animal feed, beve	rages,
tobacco	
5. Textiles	Textiles
Yarn and textiles	
6. Apparel	Apparel
Apparel, hosiery, rugs and cloth furnishings	••
7. Leather Products	LeathProd
Footwear and other leather products	
8. Wood Products	WoodProd
Wood, furniture, pulp and paper, printing	
9. Chemicals	Chemicals
Basic chemicals, farm chemicals, basic organic chemicals.	
paints etc., toiletries, pharmaceuticals, plastics and resins, plastic	
products, rubber	
10. Non-metal Minerals	NMMin
Cement synsum ceramics tiles bricks glass and glass products	
11 Metals	Metals
Iron and steel primary iron products non-ferrous metal products	
12 Motors and Machinery	MotorMach
Motors turbings numps farm equipment construction and	monormaon
artraction equipment other industrial machinery military equipm	ont
12 Electrical Goods and Appliances	FleeProd
Provision instruments watches optical equipment electronic	Electrod
Precision instruments, watches, optical equipment, electronic	
parts, ratio and referrision equipment, referentiation	
equipment, office and computer equipment, nousenous approances,	
14 Vehicle parts	VehParts
14. Vehicles	Vehicles
1.5. Venicles	venicies
Automobiles, motorcycles and scoolers, tracks, and rait cars	OthTenEan
10. Other Transportation Equipment	Outtipedb
Ships, airplanes, etc.	Oil) (
17. Other Manufacturing	Ounvianu
Basic metal products, hardware, precious gems, gold, other	
manufacturing	
18. Construction	Const
19 Services	Services

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Table 7: Aggregate Results

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TESTA					SIEST	ГА	T	PASTA				
Arcentina	1995	1998	2001	2004	1995	1998	2001	2004	1995	1998	2001	2004
EV (\$ bill)	0.4	0.6	1.0	1.4	0.7	21	3.8	59	0.8	2.3	4.0	6.1
RGDP	0.2	0.5	0.8	1.1	0.6	2.0	3.6	5.4	0.5	2.0	3.6	5.6
TCons	0.2	0.4	0.7	0.9	0.5	1.4	2.6	3.9	0.6	1.5	2.7	4.1
Tinv	0.2	0.3	0.4	0.5	1.4	1.9	2.5	3.3	1.4	2.0	2.6	3.4
TEmp (1,000s)	-13	-0.0	9	17	29	76	113	144	37	85	123	155
EV(%)	0.2	0.4	0.5	0.7	0.5	1.3	2.0	2.8	0.6	1.4	2.2	2.9
TExp(%)	3.2	3.4	3.6	3.8	5.2	6.0	6.8	7.6	6.6	7.5	8.3	9.1
TImp (%)	8.2	8.6	8.9	9.2	22.4	23.1	23.7	24.2	26.9	27.9	28.8	29.5
TEmp(%)	-0.1	-0.0	0.0	0.1	0.3	0.7	1.0	1.2	0.4	0.8	1.1	1.3
REX (%)	0.5	0.5	0.5	0.4	-0.5	-0.7	-0.9	-1.1	-0.5	-0.7	-0.9	-1.1
Brazil												
EV (\$ bill.)	0.3	0.8	1.5	2.2	1.3	5.4	9.9	15.0	1.6	6.1	11.1	16.7
RGDP	0.2	0.7	1.4	2.1	1.2	5.5	10.1	15.3	1.4	6.0	11.2	16.9
TCons	0.2	0.5	0.9	1.3	0.8	3.3	6.1	9.1	1.0	3.7	6.8	10.2
Tinv	0.7	1.1	1.4	1.9	5.9	8.1	10.8	14.0	6.4	8.9	11.8	15.4
TEmp (1,000s)	24	48	67	83	234	411	540	645	254	444	583	698
EV(%)	0.0	0.2	0.3	0.4	0.3	1.2	1.9	2.5	0.4	1.3	2.1	2.8
TExp(%)	1.4	1.5	1.7	1.8	4.3	5.2	6.0	6.7	5.6	6.6	7.5	8.3
TImp (%)	3.2	3.4	3.6	3.8	18.3	19.2	19.9	20.3	21.1	22.3	23.2	23.9
TEmp(%)	0.0	0.0	0.1	0.1	0.5	0.8	1.0	1.1	0.5	0.9	1.1	1.2
REX (%)	-0.0	-0.0	-0.1	-0.1	-0.9	-1.1	-1.4	-1.6	-1.0	-1.2	-1.4	-1.7
Chile						<u>.</u>						
EV (\$ bill.)	0.0	0.1	0.2	0.3	0.0	0.4	0.8	1.2	0.0	0.4	0.8	1.3
RGDP	0.0	0.1	0.3	0.4	0.2	0.6	1.1	1.6	0.2	0.7	1.2	1.8
Tuons	0.0	0.0	0.1	0.2	0.0	0.2	0.5	0.7	0.0	0.2	0.5	0.8
Tinv	0.1	0.2	0.2	20	40	0.8	1.0	1.3	0.0	74	1.1	1.4
1 Emp(1,000s)	0.2	04	24	29	40	12	90	111	40	13	73	121
$EV(\pi)$ TEro(%)	2.4	2.6	20	3.1	4.8	5.9	2.1 6.9	5.0	6.0	7.1	8.2	.02
TExp(%)	2.4	4.0	2.9 A 7	1.1	4.0	10.0	10.6	11.2	11.3	12.1	12.0	13.7
Timp (%)	0.2	4.0	0.4	0.5	0.8	10.0	16	11.2	11.5	12.1	17	2.0
REX (%)	0.2	0.5	0.4	0.3	-04	-0.7	-10	-13	-04	-0.7	-1.1	-14
OLA	0.5	0.4	0.5	0.0	-0.1	-0.7		1.5		0.7		
EV (S bill.)	-0.0	-0.0	-0.1	-0.2	-0.4	-0.6	-0.8	-1.1	0.9	3.9	7.4	11.5
RGDP	-0.0	-0.0	-0.0	-0.1	-0.0	-0.3	-0.5	-0.7	1.5	5.1	9.2	13.7
TCons	-0.0	-0.0	-0.0	-0.1	-0.2	-0.4	-0.5	-0.7	0.6	2.6	4.9	7.6
Tinv	-0.0	-0.0	-0.0	-0.0	-0.3	-0.4	-0.4	-0.5	4,4	5.8	7.5	9.4
TEmp (1,000s)	-4	-6	-8	-9	-29	-45	-56	-65	296	586	807	982
EV(%)	-0.0	-0.0	-0.0	-0.0	-0.1	-0.2	-0.2	-0.3	0.3	1.3	2.3	3.1
TExp(%)	-0.0	-0.0	-0.0	-0.0	-0.0	-0.2	-0.2	-0.3	6.7	7.9	8.9	9.9
Timp (%)	-0.0	-0.0	-0.0	-0.0	-0.5	-0.5	-0.6	-0.6	9.4	10.3	11.0	11.6
TEmp(%)	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.1	0.7	1.2	1.5	1.7
REX (%)	-0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0	0.0	-0.6	-1.0	-1.3	-1.6
NAFTA												
EV (\$ bill.)	-0.1	-0.2	-0.3	-0.3	2.1	4.0	5.4	6.7	1.9	2.2	2.4	2.5
RGDP	-0.0	-0.0	-0.1	-0.2	2.6	4.0	5.3	6.6	2.0	1.8	1.7	1.7
TCons	-0.1	-0.2	-0.2	-0.2	1.5	3.0	4.0	5.0	1.3	1.6	1.7	1.9
Tinv	-0.1	-0.1	-0.2	-0.2	2.3	2.6	3.1	3.7	-1.1	-1.3	-1.5	-1.5
TEmp (1,000s)	-0.2	-0.8	-1.2	-1.5	75	95	108	117	77	83	88	93
EV(%)	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
TExp(%)	-0.0	-0.0	-0.0	-0.0	2.5	2.5	2.5	2.5	2.9	3.0	3.0	3.0
TImp (%)	-0.0	-0.0	-0.0	-0,0	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2
IEmp(%)	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REX (%)	-0.0	-0.0	-0.0	-0.0	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4
Total Do-t!								1				
TOTAL REGIONAL	0 E		2	2	A	1.1	10	10	ç	15	26	72
EV (3 DHL) RCDR	0.5	1	2	3 1	4	11	19 20	20	5 K	15	20	00 10
TCone	0.4 0.7	1	2 1	2	2	12	17	20	บ ว	10	17	25
Tiny	0.5	1	י י	2	ر ۱۸	12	15	22	12	16	22	20
TEmn (1.000e)	18	50	⊈ 91	110	350	604	794	952	710	1273	1700	2050
·	10	59	71		550		,,,,	202	,10			

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Table 8: Regional	Trade Flows
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Billions of 1	990 Dollars										
					Import	er					
- Exporter	Argentina	Brazil	Chile	OLA	NAFTA	Europe	PAC	China	India	Other	Total
Argentina	0.0	1.1	0.3	0.7	0.2	0.0	-0.0	-0.0	-0.0	0.0	2.3
Brazil	0.8	0.0	0.3	1.2	1.5	0.2	0.0	0.0	0.0	0.0	4.3
Chile	0.1	0.5	0.0	0.3	0.2	0.1	0.0	0.0	0.0	0.0	1.4
OLA	0.5	1.5	0.4	0.0	2.4	0.5	0.1	0.0	0.0	0.5	6.0
NAFTA	1.8	7.5	1.3	10.9	0.0	-5.3	-3.6	-0.3	-0.1	-2.2	9.9
Europe	-0.1	-0.5	-0.2	-2.0	-0.6	0.0	-0.2	-0.0	-0.0	-0.2	-3.9
PAC	-0.0	-0.2	-0.1	-1.1	-2.5	0.0	0.0	-0.0	0.0	0.1	-3.7
China	-0.0	-0.0	-0.0	-0.0	-0.3	0.0	0.0	0.0	0.0	0.0	-0.3
Índia	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	0.0	-0.0	-0.0
Other	-0.0	-0.1	-0.0	-0.4	0.0	-0.3	-0.2	-0.0	-0.0	0.0	-1.1
	3.1	9.9	1.9	9.6	1.0	-4.6	-3.8	-0.3	-0.1	-1.7	14.9
Percentages					I	*****			*****		

	7.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1		1.		impor						
Exporter	Argentina	Brazil	Chile	OLA	NAFTA	Europe	PAC	China	India	Other	Total
Argentina	0.0	45.0	36.9	32.7	5.4	0.3	-0.7	-1.9	-2.7	0.0	9.4
Brazil	83.8	0.0	39.9	35.4	11.0	1.1	0.8	0.3	0.0	0.7	7.9
Chile	88.5	60.0	0.0	37.5	7.6	1.7	2.1	1.7	0.9	1.1	8.2
OLA	92.8	56.4	44.0	0.0	6.1	1.8	1.4	1.8	1.5	2.9	6.0
NAFTA	82.8	84.3	38.7	34.3	0.0	-2.1	-2.0	-2.7	-2.3	-2.1	1.7
Europe	-3.5	-4.3	-5:3	-5.9	-0.2	0.0	-0.0	-0.1	-0.0	-Ő.O	-0.4
PAC	-3.0	-4.0	-5.6	-5.8	-0.8	0.0	0.0	-0.0	0.0	0.0	-0.5
China	-4.2	-3.4	-6.2	-5.9	-1.0	0.0	0.0	0.0	0.0	0.0	-0.3
India	-2.5	-6.6	-3.1	-4.2	-0.7	-0.0	-0.0	-0.1	0.0	-0.0	-0.2
Other	-3.1	-1.9	-4.0	-4.7	0.0	-0.0	-0.1	-0.2	-0.0	0.0	-0.2
• .	31.1	26.3	14.6	9.7	0.1	-0.5	-0.5	-0.4	-0.3	-0.2	0.4

Table 9:	Wages and	l Employment	Growth
	(perc	entages)	

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	TESTA				SIESTA				PASTA				
Argentina	1995	1998	2001	2004	1995	1998	2001	2004	1995	1998	2001	2004	Ave
Real Wages													
ProfManager	-0.9	-0.0	0.5	0.7	-0.6	2.6	4.5	5.8	-0.5	2.8	4.8	6.1	3.3
SalesClerical	0.2	0.5	0.6	0.7	-0.0	0.8	1.4	1.7	-0.0	0.9	15	1.8	10
AgLabor	0.2	0.4	0.5	0.6	0.8	1.3	1.7	2.0	1.0	1.5	1.0	2.2	1.6
OthLahor	-0.6	-0.5	-0.4	-0.3	03	0.8	11	14	03	0.8	1.2	15	1.0
Employment	-0.0	-0.5	-0.4	-0.5	0.5	0.0		1.7	0.5	0.0	1.2	1.5	1.0
ProfManag	-0.0	-0.0	0.0	0.0	-0.0	03	04	0.6	-0.0	03	0.5	0.6	03
SalesCler	-0.0	0.0	0.0	0.0	-0.0	0.3	0.4	0.5	-0.0	0.3	0.5	0.0	0.3
Aglabor	0.0	0.1	0.2	0.2	-0.0	13	17	2.0	-0.0	1.5	10	2.5	1.6
AgLabor OthLabor	-0.6	0.4	0.5	0.0	0.0	0.8	1.7	1.4	0.3	0.8	1.2	1.5	1.0
Brazil	-0.0	-0.5	-0.4	-0.5	0.5	0.0	1.1	1.4	0.5	0.0	1.4	1.5	1.0
Diali Dasi Wasar													
BrofManager	03	06	0.6	1.0	11	28	53	6.1	15	11	60	7.0	47
FionManager	0.5	0.0	0.0	1.0	0.6	J.0 1.6	2.5	2.4	. 1.5	4.4	0.0	2.5	1.0
Aalabaa	0.1	0.5	0.5	0.4	0.0	1.0	2.1	2.4	0.7	1.7	· 2.2	2.5	1.0
AgLador Othlahan	-0.0	0.0	0.0	0.0	1.1	0.9	1.0	1.1	0.0	0.9	1,1	1.2	1.0
Unitador	0.2	0.2	0.2	0.3	1.1	1.5	1./	1.9	1.2	1.0	1.9	2.1	1.7
Employment	0.0		0.0		0.1		0.5		0.1		0.0	0.7	0'5
ProfManag	0.0	0.0	0.0	0.0	0.1	0.4	0.5	0.6	0.1	0.4	0.6	0.7	0.5
SalesCler	0.0	0.0	0.0	0.1	0.2	0.5	0.6	0.7	0.2	0.5	0.7	0.7	0.5
AgLabor	-0.0	0.0	0.0	0.0	0.5	0.9	1.0	1.1	0.6	0.9	1.1	1.2	1.0
OthLabor	0.2	0.2	0.2	0.3	1.1	1.5	1.7	1.9	1.2	1.6	1.9	2.1	1.7
Chile				ł				1	4.				4
Real Wages													•
ProfManager	1.6	2.1	2.6	3.0	3.1	5.7	7.8	9.4	4.2	6.8	. 9.0	10.7	7.7.;
SalesClerical	0.3	0.4	0.6	0.7	0.4	1.1	1.6	2.0	0.7.	1.4	1.9	2.4	1.6
AgLabor	-0.2	-0.0	0.2	0.3	0.5	1.3	1.9	2.3	0.5	1.3	1.9	2.3	1.5
OthLabor	0.6	0.8	0.9	1.0	2.0	2.5	2.9	3.2	2.2	2.8	3.2	3.5	2.9
Employment											•		1 - 1, 0
ProfManag	0.2	0.2	0.3	0.3	0.3	0.6	0.8	0.9	0.4	0.7	0.9	1.0	0.7
SalesCler	0.0	0.1	0.2	0.2	0.1	0.3	0.5	0.6	0.2	0.4	0.6	0.7	0.5,
AgLabor	-0.2	-0.0	0.2	0.3	0.5	1.3	1.9	2.3	0.5	1.3	1.9	2.3	1.5
OthLabor	0.6	0.8	0.9	1.0	2.0	2.5	2.9	3.2	2.2	2.8	3.2	3.5	2.9.
OLA									· ·	1			:
Real Wages							'		: .*		£		11
ProfManager	-0.0	-0.0	-0.1	-0.1	-0.4	-0.6	-0.6	-0.7	3.9	7.6	9.9	11.2	. 8.2
SalesClerical	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.1	-0.2	0.3[™] →	1.3 ; /	2.0	2.3	1.5
AgLabor	-0.0	-0.0	-0.0	-0.0	-0.0	-0.2	-0.2	-0.2	-0.0 · ·	1.0	"- 1.7	2.1	· 1.2 ¹
OthLabor	-0.0	-0.0	-0.0	-0.0	-0.1	-0.1	-0.1	0.2	<u>2.1</u>	2.6	2.9	3.1	2.7 ¹
Employment													
ProfManag	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0 ်	-0.0	0.4	0.7	0.9	1.1	0.8
SalesCler	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	0.0	0.4	. 0.6	0.7	0.4
AgLabor	-0.0	-0.0	-0.0	-0.0	-0.0	-0.2	-0.2	-0.2	-0.0	1.0	1.7	2.1	1.2
OthLabor	-0.0	-0.0	-0.0	-0.0	-0.1	-0.1	-0.1	-0.2	2.1.	2.6	2.9	3.1	2.7
NAFTA													
Real Wages											, i	٠.	· ·
ProfManager	-0.0	-0.0	-0.0	-0.0	0.3	0.4	0.4	0.4	0.2	0.3	0.3	0.3	. 0.3
SalesClerical	-0.0	-0.0	-0.0	-0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	· >0.0
AgLabor	0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	°' 0.0 ″	0.0	-0.0	-0.0	0.0 '
OthLabor	0.0	-0.0	-0.0	-0.0	0.1	0.1	0.1	0.1	· 0.1	0.1	0.1	0.1	·`` 0.1 ⁱ
Employment					•				1 1				•
ProfManag	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SalesCler	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aglabor	0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	0.0	0.0	-0.0	-0.0	0.0
OthLabor	0.0	-0.0	-0.0	-0.0	01	0.0 0.1	0.1	0.1	0.0	01	0.0	01	0.1
GAILADVI	0.0	0.0	-0.0	-0.0	0.1	0.1	0.1	0.1	0.1		0.1	0.1	5.1
Table 10: Aggregate Results

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[One percent productivity growth for Latin American Members (excluding Mexico)]

		TESTA			SIESTA				PASTA			
Argentina	1995	1998	2001	2004	1995	1998	2001	2004	1995	1998	2001	2004
EV (\$ bill.)	0.4	1.8	4.5	8.8	0.7	3.3	7.5	13.5	0.8	3.5	7.7	13.8
RGDP	0.2	2.1	5.4	10.4	0.6	3.6	8.2	14.8	0.5	3.6	8.3	14.9
TCons	0.2	1.2	3.1	6.0	0.5	2.3	5.1	9.1	0.6	2.4	5.2	9.3
Tinv	0.2	0.8	1.7	3.1	1.4	2.4	3.9	6.0	1.4	2.4	3.9	6.1
TEmp (1.000s)	-13	-74	-75	-34	29	2	29	94	37	11	40	106
EV(%)	0.2	1.1	2.4	4.2	0.5	2.0	4.0	6.4	0.6	2.1	4.1	6.5
TExp(%)	3.2	4.1	5.3	7.0	5.2	6.6	8.5	10.8	6.6	8.1	10.1	12.5
TImp (%)	8.2	7.5	7.5	8.0	22.4	22.0	22.2	22.9	26.9	26.8	27.4	28.4
TEmp(%)	-0.1	-0.7	-0.7	-0.3	0.3	0.0	0.3	0.8	0.4	0.1	0.4	0.9
REX (%)	0.5	0.7	0.9	1.0	-0.5	-0.5	-0.4	-0.4	-0.5	-0.5	-0.4	-0.4
Brazil								j				
EV (\$ bill.)	0.3	6.3	19.0	38.9	1.3	11.1	28.0	52.6	1.6	11.8	29.2	54.5
RGDP	0.2	8.9	24.3	47.3	1.2	13.7	33.3	61.0	1.4	14.3	34.4	62.7
TCons	0.2	4.0	11.9	24.1	0.8	6.9	17.3	32.5	1.0	7.3	18.1	33.6
Tiny	0.7	4.7	10.7	19.8	5.9	11.8	20.4	32.4	6.4	12.6	21.5	33.9
TEmp (1,000s)	24	-85	186	685	234	283	663	1249	254	318	711	1307
EV(%)	0.0	1.3	3.6	6.6	0.3	2.4	5.3	8.9	0.4	2.5	5.6	9.2
TExp(%)	1.4	3.1	5.5	8.5	4.3	6.8	10.0	13.6	5.6	8.2	11.5	15.4
TImp (%)	3.2	2.2	2.0	2.2	18.3	17.9	18.2	18.7	21.1	21.0	21.7	22.6
TEmp(%)	0.0	-0.2	0.4	1.2	0.5	0.6	1.3	2.2	0.5	0.6	1.3	2.3
REX (%)	-0.0	0.2	0.5	0.6	-0.9	-0.8	-0.8	-0.8	-1.0	-0.9	-0.8	-0.9
Chile												
EV (\$ bill.)	0.0	0.4	0.9	1.8	0.0	0.6	1.5	2.7	0.0	0.7	1.6	2.8
RGDP	0.0	0.5	1.3	2.5	0.2	1.0	2.2	3.8	0.2	1.1	2.3	4.0
TCons	0.0	0.2	0.6	1.1	0.0	0.4	0.9	1.6	0.0	0.4	0.9	1.7
Tinv	0.1	0.2	0.4	0.7	0.6	0.9	1.2	1.7	0.6	0.9	1.3	1.8
TEmp (1,000s)	11	-8	-11	0.2	40	42	57	83	46	50	67	95
EV(%)	0.2	1.2	2.6	4.3	0.2	2.0	4.2	6.6	0.2	2.1	4.4	6.9
TExp(%)	2.4	3.5	5.0	6.8	4.8	6.8	9.1	11.6	6.0	8.1	10.6	13.2
TImp (%)	3.8	3.9	4.3	4.9	9.3	9.9	10.7	11.8	11.3	12.2	13.3	14.6
TEmp(%)	0.2	-0.1	-0.2	0.0	0.8	0.8	1.0	1.3	0.9	0.9	1.2	1.6
REX (%)	0.5	0.9	1.3	1.6	-0.4	-0.2	-0.0	0.1	-0.4	-0.3	-0.1	-0.0
OLA												
EV (\$ bill.)	-0.0	-0.0	-0.0	0.1	-0.4	-0.5	-0.7	-0.8	0.9	6.6	15.2	27.2
RGDP	-0.0	-0.0	-0.0	0.0	-0.0	-0.3	-0.4	-0.6	1.5	8.9	19.3	33.3
TCons	-0.0	-0.0	-0.0	0.0	-0.2	-0.4	-0.5	-0.5	0.6	4.4	10.2	18.2
Tinv	-0.0	-0.0	0.0	0.1	-0.3	-0.3	-0.3	-0.3	4.4	6.7	9.8	13.9
TEmp (1,000s)	-4	-2	2	9	-29	-41	-46	-46	296	307	505	837
EV(%)	-0.0	-0.0	-0.0	0.0	-0.1	-0.2	-0.2	-0.2	0.3	2.3	4.6	7.3
TExp(%)	-0.0	-0.0	-0.0	-0.0	-0.0	-0.2	-0.2	-0.2	6.7	8.8	11.4	14.3
TImp (%)	-0.0	-0.0	0.0	0.1	-0.5	-0.5	-0.4	-0.3	9.4	10.1	11.2	12.5
TEmp(%)	-0.0	-0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.0	0.7	0.6	1.0	1.5
REX (%)	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.6	-0.5	-0.3	-0.2
NAFIA		· 00				4.2	<i>c</i> 1	0.1	10		2.0	5.4
EV (\$ DIE)	-0.1	-0.0	0.3	1.0	2.1	4.2	0.1	0.1 7.4	1.9	2.7	5.6	3.4
RGDP	-0.0	-0.0	0.2	0.6	2.6	4.1) ./	7.4	2.0	2.1	2.5	3.3
TCons	-0.1	-0.0	0.5	0.7		3.1	4.5	6.0	1.0	1.9	2.8	4.0
Tinv TE (1.000-)	-0.1	0.2	0.0	1.1	2.3	5.U 07	3.9	125	-1.1	•0.7 00	-0.0	0.9
TEmp (1,000s)	-0.2	0.9	2.8	3.2	15	97	0.1	125	0.0	90	102	00
EV(%)	-0.0	-0.0	0.0	0.0	0.0	0.0	0.1	2.5	2.0	0.0	0.0	2.0
ICXP(%)	-0.0	-0.0 0.0	-U.U 0.0	-0.0	2.3	2.5	2.5	2.3	2.9	2.7	0.U 7.A	ງ.ປ ງເ
TEmp(%)	, -0.0 	0.0	0.0	0.0	2.1	2.1	2.2	2.2	4.4 0.0	0.2 0.0	4. 4 0.0	2.3
DET (%)	-U.U _0.0	0.0 _0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 0.4	0.0	0.0 0.4
Total Pagional	-0.0	-0.0	-0.0	-0.0	0.0	0.5	0.5	0.2	0.4	7.7	0.4	0.4
FV (\$ 511)	<u>م د</u>	Q	25	51	А	10	47	76	5	25	58	104
	0.0	12	2.5	61		27	42 AQ	86	6	30	67	119
TCons	0.4 0.7	14	16	22	2	17	-+7 77	40	3	16	37	
Tiny	0.5	6	13	25	10	12	20	45	12	22	36	57
TEmp (1.000s)	18	-168	105	666	350	383	815	1504	710	776	1425	2460
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Table 11: Regional Trade Flows (One percent labor productivity growth)

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Billio	ns of 19	990 Dolla	ГS												
			• .						In	porter				1 10 1	<u> </u>
Ехрон	ter			Arg	entina	Brazil	Chile	OLA	NAFTA,	Europe	PAC	China	India	Other	Total
Argen	tina .				0.0	1.2	0.4	0.8	0.3	0.1	0.0	0.0	-0.0	0.0	2.9
Brazil					0.9	0.0	0.4	1.5	2.2	0.9	0.4	0.0	0.0	0.4	6.8
Chile					0.2	0.6	0.0	0.3	0.3	0.3	0.2	0.0	0.0	0.0	1.9
OLA					0.5	1.6	0.4	0.0	3.5	1.3	0.5	0.0	0.0	0.7	8.7
NAFI	A				1.8	7.2	1.3	11.0	0.0	-5.3	-3.6	-0.3	-0.1	-2.2	9.7
Europ	e			,	-0.2	-0.8	-0.3	-2.3	-0.7	0.0	-0.1	-0.0	-0.0	-0.1	-4.7
PAC	·, 1				-0.0	-0.3	-0.1	-1.1	-2.6	-0.0	0.0	0.0	0.0	0.0	-4.1
China					-0.0	-0.0	-0.0	-0.0	-0.4	0.0	0.0	0.0	0.0	0.0	-0.4
India		11	÷ .1		-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	0.0	-0.0	-0.1
Other			•	:	-0.0	-0.2	-0.0	-0.5	-0.0	-0.0	0.0	-0.0	0.0	0.0	-16
· · ·	. •		•		*0.0 _.	-0.2	-0.0	-0.5	-0.0	-0.4	-0.2	0.0	-0.0	1.0	20.0
				••••••••••	5.0	9.3	2.0	9.0	2.3	-3.1	-2.9	-0.2	-0.0	-1.0	19.0
Percei	ntages								_						
		•••		,					In	porter					
Ехро	rter			Arg	entina	Brazil	Chile	OLA	NAFTA	Europe	PAC	China	India	Other	Total
Argen	tina				0.0	47.3	43.6	37.4	8.0	1.7	1.9	0.2	-0.2	1.3	11.6
Brazil	. 6	F	r.,		91.2	0.0	49.4	43.6	15.8	4.9	5.1	4.8	4.6	4.9	12.5
Chile	s.s.	1 2 1	" 13 L	* 7.2*	90.6	63.3	0.0	41.4	10.0	4.5	4.1	4.4	4.2	4.3	10.8
OLA	٤ +	К., 4	23	÷.,,	91.1	59.9	50.6	0.0	8.9	4.4	5.0	4.9	5.2	4.4	8.6
[:] NAFI	'A ¹¹	$\dot{c}_{\pm}^{(1)}$	2,7	• •	79.5	81.4	38.7	34.8	0.0	-2.1	-2.0	-2.6	-2.3	-2.1	1.6
Europ	е, "		~		-5.8	-7.0	-7.5	-6.9	-0.3	0.0	-0.0	-0.0	-0.0	-0.0	-0.5
PAC		e, 13		•	-6.0	-7.0	-7.1	-6.3	-0.9	-0.0	0.0	0.0	0.0	0.0	-0.5
China		;		÷	-5.9	-4.8	-6.6	-6.7	-1.2	0.0	0.0	0.0	0.0	0.0	-0.4
India		. Š		1	-6.2	-7.8	-9.3	-7.2	-0.8	-0.0	-0.1	-0.1	0.0	-0.0	-0.3
Other					-5.9	-3.0	-7.0	-6.2	-0.0	-0.1	-0.1	-0.1	-0.0	0.0	-0.2
इ. इ.	- 1 0	<u>.</u> .a	₩	с. ÷,	29 5	24.7	14.9	9.6	03	-03	-0.4	-0.3	-0.2	-0.1	0.6
<u>20</u>	<u> </u>	<u></u>	<u>t</u>	<u> </u>		24.7		7.0			0.4			0.1	0.0
2.5	1.1 1.5	67 70	(° ;	1940. 1.											·
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20	C n	1 C	• •		÷										
′ • .	, (j	,	1 A	:											
		-					•			•					
ч.	6 . a				•										
19 845	40	4. s 1 13	7 Q 3	с. <u>;</u> с 13	11.										
0.0	0.4	. 0	2.0 7.0	ي. مر	ι. Γ. ρ										
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Table 12: Wages and Employment Growth

		TESTA		SIESTA				PASTA					
Argentina	1995	1998	2001	2004	1995	1998	2001	2004	1995	1998	2001	2004	Ave
Real Wages													
ProfManager	-0.9	-53	-53	-3:2	-0.6	-2.7	-1.3	18	-0.5	-2.5	-1.0	22	-0.4
SalesClerical	0.2	-14	-1.6	-1.0	-0.0	-1.0	-0.7	0.0	-0.0	-0.9	-0.7	0.0	-04
AgLabor	0.2	-0.9	-11	-0.7	0.8	-0.0	0.0	0.6	1.0	0.2	0.3	0.8	0.1
Othl abor	-0.6	-0.9	-0.5	0.0	03	0.4	1.0	17	0.3	0.5	10	18	0.0
Employment	0.0	-0.7	-0.5	0.0	0.5	0.4	1.0	•••	0.5	0.5	1.0	1.0	0.7
ProfManag	-0.0	-0.5	-0.5	0.3	-0.0	-0.3	-0.1	0.2	-0.0	-0.2	-0.1	0.2	-0.0
SalesCler	0.0	-0.4	-0.5	-0.3	-0.0	-0.3	-0.2	0.0	-0.0	-0.3	-0.2	0.0	01
AgLabor	0.2	-0.9	-11	-0.7	0.8	0.0	0.0	0.6	10	0.2	0.3	0.0	0.1
OthLahor	-0.6	-0.9	-0.5	0.1	03	0.4	1.0	1.8	03	0.5	1.0	19	0.0
Brazil	0.0	0.5	0.0		0.0	0.1	110		0.0	0.5		1.7	0.7
Peal Wages													
ProfManages	0.3	-20	-0.8	36	11	03	38	90	15	09	45	0.0	42
SalesClarical	0.5	-1.0	-0.0	1.6	. 06	0.5	17	36	07	0.5	1.9	3.9	17
Adlabor	-0.0	-1.0	-0.0	1:4	0.0	0.4	1.7	25	0.7	0.5	1.0	2.0	1.7
Agraduu Othi abor	-0.0	-0.4	1.2	2.1	1.1	1.6	26	30	1.2	17	28	2.J 4 1	2.5
	0.2	0.5	1.2	2.3	1.1	1.0	2.0	5.9	1.2	1.7	2.8	4.1	2.5
Employment DrofMonor	0.0	0.3	0.0	D 4	0.1	0.0	0.4	0.0	0.1	0.0	0.4	10	0.4
Filinianag	0.0	-0.3	-0.0	0.4	0.1	0.0	0.4	0.9	0.1	0.0	0.4	1.0	0.4
Aglishes	0.0	-0.3	-0.0	1.4	0.2	0.1	1.2	2.5	0.2	0.1	13	1.1	1.2
AgLabor	-0.0	-0.4	0.2	1.4	0.5	0.4	1.4	2.5	1.2	0.5	1.5	2.3	1.2
OunLabor	0.2	0.3	1.2	2.3	1.1	1.0	2.0	5.9	1.2	1.7	2.0	4.1	
Chile Dest W													
Real Wages							£ 0		4.2	6.7	* 1	0.6	· · · ·
Proimanager	1.0	0.4	0.4	1.4	5.1	4.0	3.6	0.2	4.2	3.2	1.1	9.0	0.5
SalesCierical	0.3	0.0	0.1	0.4	0.4	0.7	1.5	1.9	0.7	1.0	1.0	.2.5	1.4
Aguator	-0.2	-1.2	-1.4	-1:0	0.5	0.1	0.5	1.0	0.5	0.2	0.4	1.1	. 0.5
Unlabor	.0.0	0.2	0.2	0.4	2.0	1.9	2.2	2.7	2.2	2.2	2.3	5.0	. 2.3
Employment					0.3	A 4				0.5	0.7	· 00	0.6
ProtManag	0.2	0.0	0.0	10.1	0.3	0.4	0.0	0.8	0.4	0.5	0.7	0.9	0.0
SalesCler	0.0	0.0	0.0		0.1	0.2	0.4	0.0	0.2	0.3	0.5	0.7	- 0.4
AgLabor	-0.2	-1.2	-1.4	-1.1	0.5	0.1	0.5	0.9	0.5	0.2	0.4	1.1	0.3
OthLabor	0.0	0.2	0.2	0.4	2.0	1.9	2.2	2.1	2.2	2.2	2.5	5.0	2.3
OLA				1									
Keal Wages			0.0	مم		0.5		0.6	10	20	60	07	6.0
Prof Manager	-0.0 -0.0	-0.0	-0.0	0.0	-0.4	-0.5	-0.0	-0.5	3.9	3.9	0.2	9.7	3.9
SalesCiencal	-0.0	-0.0	-0.0	0.0	-0.0	-0.1	-0.1	-0.1	. 0.3	0.2	0.8	- 1.8	6.0+
AgLabor	-0.0	0.0	0.0	0.0	-0.0	-0.1	-0.2	-0.2	-0.0	-0.3	-0.2	1.1	0.2
OthLabor	-0.0	-0.0	.0.0	0.0	-0.1	~0.1	-0.1	-0.0	2.1	2.2	2.0	3.2	2.5
Employment										• •			
ProfManag	-0.0	-0.0	-0.0	0.0	-0.0	-0.0	-0.0	-0.0	0.4	0.4	U.6	0.9	0.0
SalesCler	-0.0	-0.0	-0.0	0.0	·-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.3	0.5	0.2
AgLabor	-0.0	0.0	0.0	0.0	-0.0	-0.1	-0.2	-0.2	-0.0	-0.3	0.2	1.1	0.2
OthLabor	-0.0	-0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.0	2.1	2.2	2.6	3.2	2.5
NAFTA													
Real [®] Wages						- .							
ProfManager	-0.0	·-0.0	0.0	0.0	0.3	0.4	0.4	0.4	0.2	0.3	0.3	:0.3	0.3
SalesClerical	-0.0	-0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	·0.0	0.1	0.1	0.0
AgLabor	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0	-0.0	0.0
OthLabor	0.0	0.0	· 0.0	0.0	0,1	·0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1
Employment											_		
ProfManag	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SalesCler	-0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AgLabor	· 0.0	.0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0	-0.0	0.0
Othi shor	0.0	0.0	0.0	0.01	0.1	0.1	0.1	0.2	0.1	0.1	0.1	01	0.1

One percent productivity growth (percentages)





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INTER-AMERICAN DEVELOPMENT BANK OECD DEVELOPMENT CENTRE



International Forum on Latin American Perspectives Paris, 2, 3, & 4 November 1994 Social Tensions, Employment Generation and Economic Policy in Latin America

Draft
THE "EMPLOYMENT PROBLEM" IN LATIN AMERICA
by
Gustavo Márquez
by Gustavo Márquez



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In spite of the successes of economic adjustment in most Latin American countries, which translated themselves into surging growth and abated inflation since the end of the 1980s, poverty and inequality continue to sour the political environment. The concern that elections in Brazil and Mexico would result in a reversal of reform, the return of Venezuela to interventionist policies, the suspected protectionist overtones of some measures of the new Colombian administration, are all issues that cause a great deal of concern in the international community about the resolve of Latin American governments and societies to continue advancing down the path of economic adjustment.

The adjustment effort is criticised by the political opposition on the grounds that an outstanding macroeconomic record has not translated itself into increased welfare for the population, at least when measured through poverty and inequality reduction. Doubtful as these claims may be from an economic point of view (see Box 1), the sheer political force of them should not be understated.

The reaction of incumbent governments under attack has been the development of a new, and in some cases innovative, package of compensatory transfers to endangered groups of the population. This compensatory policy usually encompasses a shift of resources away from the traditional providers of education, health, and social security services, towards a host of narrowly targeted direct



Though these results are solely indicative, they show a positive relationship between growth and reductions in inequality during the 1980s: a 1 per cent increase of GDP per capita on average reduced the Gini coefficient by 2.9 per cent (from 0.496 to 0.482). This questions somewhat the conventional wisdom about "the social costs of adjustment": if adjustment allows growth to resume (as has been the case in Argentina and Peru), then its consequences may be an improvement in both efficiency and equity.

transfers to particularly vulnerable groups of the population. These programmes are justified on the grounds that, through increased concentration of resources on really needy groups, they increase the efficiency of government actions in poverty alleviation.

Poverty and inequality are the result of a complex process of sectoral shifts in labour allocation that has resulted in lagging productivity and falling real wages. This is the product of unsustainable economic policies maintained through the 1980s, and of the progressive deterioration of the mechanisms of human-capital accumulation. Compensatory policies may help to cushion the impact on vulnerable groups of the consequences of this long-term economic and social deterioration, but poverty and inequality reduction require a different working of the labour market, one that cannot be achieved simply by adopting the "right" economic policies.

Labour markets are important, because sustained growth can only be the product of a continuous increase in labour productivity. Trade liberalisation, financial reform, and general reliance on market guidance for resource allocation are all important measures aimed at generating a growth-oriented economic environment. But growth ultimately relies on more qualified and productive human resources, that can provide the complementary skills needed by the increasingly sophisticated investment in physical capital necessary for successful integration into the world economy. This implies that properly functioning labour markets must provide adequate signals for agents to allocate heterogeneous labour among different activities. Labour-market policies must induce, and labour regulations allow for, the degree of labour mobility needed to profit from efficiency gains arising from capital-skill complementarities. Finally, the institutional framework through which labour regulations are enforced and labour policies implemented must be efficient and able to carry their mandate effectively.

Without sweeping labour-market reforms Latin American policies (and politics) will continue to be the victims of this divorce between the "right" economic policies and compensatory social policies. The recognition that poverty and inequality reduction will only be the result of increased labour productivity, which requires serious labour-market reform, will allow us to escape the trap of reform unpopularity. The current record shows that governments have been much more enthusiastic about producing macroeconomic policy reforms (including fiscal and monetary policies and the trade regime), than at changing the rules of the game in the labour market (see Table 1). This may be explained by the different human, institutional, and political resources needed by both types of reform (Naím, 1994).

The labour-market problem is one of jobs and of people. Jobs need to be generated in high productivity sectors and activities that create the conditions for rising real wages. A sustainable economic policy is needed in order to create a growth-oriented environment. Governments should concentrate on not hindering the development of new dynamic activities, rather than in choosing winners at the starting gate. People need to be educated and healthy in order to be able to fill these new jobs. Some people will have difficulties adapting to the new demands that the labour market poses in terms of skills, and they need help. In order to devise the necessary new policies we need to recognise that help should not always, and even not often, come from the government, but from a structure of incentives that makes the private sector more inclined to provide training.

Key problems and facts

The labour market and its problems occupy a prominent place in the public discussion in Latin America, but numerous misunderstandings and some outright mistaken arguments are often used. Rising unemployment is often denounced as a consequence of a stabilisation programme or its failure, even though open unemployment has responded very little to economic conditions. On the other hand, bleak images of declining productivity tend to be raised, even though value added per worker in industrial and agricultural activities has consistently increased during the last two decades. In order to create a more informed basis for the ensuing discussion, this section is devoted to the discussion of the key facts that characterise the Latin American labour markets. After discussing the demographic background in the next sub-section, we present the changes in the sectoral structure of employment that are at the root of the productivity and wage evolution discussed in the last sub-section.

The demographic background

Population growth rates in Latin America have fallen in the last 20 years, though they still are well above the developed countries' average. Latin American countries have entered a stage of demographic maturity, whereby the proportion of working age population is increasing. The dependent population under 14 years old is declining, in some cases very sharply, while the population over 65 years old is beginning to increases (see Figure 1).

Figure 1. The demographic structure in selected Latin American countries, 1970-1990 (percentages of population in each age bracket)



Source: Statistical Yearbook for Latin America and the Caribbean, 1993 Edition, Tables I-15 to I-16, Santiago de Chile, February 1994.

This fall of dependency rates reveals enormous opportunities for increasing standards of living: even without changes in labour-force participation rates, Latin American countries could mobilise in productive activities a much larger fraction of their total population. However, it also raises questions about the stability of the fragile social security throughout the region, which will suffer the pressure of an ageing population's demands on the pension system.

Labour-force participation rates increased as a result of a larger proportion of women entering the labour market (see Figure 2). Male participation rates have not changed substantially, so average participation rates have increased. Together with the increase in working-age population, this increase in participation rates has resulted in the labour force's growing much more rapidly than total population. In spite of this increase in the labour supply, the labour market has been able to generate enough jobs so that unemployment rates do not show any upward trend (see Figure 3).





Note: In Chile and Venezuela labour force definition does not include the 10-14 age group. Source: Statistical Yearbook for Latin America and the Caribbean 1993 Edition, Tables I-13 to I-14, Santiago de Chile, February 1994.

Figure 3. Urban unemployment rates in selected Latin American countries, 1980-1993 (percentages over total labour force)





Figure 4. Changes in the sectoral structure of employment, 1970-1990 (percentages over total employment)

Unemployment levels remained unchanged, even if the share of rural population — which by the characteristics of agricultural activities normally exhibits lower unemployment — was rapidly falling. In 1970 six out of every ten Latin Americans lived in an urban area, by 1990 this proportion had risen to almost eight. Poverty and unfavourable working conditions continue to be an important source of concern in rural areas (de Janvry *et al.*, 1989), even though political and demographic reasons make the urban poverty problem more visible Even is higher in rural areas, most of the poor families reside in urban areas.

The sectoral structure of employment

Changes in the sectoral structure of employment were quite consistent with this urbanisation process: between 1970 and 1990, the share of industrial employment in total had shrunk from 24 per cent to 18 per cent, that of agriculture from 39 per cent to 24 per cent, while the service sector had expanded its share from 37 per cent to 58 per cent. This was a generalised process: in all countries shown below, the shrinking of the agricultural share of employment and the expansion of the service sector is quite evident (see Figure 4).

Though internationally comparable data on the characteristics of jobs in each sector is scarce and of unknown quality, national studies coincide in signalling that self-employment and shortages of complementary capital are a salient trait of service-sector jobs¹. In this sense, service-sector jobs in the informal segment are ways of earning while unemployed, suggesting that a lack of *productive* employment opportunities is at the root of this expansion of the service sector. This would be quite consistent with the fact that the GDP-weighted average of the investment share GDP for the countries in our sample has fallen from 21.6 per cent in 1970 to 15.7 per cent in 1990, after experiencing a high of 24.7 per cent in 1980.

The importance of the service sector and the characteristics of its jobs may explain to a large extent the seemingly endless ability of the labour market to adjust to the adverse shocks that hit these economies during the 1980s without dramatic increases in unemployment. However, the price that these economies paid for this was stagnant productivity (see Figure 5) and declining real incomes.

In 1990 value added per worker in Latin America was a paltry 4.4 per cent higher than it had been in 1970. While overall productivity grew at an annual 1.9 per cent in the 1970s, it declined 1.3 per cent annually during the 1980s. These averages, however, hide very different sectoral



Figure 5. Value added per worker: a tale of three sectors Product per occupied person in selected Latin American countries, 1970-199

Source: see country tables, Statistical Appendix. Graphs refer to GDP per occupied person per year in thousands of 1980 US\$.

evolutions. For a sample of seven Latin American countries, the employment-weighted average value added per worker in agriculture was 50 per cent higher in 1990 than in had been in 1970. For industry it was 22 per cent higher, while for services it was 25 per cent lower. The optimistic vision of the pioneers of development theory, by which the expansion of the industrial sector was going to induce an increase in agricultural productivity, was fulfilled. The situation in 1990, however, is not one of converging productivities in all sectors, but instead one of an ever widening cleavage between industrial and service activities in the urban areas.

The reasons for this productivity fall in the service sector may be found in fiscal constraints and in the evolution of informal employment in the private services sector. Typically, public employment represents around 20 per cent of total employment and around half service-sector employment in the countries in our sample. Fiscal adjustment in the 1980s was mostly done through reduction of public expenditure. Given the dominant share of wages on total public expenditure, this was reflected in a reduction in public employees' real wages. According to UN National Accounts methodology, value added in public sector activities is measured by production costs (wages and inputs). Therefore, the reduction of public sector real wages was synonymous with a fall in value added per worker in public-sector activities.

On the other hand, the expansion of informal-sector activities is mostly located in the service sector, given the lower capital requirements for entry. The long economic decline of the 1980s resulted in low employment generation in the modern segment, thus pushing a large number of workers towards informal-sector jobs. The resulting overcrowding of the service sector depressed real wages and lowered productivity.

Thus, when looking at the "tertiarisation" of employment in Latin American we are looking at a very different process than that in developed economies. While in the latter it reflects the development of modern, highly productive activities, in the former we observe the consequences of labour under-utilisation in the informal sector.

Wages and unit labour costs

In most of the countries in our sample, average real wages in 1991 were at the same level, or lower, than 10 years before. This was not for lack of trying: in most cases minimum wages were set in such a way as to signal the desire of governments to increase the level of wages. This policy had





been almost unanimously abandoned by 1985, and by 1991 minimum wages had been drastically lowered (see Figure 6).

It is curious that the countries where wages fell in a more acute way were those that engaged in "income policies" as part of failed heterodox stabilisation programmes (Argentina, Brazil, and Venezuela). Colombia stands out as the only country where wages show a stable, slowly rising trend, while Chile and Mexico both show a U-shaped wage profile, with wages responding to adjustment to external and domestic shocks.

The evolution of real wages, however, does not tell the whole story about the labour cost per unit of product, which is the really important indicator in terms of a firm's hiring and firing decisions. Looking at the right-hand side of the figure, it is clear that the evolution of unit labour costs (ULCs) is quite different from that suggested by the evolution of average and minimum wages. ULCs are jointly determined by wages and productivity, with strong productivity increases, it is thus possible that ULCs could fall even if real wages increase (insofar as the real wage rise is less than productivity growth).

The two ways of expressing ULCs are important. First, in domestic currency terms, the figure will rise if real wages in domestic currency rise faster than productivity (measured as production per employee). Second, in dollar terms, the figure will rise if, for a given level of ULCs in domestic currency, the domestic currency revalues against the dollar. Thus, ULCs expressed in dollar terms reflect the evolution of domestic wages and productivity, compounded by the effect of exchange-rate policy, and give a better idea of the joint effect of labour market and macroeconomic policies on competitiveness.

From the beginning of the 1990s both Argentina and Mexico were experiencing rapidly increasing ULCs in dollar terms, even if in domestic currency ULCs were constant or decreasing². Chile and Colombia were experiencing the same phenomenon, but on a smaller scale, while Brazil's ULCs were suffering from the vagaries of unsuccessful stabilisation policies. Venezuela stands out as the country where ULCs were falling, measured both in dollars and in domestic currency.

The paradox that this evolution of ULCs shows is that countries that have successfully used "nominal anchors" in the stabilisation process (radically in Argentina and Peru, in a milder form in Mexico), are beginning to suffer from increasing labour costs measured in dollar terms, which is hindering their efforts to compete in the world market. The way out of this paradox, obviously, is by increasing labour productivity and reducing total labour costs. But increased labour productivity will follow only from drastic reforms in the rules of the game in the labour market, while reduction in labour costs can only come from the reduction of payroll taxes (which account in some cases for over 30 per cent of total labour costs).

The moral of the story is that governments concerned with the evolution of incomes would do much better by concentrating on measures aimed at stimulating productivity growth, thus creating room for real wage increases that do not reduce competitiveness. Past concentration on "income policies" shows that, in the final analysis, they are not very efficient at rising real wages, and can reduce employment generation in dynamic sectors.

The underlying causes

Why have labour markets behaved in such an unsatisfactory way during the 1980s? Clearly employment sectoral composition, and productivity and wage evolution are just the symptoms of a more profound *malaise* that has left us with a dismal record of poverty and inequality. The easy answer to the question is that during the 1980s Latin American governments engaged in the "wrong" macroeconomic policies, thus producing inadequate and distorted price signals which resulted in an inefficient allocation of resources in the labour market. Such an answer — correct as it may be —



Figure 7. Investment/GDP ratios in selected Latin American countries, 1970-1992

begs the question of what the "right" policies are, unless one is ready to admit that macroeconomic policies are the only ones that matter.

For anyone concerned with the changing context of Latin American policies, it is obvious that the dismal record of the 1980s is the result of a much more complex story than "wrong" macroeconomic policies. Distortions and misallocations resulting from inadequate economic policies were large and important, but the deterioration of social policy mechanisms and rigidities in labour market regulations were also crucial in determining the outcome with which we are dealing now.

This section will explain that three underlying causes were instrumental in determining the evolution of employment, productivity and wages. First, there was a fall in the investment/GDP ratio that slowed the creation of productive employment opportunities. Second, labour-market regulations, that had not caused major disturbances in the context of a closed and growing economy, began to cause serious disruption when growth stopped, and hindered resource mobility when some of these economies began to open. Third, traditional social policies began to show their ineffectiveness in terms of facilitating human-resource development and, in a context of fiscal constraints, became prisoner to the vested interests of public-sector employees, ceasing to serve the general public interests.

The evolution of investment

Investment is a driving force for the labour market. On the demand side, investment generates jobs directly, through direct employment during the construction and operational stage of new productive facilities, and indirectly, through its effects on aggregate demand. On the supply side, new investments incorporate new technologies and processes that increase average productivity both directly and indirectly.

A reduction in investment when the labour force keeps growing reduces the marginal productivity of labour, because new workers have less capital available with which to work. Reducing the marginal productivity of labour also reduces real wages in a competitive market.

Investment, in turn, is a medium- to long-term commitment that is carefully evaluated by investors in the light of current and prospective macroeconomic, social, and political conditions. An unstable environment tends to reduce investment, because rates of return to capital must be increased

to compensate for the higher risks implied. Political authoritarianism, social unrest, or unsustainable macroeconomic policies all tend to make investors shy due to the increased level of risk and of the availability of safer environments elsewhere.

The deteriorating situation during the 1980s had a large and sustained effect on investment. The GDP-weighted average of the investment share on total GDP for the countries in our sample has fallen from 21.6 per cent in 1970 to 15.7 per cent in 1990, after experiencing a high of 24.7 per cent in 1980. This was quite a generalised process, as can be seen in the country graphs in Figure 7. Even successful performers, such as Chile and Colombia, show investment shares on GDP smaller than those of 1980. Of course, it can be argued that investment in 1980 was facilitated by the availability of external financing before the debt crisis, but then why was investment in 1970 so much higher even without the expanded availability of foreign credit?

This reduction in investment has generated quite perverse effects on the labour market, reducing opportunities to develop physical and human capital complementarities and, therefore, labour productivity. As a result, the informal sector in these economies has expanded quite rapidly, filling the gap that "modern" activities were leaving between labour force growth and the creation of high productivity employment opportunities.

Reducing macroeconomic instability and creating a strong commitment to sustainable economic policies are necessary first steps in regenerating the conditions that will make possible an increase in investment in these economies. However, keeping relative prices "right" — that is, avoiding large overvaluations of the domestic currency — is also necessary to allow the development of new productive investment projects. Reformist governments are faced with the need to perform a balancing act between their objectives of creating credibility for the stabilisation programme — that seems to require the establishment of a fixed exchange rate as a "nominal anchor" — while giving the right price signals to investors willing to venture in the development of new productive activities.

It is true that overvaluation creates pressure on local firms to increase productivity, thus driving relative prices down and compensating for the original overvaluation. The question, however, is how much firms can do to increase productivity without deep changes in labour market regulation.



Figure 8. Severance payments in four Latin American countries

Labour market regulations

Labour regulations are essential for an efficient working of the labour market. Labour contracts are not suited to the perfectly competitive market environment that economists tend to evoke, and even in the most "casual" spot markets a structure of regulation and dispute resolution is important for efficiency reasons. As Coase (1990) points out, those institutions and regulations are efficient in the sense that they allow for the development of transactions that in their absence would not take place.

Two traits of labour contracts make the role of regulations especially important. In the first place, labour contracts are affected by uncertainty regarding the object of transaction. Firms can contractually obtain command over the time of the workday, but cannot always measure without cost or effort the amount of productive effort the worker develops during that time. Faced with this kind of uncertainty, both firms and workers gain by the development of a structure of governance that regulates the opportunistic behaviour of the partner with the information advantage. This structure of governance tends to be very specialised, given the specificity of the information needed for dispute resolution.

In the second place, a large number of labour relations imply important investment in specific capital (without value outside the firm or for other workers). Firms invest in seeking, selecting, and training workers, investments which must be repeated for each worker. Workers invest by acquiring training without value outside the firm, and by the development of a certain reputation. As neither the firm nor the worker can acquire well-defined property rights over the worker or the job, contracts with important investments in specific capital would not be realised in the absence of regulations that safeguard both partners against opportunistic behaviour by the other side.

Even if the nature of the labour contract calls for a well defined structure of governance, implying regulations and an institutional enforcement framework, the question is to what extent this structure must be implemented through legal means (public order instruments that have a blanket effect over all transactions), or through contractual means (private order instruments that cover more or less specific transactions). In Latin America, the dominant pattern is the first, with labour regulations predominantly legal, while collective contracts or agreements have the law as a minimal benchmark (Márquez, 1994a).

The general spirit of labour market regulation in Latin America is a protective one, in the sense that workers are perceived as the "weak" party in the labour contract. Against this perceived weakness, labour laws develop two kinds of remedies: a judicial presumption in favour of workers in any contractual dispute, and wide latitude for administrative or judicial intervention in labour relations. There are two specific areas where labour regulations have an especially important distortionary effect: hiring and firing, and collective bargaining.

Severance payments and firing regulations

In all cases analysed in Márquez 1994*a* and 1994*b*, there are strong penalties for worker termination, when the firing is done without legally established "just cause". "Just cause" is usually narrowly defined in the law, and mainly includes misbehaviour. Only in the Chilean case are penalties reduced when firing is associated with technological changes or unfavourable changes in demand. In all cases these severance payments increase with tenure and wage (see Figure 8).

The closed enumeration of "just cause" and the legal presumptions in favour of the worker create incentives for workers to litigate and for firms to avoid litigation, in practice making all firings unjustified ones. In addition to severance payments, workers at the moment of firing also receive payment of funds that were accumulated in special accounts for the duration of the contract. In many countries, workers also have access to unemployment insurance in addition to these payments.

Severance payments and the disbursement of accumulated funds create a very particular structure of incentive for firms and workers. Whereas firms have strong financial incentives against

any measure that increases tenure or wages (including on-the-job training), workers can increase their disposable income by creating the conditions where firms have to fire them (mild indiscipline, shirking, etc.). In societies where a substantial part of the population's skills are acquired outside the labour market, it is easy to imagine the regressive impact these incentives have on human capital and income distribution.

An additional, and perhaps more perverse effect, of these regulations arises when considering that enforcement of labour regulations against firing is quite unequal for firms of different "visibility" for the law. If all firms were equally visible, introducing severance payments would just produce an immediate reduction of employment, later followed by a fall of take-home payment that would again align marginal productivity of labour and labour costs (now including severance payments).

Firms are not equally visible to the law, both because of imperfect law enforcement, and because of differences in firm size, degree of formal organisation, and capital intensity. Larger, more "visible" firms, which will more likely be inspected for compliance with regulations, will develop more formal labour relations and will tend to respect the job security rules. Smaller, more informal firms, will find it to their advantage to evade the law.

To the extent that labour costs for "visible" firms increase in the amount of severance payments, labour demand in these firms will be reduced. Workers who cannot find a job there, will "invent" a job in informal activities, in smaller firms working with less capital. As labour productivity is lower in these informal jobs, wages will fall and income distribution will worsen. Therefore, in the presence of firm heterogeneity, the distributional effects of severance payments are not neutral, nor negligible.

Collective bargaining and functional flexibility

Functional flexibility arises as a managerial demand in the midst of processes of economic opening and industrial restructuring, translating itself into increased demand for "flexible" workers, defined as those workers able to perform in different jobs within the plant, and with skills and abilities more widely defined. In turn, remuneration of these workers tends to be based on systems that pay for abilities and skills, contrasting with the traditional forms of fixed payments per unit of time.

The introduction of functional flexibility in work organisation collides with labour market regulations in most Latin American countries. On the one hand, most national legislation defines "indirect firing" as a change in work conditions or in job definition, with the same penalties for the firm as those associated with unjustified firing (see previous section). On the other hand, collective contract regulations establish that any new contract cannot "worsen" the conditions of the previous contract, without defining how this worsening is to be measured (Márquez, 1994b). This imprecision is reinforced by empowering the labour authority to intervene in a quite arbitrary way at any stage of the bargaining process, thus creating incentives for both firms and unions to concentrate their efforts in political lobbying and not in substantive discussions. Both types of regulations hinder the adoption of technological change and limit the ability of firms and workers to adapt to the changing environment of an open economy. Additionally, customised and collective contracts frequently create "closed shop" conditions, by which union members are given preference in hiring, again hindering the firm's ability to adapt to new conditions.

As is only natural, these regulatory limitations tend to be questioned during the adoption of technological change and modernisation, that happen anyway if for no other reason but to viabilise the existence of the firm and the job. These conflicts must be resolved by recourse to the administrative or judicial labour authority, highlighting the inefficiency of these institutions to cope with them. Given the incentives that firing penalties create, workers experience small costs in fighting against restructuring through mild indiscipline or other less subtle forms of work attrition.

It is true that the introduction of functional flexibility expands the scope of managerial authority, and generates changes in the equilibrium of forces between labour and management within the firm. Given the protective spirit that informs labour regulations, these changes are perceived as negative for

the workers, even if the associated productivity increase ends up by benefiting those same workers. In order to eliminate this perception bias, the elimination or reduction of severance payments and the reduction of the power of labour authorities to intervene in an arbitrary way, must be accompanied by a wider autonomy of firms and workers to negotiate working conditions, in order to allow job redefinition while efficiently protecting the interests of affected workers. As Mertens, (1990) and Calerø (1991) point out, this implies fundamental changes in a union's organisation and interests which must become instruments of a workers' organisation oriented towards a productive partnership with management rather than dedicated to political lobbying.

Social policies and human-capital accumulation

Social policies are one of the issues of utmost interest in today's public discussion in Latin America. The decade of the 1980s witnessed a progressive deterioration of the ability of social policies to enhance the productive potential of the population. Even though the weight of fiscal adjustment has not fallen disproportionately on social expenditure, resource constraints generated a change in the composition of expenditure. The share of wages increased at the expense of inputs, operational materials, and investment; while programmes supported by intensely organised minorities (as in university education) gained at the expense of higher social return activities (like pre-school and primary education) (Groshen, 1990).

The client tradition of social policy institutions has generated an enormous institutional dispersion, with each client group enjoying access to their special institution with little or no regard for a general strategy to cope with social problems. The budgetary practice of "acquired rights", by which each institution has the "right" to the same level of resources it had last year, has complicated the situation even more, with policy-makers having effective command only over marginal increases of the budget.

The 1980s left us with more unequally distributed human capital (the variance of educational attainment increased), while basic social indicators (infant morbidity and mortality, caloric intake, etc.) stopped their secular improvement. The deterioration of the operational capacity of the social sector led to the reapparition of endemic diseases that were controlled 30 years ago, as happened in Venezuela with *dengue* (a mild form of malaria). At the same time, the unstable macroeconomic environment had a deleterious effect on social security systems. The increase in the importance of informal employment, a more unequal human-capital distribution, and the real wage decline caused an increase in poverty, that today affects groups that 10 years ago were well above poverty conditions.

Though Latin America has advanced in terms of quality of life since 1965, its advance has been slower than that achieved in the developed countries. Adult literacy, schooling, and school enrolment are all well above the levels of the developing world, and male-female differences in these indicators are insignificant. Public expenditure in education and health is slightly higher than in the developing world, but still well below the levels in developed countries. The "intermediate" level of these indicators raises the question of how they should be interpreted: are they high relative to the level of development, or are they low relative to population expectations?

In terms of level of development, one can compare secondary school enrolment rates with those of successful Asian countries at the time they had similar per-capita income levels (Taiwan and Korea circa 1980). Secondary school enrolment in Taiwan at the time was almost 70 per cent, while in Korea it was close to 90 per cent. The disappointing Latin American level results both from widespread inefficiencies in the production of educational services, and from the disproportionate share of superior education in total educational expenditure.

In terms of population expectations, one must consider the high degree of urbanisation and the recent spread of democratic governments through the region. It is doubtful that further reductions in ULCs can be durably achieved by lowering wages, without questioning the social and political

sustainability of adjustment. Increases in productivity are needed to enhance competitiveness and, in turn, they require more and better human resources.

Integration into the world market requires a vastly more sophisticated human-resource base than the one presently available in the region. Therefore, beyond sensible macroeconomic policies, social policy efforts and significant investments must be undertaken aimed at rising the standard of living, improving the quality of primary education, and extending the reach of secondary education (Birdsall, 1993).

The obstacles that hinder this enhanced social-policy effort are related to the institutional and organisational structure of social services in Latin America. The education, health, and social security systems are highly inefficient public monopolies, that have fallen prisoner to the vested interests of their employees. Budgetary methods and the organisation of the production process give unions and bureaucrats the power to decide about resource allocation, and the results are low quality services (Hausmann, 1993). At the same time, resource constraints associated with fiscal adjustment have translated themselves into rationing of high priority services.

A policy agenda

The employment problem in Latin America is a problem of jobs and people. High productivity jobs need to be created, and people need to be prepared to fill these jobs. The policy agenda implied by these objectives goes well beyond the realm of macroeconomic policies, and demands profound changes in social policies and in the regulations and institutions that implement labour policies.

Macroeconomic policies: the creation of a growth-oriented economic environment

Reliance on the market for resource allocation is essential to reduce the political power of corrupt bureaucracies and the economic power of their monopolistic clientèles in modern firms. Economic opening and trade liberalisation help to reduce the monopolistic power of privileged groups, and to induce a more efficient resource allocation. Financial liberalisation and pension reform are needed to increase national savings, thus providing reliable sources for investment financing.

Sound and sustainable macroeconomic policies are important. On the one hand, sound macroeconomic policies help to reduce fluctuations arising from domestic or external shocks. In a more stable economy, modern enterprises can grow and absorb part of the workforce that today is employed in the informal sector. This in turn generates increasing productivity levels, even without technological change in the modern firms. On the other hand, new investment will take place only if macroeconomic prospects are positive and credible, which requires a sustainable policy. New investment increases productivity, because new technologies (both physical and organisational) are incorporated into the new productive processes.

The task for macroeconomic policies is far from simple. The nominal anchor-based stabilisation programmes in Argentina and Peru have led to drastic overvaluations of their national currencies that, given current productivity levels, generate cost levels well above those of foreign competitors. Real anchors, now the preferred alternative, often lack credibility given the political pressures that governments face in an uncertain political environment.

These problems notwithstanding, there are motives for optimism. To give just an example, privatisation simultaneously helps to unload the state from unprofitable enterprises, and to attract new investments. These new investments often generate more employment than the old public enterprise. The feared job losses are often more than compensated for by employment generation in the new activities around a more efficient private firm.

Labour policies: from protective laws to active labour policies

The creation of a growth-oriented macroeconomic environment is a necessary, but far from sufficient, condition to increase employment generation and productivity. The protective spirit of labour regulations and the inefficiencies of enforcement institutions place obstacles before efficient functioning of the labour market in two ways. On the one hand, the imposition of job security regulations and important severance payments create disincentives to hiring new workers and to training. On the other, the arbitrary power of the labour authority to intervene in collective bargaining and conflicts hinders functional flexibility, and creates conditions for confrontation between labour and management at the expense of a more productive collaborative relationship.

Severance payments and unemployment insurance

Severance payments should be phased out in favour of a more efficient unemployment insurance system, carefully designed to avoid generating incentives against work. Unemployment insurance should be conceived as a series of mechanisms and rules that stimulate a worker to obtain a job as soon as possible and, only if he/she cannot, then provides some limited (in time and amount) income support. Cases that cannot escape the trap of unemployment should be helped, but help should come as additional training.

The political and social constraints under which the reform must operate are considerable, but by changing conceptions of the nature of unemployment support much can be done. Unemployment support must change from a system designed to provide income support for the unemployed into a system whose primary objective is to enhance the functioning of competitive labour-market mechanisms to help increase productivity, and only secondarily to provide income support for the unemployed. The best protection the unemployed can receive is a new job. It is this change of philosophy that should serve as a guide for action in this area.

Labour ministries should evolve towards a facilitating role by (1) enhancing informational flows, (2) generating stimuli for firms to provide training (after all they are the ones who demand the trained workers) and hiring workers, and (3) as a last resource and for a limited period of time, providing protection for workers who are unemployed.

The idea of employment agencies as mechanisms to enhance informational flows among firms and workers is a promising one. However, it must be understood that this function will be carried out within an economy where firms have their own selection mechanisms for hiring and dismissing workers. Given the heterogeneity of workers and jobs, this function could best be provided in areas and sectors where Labour Ministries have some comparative advantage, but it should be in competition with private employment agencies, to provide a clear bench mark for the relevance of these activities and to encourage the competitive provision of a wider variety of services.

The encouragement of additional training investments should rely on benefits, guidelines, and other innovations that create possibilities for firms to offset payment of contributions against direct provision of training. Rules should stimulate workers to receive training, and firms to offer it (by schemes of "buy-a-job" where workers assume part of the costs of training, or by offsetting payments against direct provision). This implies that the labour authority should play a supervisory and quality — and relevance — control with regard to the training provided by third parties. Within the context of the supervisory role, rules should be established which provide stimulus for firms to hire trained workers.

These reforms should operate in the context of the idea that unemployment insurance is but one of a set of programmes making up the social protection network society offers. As such, it caters to the needs of workers that have been fired or cannot find a job. It does so by partially protecting their income, but not to the point where the protection becomes an incentive for not seeking work. In fact, the most effective programmes effectively produce monetary incentives towards active job searching.

Collective bargaining rules

Collective bargaining and labour conflicts are crucial areas in terms of functional flexibility, because it is during the negotiation of collective contracts when job definitions, working conditions, and pay structures are fixed for the duration of the contract. Labour conflicts, in turn, are just mechanisms for dispute resolution in these discussions. Most of the problems found in this area are related to a union structure centred on political lobbying, and in a managerial perception of workers as competitors in rent appropriation.

Current regulations give the labour authority a wide latitude of intervention, and tend to increase conflict and introduce uncertainty in the bargaining process. Legal dispositions related to "improvement" of the previous contract and the ability of the labour authority to intervene in an arbitrary way, create uncertainty and induce actors to incur the cost of political lobbying at the expense of bargaining. This arbitrariness is usually justified on the grounds of the "economic inferiority" of workers, but in fact serves to advance the circumstantial interests of the government that not always, nor necessarily, coincide with those of the workers.

The fundamental criterion of reform in this area is the creation of a transparent bargaining environment, based on the existence of rules, procedures, and lapses which are clearly defined. These definitions would narrow the scope of arbitrariness of government intervention, limiting it to circumstances that could affect public order or the provision of essential services. These two situations should be positively established in the law, in order to avoid excesses of interpretation.

A good example of this type of regulation could be that seen in Chile, where the wage offer of the employer determines the lapses and procedures that have to be followed to further the discussion and, eventually, to declare a strike. These kind of rules favour the development of collaborative bargaining, whereby both parts can evaluate in advance the costs and benefits of alternative courses of action, thus avoiding the temptation of political lobbying.

Two additional rules are required. In the first place, the effects of the collective contract are limited to the signatories. This would limit the authority of the government to extend the obligations and benefits of the contract to firms and workers who have not signed or discussed it, as is allowed currently by the imposition of sector-wide agreements by administrative *fiat*. This would introduce an adequate degree of decentralisation of the bargaining process, and would facilitate the introduction of more manageable productivity considerations at the firm level.

In the second place, all decisions related to collective contracts or labour conflicts should be adopted by secret vote in the context of legally established procedures. In many countries these decisions can be taken by the union leadership or by non-secret vote, both procedures prone to all kinds of distortions as the political system in these same countries has long ago recognised.

Social policies: from compensatory policies to human resource development

There is general disenchantment with the traditional organisation of social polices, while at the same time there are urgent problems (associated with nutritional and sanitary risks) that require swift action from these same inefficient institutions. Reforming these institutions is a hard task, because unions in the health and education ministries are usually the most numerous and organised. Given these constraints and needs, policy makers often decide to develop a "parallel" set of institutions that can deliver urgently needed services in a more efficient way.

Even if this "parallel" institutionalism of social policies is more efficient – because it delivers narrowly targeted services to specially needy groups – it is necessary to recognise that this increase in efficiency does not compensate for the decline in quantity and quality of the traditional social services, nor does it improves their efficiency. Traditional social services are important, because education, health, and social security form the backbone of any policy of human-resource development. Focusing services solely on the poor may isolate them from the political mainstream, and may even worsen the quality of the services they receive. The crucial point is that without reforms in the traditional institutions in charge of social policies, little can be done to improve the level and the distribution of human capital of the population.

Institutional development is the key to social policy reform, and a means without which no change of the methods of resource allocation within the system is possible. Decentralisation is just a mechanism for changing the distribution of power in the social service production system, away from unions and bureaucrats, and towards the general public, but fulfilling this task requires defining new budgetary methods that devolve power to the consumers.

It is necessary to distinguish between two different questions in this regard: who produces the services and who pays for them? The first question relates to the relative efficiency of public and private producers of social services, and should be solved in terms of the more efficient producer. The second question relates to the social vs. private return of different services: in cases where social returns exceed private ones, the state should clearly subsidise access. This is quite a conceptual revolution in an area where universality and gratuity have been synonymous with public monopolistic producers.

On the other hand, budgetary methods should be changed from the historical "acquired rights" basis towards budgets associated with service delivery. If consumers can choose between different providers, and a degree of cost-sharing is introduced, then competitive forces will control costs and introduce some market discipline on producers. Given the present productive inefficiencies it is difficult to think of cost-sharing as a mechanism of cost recuperation. Just to give an idea, the yearly per-student cost of university education in Venezuela is much higher than the equivalent cost in an Ivy League University in the United States. This implies that deep organisational changes are needed in order to reduce the burden on society of inefficient producers.

A daunting task?

The agenda described above is, without doubt, daunting, fraught with political difficulties, and bound to encounter strong resistance from vested interest groups. This agenda is not feasible without a sustainable economic strategy and a fair political system. As Nelson (1991) points out, the willingness of unions to participate in a reform process hinges essentially on three issues: economic feasibility, political viability, and a reasonable expectation that today's sacrifices are going to be compensated by a fair participation in tomorrow's gains. Curiously enough, these same conditions have been often mentioned as those required by the private sector to risk their capital in new investments.

Notes

^{1.} For a recent sample of Latin American studies see Márquez, 1994b; for a more general discussion see Mazumdar, 1989.

^{2.} Another case in point, not showed here, is Peru where a "nominal anchor" stabilisation programme is producing a drastic real revaluation of the domestic currency.

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	Argentina	Brazil	Chile	Colombia	Mexico	Peru	Venezuela
Macroeconomy	Stabilized in 1991, low inflation.	Unstable, high inflation.	Stable, moderate to low inflation.	Traditionally stable, moderate inflation	Stable, moderate inflation.	Stabilized in 1992, moderate inflation.	Unstable, increasing inflation. Price, exchange, and import controls imposed in 1994,
Public sector reform	Enacted.in 1990, improved tax collection, rapid privatization and deregulation process since 1991.	Pending stabilization plan.	Enacted in 1975. Privatization and deregulation since mid-eighties.	Began in 1985, two tax reforms in 1991 and 1992, privatiza- tion in earnest since 1991.	Fiscal adjustment began in 1985. Improved tax collection, privatization and deregulation since 1990.	Improvements in tax administration, expenditure control, privatization since 1992.	New taxes enacted in 1993/94. Privatiza- tion stalled since 1992, deregulation being reversed in 1994.
Financial sector reform and exchange rate regime	Free capital movements and interest rate determination, fixed exchange rate. Supervision mecha- nisms being revised.	Free capital movements and interest rate determination, pegged exchange rate, all pending stabilization plan.	Free capital movements and interest and exchange rate determination. Adequate banking supervision.	Free capital movements and interest rate determination, pegged exchange rate. Adequate banking supervision.	Free capital movements and interest rate determination, pegged exchange rate. Adequate banking supervision.	Free capital movements and interest and exchange rate determination. Supervision mechanisms being revised.	Financial sector law enacted in 1993. Banking crisis in 1994. Controlled exchange rate and capital movements.
Trade reform	Tariffs reduced in 1992, average tariff 15%	Tariff reduction programmed, QRs eliminated in 1990, average tariff of 21.1%.	Trade reform enacted in 1975, uniform tariff of 11%.	Trade reform and opening accelerated in 1991, average tariff of 7%.	NAFTA in force in 1994. Overall average tariff of 13%.	Trade reform enacted in 1990, average tariff 15%.	Trade reform enacted in 1990, partially reversed 1993-94. Average tariff 17%.
Labor market reform	Partial reforms in 1992. Pension reform in 1994.	No reform.	Reforms enacted in 1979 and 1990, pension reform in 1979.	Reforms enacted in 1990, pension reform in 1993.	No reform.	Pension reforms in 1993.	No reform.

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Table 1. Economic situation and reforms in selected Latin American countries in mid-1994

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	(a)		(b)			(c)			(d)		(c)
Country	HDI DRR 1965-87	Adult literacy (%)			N	dedian schooling (years)	g	5	School enrollment (%)	L	Public exp (% of	enditure in GDP)
		All	Males	Females	All	Males	Females	Primary	Secondary	Tertiary	Education	, Health
Argentina	2.6	95	96	95	8.7	8.5	8.9	···,	74.0	,	1.5	
Brazil	3.4	81	83	80	3.9	4.0	3.8	88.0	39.0	12.0	3.9	3.9
Chile	5.0	93	94	93	7.5	7.8	7.2	86.0	74.0	18.0	2.9	
Colombia	3.3	87	88	86	7.1	6.9	7.3	73.0	52.0	14.0	2.9	3.0
Mexico	4.5	88	90	85	4.7	4.8	4.6	98.0	58.0	14.0	4.1	2.9
Peru	2.5	85	92	79	6.4	7.1	5.7	95.0	67.0		3.5	2.4
Venezuela	n.a.	88	87	90	6.3	6.4	6.2	61.0	35.0	28.0	4.1	
Sample average	3.6	86	87	84	5.3	5.3	5.2	87.7	50.7	14.1	3.6	
Developing countries	2.3	65	75	55	3.7	4.6	2.7	83	40	7	3.4	3.7
Developed countries	5.1				10.0	10.4	9.6		92.5	37.7	5.2	

Table 2. Some indicators of human capital accumulation for selected Latin American countries circa 1990

Sources: (a) Lindenberg (1993). HDI DRR refers to the rate of advance of a composite index of longevity, education and income developed by the UNDP.

(b) and (c) Human Development Report 1993, UNDP, Tables 5 and 14 respectively. Developing and developed countries lines from UNESCO, Statistical Yearbook 1992. (d) Primary rates are net, secondary and tertiary are gross rates.

(e) Human Development Report 1993, UNDP, Table 18. Developed countries line from UNESCO, Statistical Yearbook 1992.

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Argentina									
	1970	1975	1980	1981	1982	1983	1984	1985	
Demographics								<u></u>	
Total population (1.000s)	23 962	25 999	28 237	28 663	29 086	29 505	29 921	30 331	
Urban (as % of total)	78.4	80.6	82.7	***			•••	84.6	
Dependency rates (%)	57.0	58.3	61.8	62.4	62.9	63.4	63.9	64.1	
Labour force (1.000s)	9 430	••••	10 278	10 503	10 732	10 967	11 207	11 452	
Labour force participation rates (%)		•							
Males	73.9	•••	72.5		•••			71.2	
Females	24.5	•••	24.6		•••			25.4	
Employment (thousands of employees) of which:	8 968	***	10 011	10 009	10 164	10 463	10 691	10 753	
Agriculture (%)	16.0		13.0	•••	•••		•••	11.6	
Industry (%)	34.3		33.8	•••	•••		· ·	26.9	
Services (5)	49.7	•••	53.2		•••	•••		61.6	
Urban unemployment (% labour force)	4.9	3.7	2.6	4.7	5.3	4.6	4.6	6.1	
Incomes (index: 1988=100)									
Average real wage	•••	122.9	102.8	91.9	82.3	103.3	130.6	110.8	
Average minimum wage	***	•••	10.7	10.5	10.5	16.4	17.9	12.1	
Average unit labour costs (index: 1988=1)									
in US\$	***	•••	2.90	2.69	1.09	0.75	0.77	0.03	
in domestic currency	•••	•••	0.87	0.81	0.79	0.99	1.26	1.15	
memo:									
CPI inflation rate (annual)	13.6	182.9	100.8	104.5	164.8	343.8	626.7	672.1	
Exchange rate (index: 1988=1)	n.d.	n.d.	39 6 96.0	19 714.8	4 032.7	828.1	152.0	1.0000	
GDP									
Total (M US\$ 1988)	107 599	124 500	136 639	131 103	122 744	125 904	128 250	119 704	
per-capita (US\$ 1988)	4 490	4 789	4 839	4 574	4 220	4 267	4 286	3 947	
Fiscal balance (% GDP)	-1.4	-9.9	-2.7	-5.3	-3.7	-10.1	-5.7	-3.1	
X+M/GDP (%)	16.2	***	19.8		18.0		•••	19.0	
Current account BOP (% GDP)	-0.4	-1.9	-4.2	-3.6	-2.0	-2.0	-2.0	-0.8	
Gross dom. investment (% GDP)	23.8	•=+	25.1	19.6	19.2			15.3	
	Demographics Total population (1.000s) Urban (as % of total) Dependency rates (%) Labour force (1.000s) Labour force participation rates (%) Males Females Employment (thousands of employees) of which: Agriculture (%) Industry (%) Services (5) Urban unemployment (% labour force) Incomes (index: 1988=100) Average real wage Average minimum wage Average unit labour costs (index: 1988=1) in USS in domestic currency memo: CPI inflation rate (annual) Exchange rate (index: 1988=1) GDP Total (M US\$ 1988) per-capita (US\$ 1988) Fiscal balance (% GDP) X+M/GDP (%) Current account BOP (% GDP) Gross dom. investment (% GDP)	1970 Demographics Total population (1.000s) 23 962 Urban (as % of total) 78.4 Dependency rates (%) 57.0 Labour force (1.000s) 9 430 Labour force participation rates (%) 9 430 Males 73.9 Females 24.5 Employment (thousands of employees) of which: 8 968 Agriculture (%) 16.0 Industry (%) 34.3 Services (5) 49.7 Urban unemployment (% labour force) 4.9 Incomes (index: 1988=100) Average real wage Average minimum wage Average unit labour costs (index: 1988=1) in domestic currency memo: CPI inflation rate (annual) 13.6 Exchange rate (index: 1988=1) n.d. GDP Total (M US\$ 1988) 107 599 per-capita (US\$ 1988) 4 490 Fiscal balance (% GDP) -1.4 X+M/GDP (%) 16.2 Current account BOP (% GDP) -0.4 <td< td=""><td>Image: Information of the system of</td><td>Image: Initial systems Image: Initial systems 1970 1975 1980 Demographics 23 962 25 999 28 237 Urban (as % of total) 78.4 80.6 82.7 Dependency rates (%) 57.0 58.3 61.8 Labour force (1.000s) 9 430 10 278 Labour force participation rates (%) 73.9 72.5 Females 24.5 24.6 Employment (thousands of employees) of which: 8 968 10 011 Agriculture (%) 16.0 13.0 Industry (%) 34.3 33.8 Services (5) 49.7 53.2 Urban unemployment (% labour force) 4.9 3.7 2.6 Incomes (index: 1988=100) 10.7 Average minimum wage 10.7 In domestic currency 0.87 in USS </td><td>Argentina IPROPERTING IPROPERTING</td><td>Argenting 1970 1975 1980 1981 1982 Demographics Total population (1.000s) 23 962 25 999 28 237 28 663 29 086 Urban (as % of total) 78.4 80.6 82.7 Dependency rates (%) 57.0 58.3 61.8 62.4 62.9 Labour force (1.000s) 9 430 10 278 10 503 10 732 Labour force participation rates (%) Males 73.9 72.5 Employment (housands of employees) of which: 8 968 10 011 10 009 10 164 Agriculture (%) 34.3 33.8 Industry (%) 34.3 33.8 Verban unemployment (% labour force) 4.9 3.7 2.6 4.7 5.3 Incomes (index:</td><td>Negenitive 1970 1975 1980 1981 1982 1983 Demographics Total population (1.000s) 23 962 25 999 28 237 28 663 29 086 29 505 Urban (as % of total) 78.4 80.6 82.7 <</td><td>Nagenina 1970 1975 1980 1981 1982 1983 1984 Demographics Total population (1000s) 23 962 25 999 28 237 28 663 29 086 29 505 29 921 Urban (as % of total) 78.4 80.6 82.7 <</td></td<>	Image: Information of the system of	Image: Initial systems Image: Initial systems 1970 1975 1980 Demographics 23 962 25 999 28 237 Urban (as % of total) 78.4 80.6 82.7 Dependency rates (%) 57.0 58.3 61.8 Labour force (1.000s) 9 430 10 278 Labour force participation rates (%) 73.9 72.5 Females 24.5 24.6 Employment (thousands of employees) of which: 8 968 10 011 Agriculture (%) 16.0 13.0 Industry (%) 34.3 33.8 Services (5) 49.7 53.2 Urban unemployment (% labour force) 4.9 3.7 2.6 Incomes (index: 1988=100) 10.7 Average minimum wage 10.7 In domestic currency 0.87 in USS	Argentina IPROPERTING IPROPERTING	Argenting 1970 1975 1980 1981 1982 Demographics Total population (1.000s) 23 962 25 999 28 237 28 663 29 086 Urban (as % of total) 78.4 80.6 82.7 Dependency rates (%) 57.0 58.3 61.8 62.4 62.9 Labour force (1.000s) 9 430 10 278 10 503 10 732 Labour force participation rates (%) Males 73.9 72.5 Employment (housands of employees) of which: 8 968 10 011 10 009 10 164 Agriculture (%) 34.3 33.8 Industry (%) 34.3 33.8 Verban unemployment (% labour force) 4.9 3.7 2.6 4.7 5.3 Incomes (index:	Negenitive 1970 1975 1980 1981 1982 1983 Demographics Total population (1.000s) 23 962 25 999 28 237 28 663 29 086 29 505 Urban (as % of total) 78.4 80.6 82.7 <	Nagenina 1970 1975 1980 1981 1982 1983 1984 Demographics Total population (1000s) 23 962 25 999 28 237 28 663 29 086 29 505 29 921 Urban (as % of total) 78.4 80.6 82.7 <	

Argentina

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		1986	1987	1988	1989	1990	1991	1992	1993
	Demographics	*****************************			· · · · ·				·
a)	Total population (1.000s)	30 737	31 137	31 534	31 929	32 322	32 713	33 101	
b)	Urban (as % of total)	•••	•••	•••		86.2	•••	86.8	
c)	Dependency rates (%)	64.3	64.4	64.4	64.3	64.0	63.6	63.0	
đ)	Labour force (1.000s)	11 618	11 786	11 956	12 129	12 305	12 483	12 664	
	Labour force participation rates (%)								
e)	Males			•••		69.7			
f)	Females	•••				26.1		•••	
g)	Employment (thousands of employees) of which:	11 014	11 090	11 203	11 183	11 382	11 672	11 777	
h)	Agriculture (%)				***	10.4			•••
i)	Industry (%)	•••				20.9			
j)	Services (5)					68.7			
k)	Urban unemployment (% labour force)		5.2	5.9	6.3	7.8	7.5	6.5	7.09.5
	Incomes (index: 1988=100)								
I)	Average real wage	112.5	105.9	100.0	85.6	80.9	84.1	83.7	
n)	Average minimum wage	11.8	12.9	10.0	4.5	4.3	6.0	5.1	
	Average unit labour costs (index: 1988=1)								
n)	in US\$	0.13	0.11	1.00	0.60	0.21	2.24	5.35	
0)	in domestic currency	1.11	1.03	1.00	0.91	0.88	0.86	0.79	
	memo:								
p)	CPI inflation rate (annual)	90.1	131.3	343.0	3 079.8	2 314.0	171.7	24.9	10.6
q)	Exchange rate (index: 1988=1)	0.50713	0.24324	1.0	0.14912	0.00170	0.00077	0.00073	0.00073
	GDP								
r)	Total (M US\$ 1988)	128 518	131 742	129 291	121 141	121 369	132 372	143 880	
s)	per-capita (US\$ 1988)	4 181	4 231	4 100	3 794	3 755	4 046	4 347	
t)	Fiscal balance (% GDP)	-3.2	-5.7	-4.0	-2.7	-1.4	-1.1	-0.3	
u)	X+M/GDP (%)	17.0	16.7	18.6	19.5	22.5	22.1	24.1	
v)	Current account BOP (% GDP)	-2.4	-3.3	-1.2	-1.0	1.4	-1.9	-5.5	
N)	Gross dom. investment (% GDP)	16.4	18.4	18.4	14.8	13.3	15.3	18.5	

Argentina (continued)

n.d. = No data

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		1970	1975	1980	1981	1982	1983	1984	1985	
·	Demographics					· · · · · · · · · · · · · · · · · · ·	·			
(a)	Total population (1.000s)	72 325	95 847	107 349	118 998	124 068	126 898	129 862	132 744	
(b)	Urban (as % of total)	55.8	61.8	67.5			•••		72.7	
(c)	Dependency rates (%)	84.1	77.9	71.7	70.9	70.3	69.7	69.2	68.7	
(d)	Labour force (1.000s)	30 225		44 628	45 891	47 190	48 525	49 899	51 311	
	Labour force participation rates (%)		· · .							
(e)	Males	71.5	,,,	72.9					73.0	
(f)	Females	18.4		26.9	•••		•••		28.7	
(g)	Employment (thousands of employees) of which:	28 260		41 816	42 266	44 217	45 274	46 356	48 592	
(ĥ)	Agriculture (%)	44.9		31.2					27.6	
(i)	Industry (%)	21.8		26.6	•••			•••	18.3	
ő -	Services (5)	33.3		42.2				•••	54.1	
(k)	Urban unemployment (% labour force)	6.5		6.3	7.9	6.3	6.7	7.1	5.3	
	Real incomes (index: 1988=100)									
(I)	Average real wage	***	76.6	96.9	105.1	117.8	109.2	101.8	108.3	
(m)	Average minimum wage		***	145.6	152.0	152.7	139.6	127.2	129.4	
• •	Average unit labour costs (index: 1988=1)									
(n)	in US\$	· • • •		2.12	2.58	3.17	2.09	1.39	1.27	
(0)	in domestic currency	•11		0.92	1.05	1.21	1.17	1.06	1.10	
	memo:									
(p)	CPI inflation rate (annual)	22.4	29.0	82.8	105.6	97.8	142.1	197.0	226.9	
(q)	Exchange rate (index: 1988=1)	37 008.4	20 958.6	3 265.7	1 894.3	983.0	339.7	102.7	30.4	
	GDP									
(r)	Total (M US\$ 1988)	123 102	201 215	279 662	267 012	272 229	267 318	281 184	302 978	
(s)	per-capita (US\$ 1988)	1 702	2 099	2 605	2 244	2 194	2 107	2 165	2 282	
(t)	Fiscal balance (% GDP)	-0.4	1.0	-2.2	-2.2	-3.1	-4.3	-5.0	-11.1	
(u)	X+M/GDP (%)	21.5	.**	20.4		20.0			20.1	
(v)	Current account BOP (% GDP)	-1.3	-6.4	-5.4	-4.8	-6.0	-2.7	0.0	-0.0	
(w)	Gross dom. investment (% GDP)	21.5		23.3	27.1	19.1			18.4	

Brazil

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			Brazil (contin	nued)					
		1986	1987	1988	1989	1990	1991	1992	1993
	Demographics								
(a)	Total population (1.000s)	135 564	138 329	141 068	143 771	146 432	149 042	151 598	154 105
(b)	Urban (as % of total)				•••	76.9		77.3	
· (c)	Dependency rates (%)	68	67.3	66.6	65.8	64.9	63.9	62.9	
(ď)	Labour force (1.000s)	52 647	54 018	55 425	56 868	58 349	59 868	61 427	
	Labour force participation rates (%)								
(e)	Males					72.6			
(f)	Females	543				30.3			
(g)	Employment (thousands of employees) of which:	50 752	52 019	53 319	54 991	55 840	56 875	57 803	
(h)	Agriculture (%)		***			24.3			
(i)	Industry (%)					17.8			
Ϋ́Ο	Services (5)	•••		•••		57.9			
(k)	Urban unemployment (% labour force)	3.6	3.7	3.8	3.3	4.3	5.0	5.9	5.6
	Real incomes (index: 1988=100)								
(1)	Average real wage	117.7	102.1	100.0	99.1	84.9	85.1	97.3	
(m)	Average minimum wage	129.5	105.7	100.0	104.9	77.7	87.2	83.4	
	Average unit labour costs (index: 1988=1)								
(n)	in US\$	· 1.79	1.63	1.00	0.82	0.36	1.62	1.14	
(0)	in domestic currency	1.16	1.00	1.00	0.99	0.90	0.91	1.07	
	memo:								
(p)	CPI inflation rate (annual)	145.2	229.7	682.3	1 287.0	2 937.8	440.9	1 008.7	2 148.4
(q)	Exchange rate (index: 1988=1)	12.5	5.4	1.0	0.1	0.00373	0.00054	0.00006	n.d.
	GDP								
(t)	Total (M US\$ 1988)	326 788	337 755	337 301	348 050	332 791	335 283	331 534	
(s)	per-capita (US\$ 1988)	2 411	2 442	2 391	2 421	2 273	2 250	2 187	
(t)	Fiscal balance (% GDP)	-13.3	-11.2	-21.5	-24.9	-14.3	n.a.	n.a.	
(u)	X+M/GDP (%)	18.2	19.3	20.7	21.4	22.1	22.8	25.7	•···
(v)	Current account BOP (% GDP)	-1.7	-0.4	1.2	0.3	-1.0	-0.4	1.7	
(w)	Gross dom. investment (% GDP)	18.7	18.7	17.1	17.6	14.5	15.1	14.5	
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		1970	1975	1980	1981	1982	1983	1984	1985
•	Demographics		· · · · ·		· · · · · · · · · · · · · · · · · · ·	,			<u></u>
i)	Total population (1.000s)	9 504	10 312	11 145	11 327	11 519	11 717	11 919	12 122
)	Urban (as % of total)	75.2	78.3	81.1	•1•				83.6
;)	Dependency rates (%)	79.1	72.9	63.9	62.7	61.7	60.8	60.1	59.5
i)	Labour force (1.000s)	2 857	***	3 606	3 721	3 839	3 961	4 087	4 217
	Labour force participation rates (%)								
)	Males	65.4		62.6					65.0
f)	Females	18.1	•••	21.3					24.2
g)	Employment (thousands of employees) of which:	2 740	•••	3 180	3 308	2 991	3 212	3 331	3 492
h)	Agriculture (%)	23.2		16.5					14.3
i)	Industry (%)	28.7	•••	25.2					18.7
j)	Services (5)	48.1	***	58.3	•1•			•••	67.0
k)	Urban unemployment (% labour force)	4.1	15.0	11.8	11.1	22.1	18.9	18.5	17.2
	Incomes (index: 1988=100)								
1)	Average real wage		68.8	99.0	107.8	107.5	96.1	96.2	92.6
m)	Average minimum wage			135.3	133.8	140.2	127.5	109.2	103.4
	Average unit labour costs (index: 1988=1)								
n)	in US\$	•••		1.11	1.59	1.61	1.06	1.08	0.78
0)	in domestic currency		•••	0.90	0.95	0.99	0.97	0.96	0.95
	memo:								
p)	CPI inflation rate (annual)	32.5	374.7	35.1	19.7	9.9	27.3	19.9	30.7
(q)	Exchange rate (index: 1988=1)	20 740.3	61.3	6.2828	6.2828	5.1083	3.1172	2.5278	1.5430
-	GDP								
T)	Total (M US\$ 1988)	19 791	17 889	25 409	27 205	23 576	22 984	24 324	24 765
s)	per-capita (US\$ 1988)	2 082.4	1 734.8	2 279.9	2 401.8	2 046.7	1 961.6	2 040.8	2 043.0
t)	Fiscal balance (% GDP)	-2.0	2.0	3.5	3.1	-2.6	-3.7	-2.9	-1.8
u)	X+M/GDP (%)	33.2	***	51.4	•••	47.4		•••	47.9
v)	Current account BOP (% GDP)	-0.4	-5.8	-9.2	-19.0	-9.9	-5.1	-9.0	-5.9
w)	Gross dom. investment (% GDP)	20.3	•••	20.7	12.1	11.3		• •	12.2

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		1986	1987	1988	1989	1990	1991	1992	1993
	Demographics	· · · · · · · · · · · · · · · · · · ·		· · · ·					
a)	Total population (1.000s)	12 327	12 536	12 748	12 961	13 173	13 386	13 599	
b)	Urban (as % of total)	•••				85.6	,	86.6	
c)	Dependency rates (%)	59.0	58.5	58.2	57.9	57.8	57.8	58.0	•••
d)	Labour force (1.000s)	4 329	4 445	4 563	4 685	4 810	4 938	5 070	
	Labour force participation rates (%)								
e)	Males	•••	***	•••	•••	66.9		***	
f)	Females		***	**1	***	27.0	***	•••	
g)	Employment (thousands of employees) of which:	3 762	3 916	4 098	4 348	4 497	4 578	4 816	
h)	Agriculture (%)	•••	•••			12.5		***	
i)	Industry (%)	***	•••		***	22.1	•••		
j)	Services (5)	•	***			65.4	•••		
k)	Urban unemployment (% labour force)	13.1	11.9	10.2	7.2	6.5	7.3	5.0	4.8
	Incomes (index: 1988=100)								
1)	Average real wage	94.2	93.8	100.0	101.9	103.8	108.8	116.1	
m)	Average minimum wage	99.6	93.5	100.0	108.0	118.4	129.4	135.0	•
	Average unit labour costs (index: 1988=1)								
(n)	in US\$	0.87	0.90	1.00	1.04	1.10	1.22	1.45	
0)	in domestic currency	0.98	0.96	1.00	0.98	1.02	1.02	1.04	
	memo:								
p)	CPI inflation rate (annual)	19.5	19.9	14.7	17.0	26.0	21.8	15.4	12.7
(p)	Exchange rate (index: 1988=1)	1.2708	1.1187	1.0000	0.9202	0.8047	0.7020	0.6763	0.6064
	GDP								
r)	Total (M US\$ 1988)	26 140	27 669	29 706	32 624	33 258	35 263	38 925	
s)	per-capita (US\$ 1988)	2 120.5	2 207.2	2 330.2	2 517.1	2 524.7	2 634.3	2 862.3	
t)	Fiscal balance (% GDP)	-0.5	2.4	3.7	5.2	1.4	1.6	2.7	
u)	X+M/GDP (%)	51.5	53.5	54.5	59.5	59.8	62.8	69.2	
v)	Current account BOP (% GDP)	-4.9	-3.0	-0.6	-2.2	-1.7	0.4	-1.4	
w)	Gross dom. investment (% GDP)	12.4	14.8	15.5	17.5	16.4	15.3	-16.9	

Chile (continued)

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		1970	1975	1980	1981	1982	1983	1984	1985
	Demographics								
(a)	Total population (1.000s)	21 360	23 816	26 525	27 495	28 085	28 299	28 895	29 481
(b)	Urban (as % of total)	57.2	60.0	64.2		•••		•••	67.4
(c)	Dependency rates (%)	97.1	84.4	77.8	77.5	76.5	71.2	70.2	69.2
(d)	Labour force (1.000s)	6 382		8 837	9 102	9 374	9 655	9 944	10 242
	Labour force participation rates (%)								
(e)	Males	69.6		64.8					64.6
(f)	Females	20.2		26.3	•••		***		29.7
(g)	Employment (thousands of employees) of which:	5 706		7 980	8 355	8 502	8 516	8 602	8 798
(h)	Agriculture (%)	39.3		34.2		•••			30.5
(i)	Industry (%)	23.3	•••	23.5	•••			•	16.5
(j)	Services (5)	37.4		42.3		•••	•••		52.9
(k)	Urban unemployment (% labour force)	10.6	11.0	9.7	8.2	9.3	11.8	13.5	14.1
	Incomes (index: 1988=100)								
(1)	Average real wage	•••	73.5	85.0	86.1	89.0	93.5	100.3	97.4
(m)	Average minimum wage	•••		91.0	90.0	94.3	98.2	103.3	99.5
	Average unit labour costs (index: 1988=1)								
(n)	in US\$	•••		1.11	1.28	1.44	1,52	1.48	1.18
(0)	in domestic currency	***		0.89	0.94	0.97	1.01	1.05	1.01
	memo:								
(p)	CPI inflation rate (annual)	6.8	22.9	26.5	27.5	24.5	19.8	16.1	24.0
(q)	Exchange rate (index: 1988=1)	16.2	9.7	6.3	5.5	4.7	3.8	3.0	2.1
	GDP								
(r)	Total (M US\$ 1988)	19 736	25 843	33 745	33 988	34 367	35 001	36 301	37 602
(s)	per-capita (US\$ 1988)	924.0	1 085.1	1 272.2	1 236.2	1 223.7	1 236.8	1 256.3	1 275.5
(t)	Fiscal balance (% GDP)	-1.0	0.0	-2.0	-1.2	-2.0	-1.0	-4.3	-2.7
(u)	X+M/GDP (%)	33.5		33.2		31.9			26.7
(v)	Current account BOP (% GDP)	-4.3	-0.8	-0.6	-6.1	-8.5	-9.1	-4.0	-5.0
(w)	Gross dom. investment (% GDP)	19.8	***	19.1	16.1	22.0		•••	16.7

Colombia

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	· · · · · · · · · · · · · · · · · · ·	1986	1987	1988	1989	1990	1991	1992	1993
·····	Demographics	····					· · · · · ·	· · · ·	
(a)	Total population (1.000s)	30 054	30 619	31 180	31 739	32 300	32 862	33 425	
. (b)	Urban (as % of total)	•••				70.3		73.0	•••
(c)	Dependency rates (%)	68.2	67.4	66.8	66.1	65.3	64.3	63.2	
(d)	Labour force (1.000s)	10 550	10 868	11 196	11 533	11 880	12 238	12 606	
	Labour force participation rates (%)								
(e)	Males	•••				65.7		•••	
(f)	Females	***	•••			31.6	***	•••	
(g)	Employment (thousands of employees) of which:	9 094	9 586	9 942	10 391	10 656	11 014	11 346	•••
(h)	Agriculture (%)		•••		•••	27.3	***	•••	
(i)	Industry (%)	***				15.0			
(j)	Services (5)	•••				57.7	•••	•••	
(k)	Urban unemployment (% labour force)	13.8	11.8	11.2	9.9	10.3	10.0	10.0	8.6
•	Incomes (index: 1988=100)								
· (1)	Average real wage	102.0	101.3	100.0	101.4	98.5	95.5	101.2	
(m)	Average minimum wage	103.9	102.8	100.0	100.8	98.2	94.9	92.4	
	Average unit labour costs (index: 1988=1)								
· (n)	in US\$	1.08	1.02	1.00	1.03	0.95	0.95	1.08	
(o)	in domestic currency	1.03	1.02	1.00	1.03	0.99	0.97	1.02	
	memo:								
(p)	CPI inflation rate (annual)	18.9	23.3	28.1	25.8	29.1	30.4	27.0	•••
(q)	Exchange rate (index: 1988=1)	1.5	1.2	1.0	0.8	0.6	0.5	0.4	0.3
-	GDP								
(r)	Total (M US\$ 1988)	40 036	42 143	43 967	45 408	46 984	48 017	49 795	
(s)	per-capita (US\$ 1988)	1 332.1	1 376.4	1 410.1	1 430.7	1 454.6	1 461.2	1 489.8	
(t)	Fiscal balance(% GDP)	-1.3	-0.5	-1.4	-1.7	-0.1	-0.8	-1.5	
(u)	X+M/GDP (%)	29.2	32.2	31.0	30.4	34.5	35.9	40.6	•••
(v)	Current account BOP (% GDP)	1.0	0.8	-0.5	-0.4	1.1	4.5	1.7	
(w)	Gross dom. investment (% GDP)	16.3	16.8	17.5	15.6	14.9	14.4	16.1	

Colombia (continued)

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· • • • • • • • • • • • • • • • • • • •	Demographics	·			· · · · · · · · · · · · · · · · · · ·				······································
(a)	Total population (1.000s)	50 328	58 380	64 450	66 095	67 715	69 362	71 019	72 689
(b)	Urban (as % of total)	59.0	62.8	66.4		•••			69.6
(c)	Dependency rates (%)	101.6	99.1	92.2	88.8	86.7	84.6	82.4	82.0
(d)	Labour force (1.000s)	13 406	•••	22 317	23 102	23 915	24 756	25 627	26 529
	Labour force participation rates (%)								
(e)	Males	65.7		70.4	•••		•••	•••	70.1
(f)	Females	15.2	•••	26.3	•••				27.4
(g)	Employment (thousands of employees) of which:	12 468		21 313	22 132	22 911	23 122	24 167	25 362
(h)	Agriculture (%)	44.1		36.6		·			33.2
(i)	Industry (%)	24.3		29.0				• •••	23.0
(j)	Services (5)	31.6	•••	34.4					43.8
(k)	Urban unemployment (% labour force)	7.0	7.2	4.5	4.2	4.2	6.6	5.7	4.4
	Incomes (index: 1980=100)								
(1)	Average real wage	•••	•••	139.5	144.5	145.6	112.6	104.3	105.9
(m)	Average minimum wage	•••	•••	184.5	213.5	216.2	141.3	133.4	131.2
	Average unit labour costs (index: 1988=1)								
(n)	in US\$	•••	•••	1.91	2.25	1.50	0.82	1.09	1.27
(o)	in domestic currency	•••		1.13	1.12	1.18	0.97	0.91	0.94
	memo:								
(p)	CPI inflation rate (annual)	5.2	15.2	26.4	27.9	58.9	101.8	65.5	57.7
(q)	Exchange rate (index: 1988=1)	181.8	181.8	99.0	92.8	45.8	19.2	13.6	9.2
	GDP								
(r)	Total (M US\$ 1988)	83 657	120798	158 523	171 139	169 285	161 279	167 146	171 839
(s)	per-capita (US\$ 1988)	1 662.2	2 069.2	2 459.6	2 589.3	2 500.0	2 325.2	2353.5	2 364.0
(t)	Fiscal balance (% GDP)	-1.7	-5.3	-3.1	-6.5	-11.9	-8.2	-7.2	-7.6
(u)	X+M/GDP (%)	20.5	•••	26.1		27.4	•••		27.2
(v)	Current account BOP (% GDP)	-3.7	-6.1	-6.1	-10.2	-4.0	3.5	2.6	0.7
(w)	Gross dom. investment (% GDP)	22.2		27.2	23.9	21.8			18.3

	Mexico
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(a)	Demographics								1775
(a)	0 I ···								
ሌ	Total population (1.000s)	74 374	76 075	77 789	79 515	81 250	82 997	84 770	
(0)	Urban (as % of total)			•••	·	72.6		73.7	
(c)	Dependency rates (%)	79.8	77.5	75.3	73.3	71.6	70.4	69.4	•••
(d)	Labour force (1.000s)	27 432	28 366	29 332	30 330	31 363	32 431	33 535	
. '	Labour force participation rates (%)				1				
(e)	Males	•••		1+1		71.8	,		
(f)	Females					29.2			
(g)	Employment (thousands of employees) of which:	26 253	27 260	28 305	29 451	30 485	31 555	32 562	
(h)	Agriculture (%)			·		30.0			
(i)	Industry (%)		· • • •	•••		19.7			- • •
(j)	Services (5)					50.3			
(k)	Urban unemployment (% labour force)	4.3	3.9	3.5	2.9	2.8	2.7	2.9	3.4
	Incomes (index: 1980=100)								
(1)	Average real wage	99.7	99.4	100.0	104.9	108.6	115.8	126.9	
(m)	Average minimum wage	119.7	113.5	100.0	93.7	83.9	80.4	77.7	
	Average unit labour costs (index: 1988=1)								
(n)	in US\$	0.88	0.72	1.00	2.08	2.24	2.82	3.70	
(0)	in domestic currency	0.95	0.97	1.00	1.05	1.08	1.15	1.26	
	memo:								
(p)	CPI inflation rate (annual)	86.2	131.8	114.2	20.0	26.7	22.7	15.5	9.8
(q)	Exchange rate (index: 1988=1) GDP	4.0	1.7	1.0	0.9251	0.8090	0.7575	0.7345	0.7295
(T)	Total (M US\$ 1988)	164 743	167 625	169 848	176 300	184 519	191 362	196 434	
(s)	per-capita (US\$ 1988)	2 215.1	2 203.4	2 183.4	2 217.2	2 271.0	2 305.6	2 317.3	
(t)	Fiscal balance (% GDP)	-13.0	-14.2	-9.6	-5.0	-2.8	3.3	4.5	
(u)	X+M/GDP (%)	28,4	33.3	37.6	41.1	43.1	46.3	45.0	
(v)	Current account BOP (% GDP)	-1.1	2.5	-1.4	-2.1	-3.5	-6.4	-10.6	
(w)	Gross dom. investment (% GDP)	15.3	17.3	19.1	20.1	21.2	22.1	21.8	

Mexico (continued)

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		1970	1975	1980	1981	1982	1983	1984	1985
	Demographics								
(a)	Total population (1.000s)	13 173	15 017	17 325	17 699	18 058	18 568	18 992	19 417
(b)	Urban (as % of total)	57.4	61.4	64.5	•••	•••			67.4
(c)	Dependency rates (%)	90.4	87.9	83.0	81.9	80.6	80.4	79.6	76.9
(d)	Labour force (1.000s)	4 219		5 666	5 837	6 014	6 196	6 384	6 577
	Labour force participation rates (%)								
(e)	Males	67.6	•••	66.3	•••	•••	•		66.6
(f)	Females	26.0		26.3	•••	•••			26.9
(g)	Employment (thousands of employees) of which:	4 219.0	•••	5 666	5 441	5 617	5 639	5 816	6 577
(h)	Agriculture (%)	47.1	•••	40.0		•••	***	•••	37.3
(i)	Industry (%)	17.6		18.3		•••			13.2
(j)	Services (5)	35.3	•••	41.7		•••			49.6
(k)	Urban unemployment (% labour force)		•••	7.1	6.8	6.6	9.0	8.9	10.1
	Incomes (index: 1988=100)								
(1)	Average real wage		149.9	131.4	133.8	144.8	122.7	114.6	102.0
(m)	Average minimum wage	•••	•••	192.3	161.9	149.6	155.0	119.8	104.6
	Average unit labour costs (index: 1988=1)								
(n)	in US\$		•••	1.13	1.13	1.38	0.99	0.90	0.61
(o)	in domestic currency		***	1.23	1.13	1.26	1.25	1.15	1.14
	memo:								
(p)	CPI inflation rate (annual)	5.0	23.6	59.1	75.4	64.4	111.2	110.2	163.4
(q)	Exchange rate (index: 1988=1)	1 209.9	1 160.5	163.4	112.1	69.6	30.8	14.4	4.6
	GDP								
(r)	Total (M US\$ 1988)	22 821	29 560	32 047	34 171	34 066	29 409	30 718	31 220
(s)	per-capita (US\$ 1988)	1 732.4	1 968.4	1 849.8	1.930.7	1 886.5	1 583.9	1 617.4	1 607.9
(t)	Fiscal balance (% GDP)	-1.4	-4.9	-2.9	-3.9	-3.1	-7.3	-4.4	-3.0
(u)	X+M/GDP (%)	46.1		41.8	•••	44.1			37.7
(v)	Current account BOP (% GDP)	2.6	-9.6	0.2	-5.5	-4.8	-3.1	-0.7	0.5
(w)	Gross dom. investment (% GDP)	17.2	28.3	27.5		29.3	***	•••	15.2

Peru

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		1986	1987	1988	1989	1990	1991	1992	1993
	Demographics			<u> </u>					
(a)	Total population (1.000s)	19 840	20 261	20 684	21 113	21 550	21 998	22 454	
(b)	Urban (as % of total)		***		•••	70.2		71.2	
(c)	Dependency rates (%)	75.6	74.4	73.1	71.9	70.7	69.6	68.5	
(d)	Labour force (1.000s)	6 761	6 949	7 143	7 343	7 548	7 759	7 975	
	Labour force participation rates (%)								
(e)	Males	•••		514	• • •	67.1			
(f)	Females				•1•	27.5		•••	
(g)	Employment (thousands of employees) of which:	6 396	6 616	6 579	6 763	7 584	7 301	7 497	
(h)	Agriculture (%)			•••	•••	34.7		•••	
(i)	Industry (%)			•••		11.1		•	
ő	Services (5)					54.2			
(k)	Urban unemployment (% labour force)	5.4	4.8	7.9	7.9	8.3	5.9	6.0	
.,	Incomes (index: 1988=100)								
(1)	Average real wage	128.1	133.1	100.0	54.5	48.0	51.6	53.1	
.(m)	Average minimum wage	108.5	114.8	100.0	48.8	45.0	30.6	30.6	
• /	Average unit labour costs (index: 1988=1)								
(n)	in US\$	1.27	1.89	1.00	0.13	1.50	0.81	2.93	
(0)	in domestic currency	1.25	1.22	1.00	0.64	0.67	0.67	0.72	
	memo:								
(p)	CPI inflation rate (annual)	77.9	85.8	667.0	3 398.7	7 481.7	409.5	73.5	48.6
(q)	Exchange rate (index: 1988=1)	3.4	2.9	1.0	n.d.	n.d.	n.d.	n.d.	n.d.
	GDP								
(r)	Total (M US\$ 1988)	34 752	38 296	34 849	30 316	28 903	29 755	29 086	
(s)	per-capita (US\$ 1988)	1 751.6	1 890.1	1 684.8	1 435.9	1 341.2	1 352.6	1 295.4	
(t)	Fiscal balance (% GDP)	-4.3	-6.9	-3.9	-6.3	-5.4	-1.9	-2.0	
(u)	X+M/GDP (%)	36.4	34.7	33.2	37.2	37.7	38.5	40.7	
(v)	Current account BOP (% GDP)	-3.3	-4.0	-3.1	1.2	-2.4	-4.6	-6.4	
(w)	Gross dom. investment (% GDP)	18.6	22.1	21.9	16.8	20.2	23.4	24.4	

Peru (continued)

n.d. = No data.

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		1970	1975	1980	1981	1982	1983	1984	1985
	Demographics								
(a)	Total population (1.000s)	7 963	10 604	12 089	15 024	15 485	15 940	16 318	16 739
(b)	Urban (as % of total)	72.4	77.9	83.3				•••	87.6
(c)	Dependency rates (%)	94.4	87.1	79.5	78.4	77.5	76.6	75.9	74.0
(d)	Labour force (1.000s)	2 970		4 641	4 824	5 015	5 213	5 419	5 633
	Labour force participation rates (%)								
(e)	Males	65.2		64.3	•••	***	***		65.6
(f)	Females	17.8	•••	21.9	***		•••	***	24.6
(g)	Employment (thousands of employees) of which:	2 738		4 363	4 528	4 659	4 681	4 693	4 951
(h)	Agriculture (%)	26.0		16.1		•••	•••		13.3
(i)	Industry (%)	24.8		28.4		•••			23.4
(j)	Services (5)	49.2		55.5					63.3
(k)	Urban unemployment (% labour force)	7.8	8.3	6.0	6.2	7.1	10.2	13,4	12.1
	Incomes (index: 1988=100)								
(1)	Average real wage	•••		151.5			149.1	141.7	127.6
(m)	Average minimum wage			111.7	96.3	87.7	82.6	74.3	108.2
	Average unit labour costs (index: 1988=1)								
(n)	in US\$		•••	1.93	***		2.49	1.65	1.55
(o)	in domestic currency	•••		1.68	•••		1.40	1.37	1.28
- ,	memo:			-					
(p)	CPI inflation rate (annual)	2.5	10.3	21.5	16.2	9.6	6.3	12.2	11.4
(q)	Exchange rate (index: 1988=1)	3.3	3.4	3.4	3.4	3.4	3.4	2.2	1.9
	GDP								
(r)	Total (M US\$ 1988)	30 405	38 570	45 683	59 217	59 520	57 999	56 326	57 510
(s)	per-capita (US\$ 1988)	2 867	3 191	3 041	3 824	3 734	3 554	3 365	3 351
(t)	Fiscal balance (% GDP)	-1.2	0.7	-0.4	2.2	-2.1	-0.6	2.8	2.0
(u)	X+M/GDP (% at 1980 prices)	80.3		57.0		59.2			48.1
(v)	Current account BOP (% GDP)	-1.3	10.3	12.3	7.4	-7.6	8.1	9.9	6.6
(w)	Gross dom, investment (% GDP)	17.3	28.5	27.7	141	24.1	*1*		16.6

Venezuela

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		1986	1987	1988	1989	1990	1991	1992	1993
•	Demographics		· · · · · · · · · · · · · · · · · · ·						
(a)	Total population (1.000s)	17 164	17 595	18 026	18 457	18 889	19 321	19 753	20 186
(b)	Urban (as % of total)			***		90.5	1+1	93.7	
(c)	Dependency rates (%)	73.0	72.1	71.2	70.2	69.2	68.1	67.0	
(d)	Labour force (1.000s)	5 836	6 046	6 263	6 489	6 722	6 964	7 214	
	Labour force participation rates (%)								
(e)	Males		•••	• • •		66.2		144	
(f)	Females					26.9	141	•••	
(g)	Employment (thousands of employees) of which:	5 235	5 532	5 831	5 866	6 057	6 358	6 702	
(h)	Agriculture (%)					11.0			
(i)	Industry (%)	•••	•••			22.3			
(j)	Services (5)		•••			66.7			
(k)	Urban unemployment (% labour force)	10.3	8.5	6.9	9.6	9.9	8.7	7.1	6.9
	Incomes (index: 1988=100)								
(1)	Average real wage	129.4	112.9	100.0	73.3	70.0	64.2	70.9	111
(m)	Average minimum wage	101.0	121.5	100.0	81.5	66.3	61.6	67.8	
	Average unit labour costs (index: 1988=1)								
(n)	in US\$	1.67	0.89	1.00	0.50	0.55	0.56	0.68	
(o)	in domestic currency	1.29	1.14	1.00	0.81	0.75	0.65	0.70	
	memo:								
(p)	CPI inflation rate (annual)	11.5	28.1	29.5	84.2	40.8	34.2	31.4	38.1
(g)	Exchange rate (index: 1988=1)	1.9	1.0	1.0	0.4799	0.3102	0.2559	0.2132	0.1607
	GDP								
(r)	Total (M US\$ 1988)	61 039	63 783	67 732	61 941	65 785	72 684	78 564	
(s)	per-capita (US\$ 1988)	3 469	3 538	3 670	3 279	3 405	3 680	3 892	
(t)	Fiscal balance (% GDP)	-0.4	-1.6	-7.4	-1.0	-2.1	-2.8	-3.4	
(u)	X+M/GDP (% at 1980 prices)	51.0	50.0	55.0	51.2	52.1	55.5	53.8	
(v)	Current account BOP (% GDP)	-2.6	-1.8	-8.6	3.3	11.1	2.2	-3.9	
(w)	Gross dom. investment (% GDP)	16.3	17.9	19.5	10.0	8.7	14.2	18.1	•••

Venezuela (continued)

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Notes to country tables

- (a) Progreso Económico y Social en América Latina Informe 1993, Cuadro A-1, Interamerican Development Bank, Washington, October 1993.
- (b) Statistical Yearbook for Latin America and the Caribbean 1993 Edition, I-5, Santiago de Chile, February 1994. 'Urban' follows national census definition in each country.
- (c) Statistical Yearbook for Latin America and the Caribbean 1993 Edition, I-2, Santiago de Chile, February 1994. Population under 15 and over 64 as a percentage of the population between 15 and 64 years of age.
- (d) Statistical Yearbook for Latin America and the Caribbean 1993 Edition, I-17 and I-18, Santiago de Chile, February 1994. The figure refers to economically active population ages 10 years and older.
- (e), (f) Statistical Yearbook for Latin America and the Caribbean 1993 Edition, I-13, Santiago de Chile, February 1994. Refined ratios, the figure refers to the economically active population age 10 years and older as a percentage of total population over 10 years of age.
- (g) Statistical Yearbook for Latin America and the Caribbean 1993 Edition, X-355, Santiago de Chile, February 1994.
- (h) Includes agriculture, hunting, forestry, and fishing.
- (i) Includes mining and quarrying, manufacturing, electricity-gas-water, and construction.
- (j) Includes wholesale and retail trade, restaurants and hotels, transport, storage and communications, financing, insurance, real estate and business services, and community, social and personal services.
- (k) Statistical Yearbook for Latin America and the Caribbean 1993 Edition, I-21, Santiago de Chile, February 1994.
 Country specific definitions follow:
 - Argentina: Urban national.

Brazil: Metropolitan areas of Rio de Janeiro, São Paulo, Belo Horizonte, Porto Alegre, Salvador, and Recife. Colombia: Bogotá, Barranquilla, Medellín, and Cali.

Chile: Greater Santiago. From 1985 onwards figures are not strictly comparable to previous years due to changes in the design and size of the sample.

Mexico: Metropolitan areas of Mexico City, Guadalajara, and Monterrey.

Peru: Metropolitan Lima

Venezuela: Urban national.

(1) Estudio Económico de América Latina y el Caribe 1992, Cuadro V-5, Santiago de Chile, Septiembre. Country specific definitions follow:

Argentina: average wages in the manufacturing industries.

Brazil: average wages of 'base' industries in Rio de Janeiro, average wages in the manufacturing industry of the Sate of São Paulo, deflated by local CPI.

- Colombia: average worker's wages in the manufacturing industries.
 - Chile: Average wages in non-agricultural activities.
 - Mexico: Average wages in the manufacturing industries.

Peru: Average worker's wages in private activities in Metropolitan Lima.

Venezuela: Average income per employee in urban areas.

 (m) Estudio Económico de América Latina y el Caribe 1992, Cuadro V-5, Santiago de Chile, Septiembre 1993. Country specific definitions follow:

Argentina: national minimum wage.

Brazil: minimum wage in Rio de Janeiro, deflated by local CPI.

Colombia: urban.

Chile: minimum income.

Mexico: minimum wage in Mexico City, deflated by local CPI.

Peru: minimum wage for non-agricultural activities in Metropolitan Lima.

Venezuela: national minimum wage.

(n), (o) Unit labour costs are calculated from indices of real wages, employment, and real GDP. Real wages are expressed in US\$ units for (n) using the exchange rate as conversion factor, or in national currency units for (o). Real GDP is expressed in 1988 US\$ prices.

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$$ULC_t^{\ c} = \frac{\left(\frac{w}{p}\right)_t^c * L_t}{Q_t}$$

where w/p

t

index of real wages

c currency (US\$ or national currency)

period

- L index of total employment
- Q index of GDP in 1988 US\$

The conversion factor between the two ULCs is the exchange rate. For sources see reference lines, these notes.

- (p) International Financial Statistics, International Monetary Fund, updated May 1994, Washington DC.
- (q) International Financial Statistics, International Monetary Fund, updated May 1994, Washington DC. Exchange rate is expressed in US\$ per unit of national currency.
- (r) Progreso Económico y Social en América Latina Informe 1993, Cuadro B-1, Interamerican Development Bank, Washington, October 1993.
- (s) Progreso Económico y Social en América Latina Informe 1993, Cuadro B-2, Interamerican Development Bank, Washington, October 1993.
- (t) Progreso Económico y Social en América Latina Informe 1993, Cuadro C-4, Interamerican Development Bank, Washington, October 1993.
- (u) *Estudio Económico de América Latina y el Caribe 1992*, Cuadros II-41 and II-43, Santiago de Chile, Septiembre 1993. Imports plus exports as percentages of GDP at 1980 US\$ prices.
- (v) Progreso Económico y Social en América Latina Informe 1993, Cuadro D-1, Interamerican Development Bank, Washington, October 1993.
- (w) Estudio Económico de América Latina y el Caribe 1992, Cuadro II-44, Santiago de Chile, Septiembre 1993. Data is reported as percentage of GDP at 1980 US\$ prices.
- ... information not available in the source for the year.
- italics data projected by interpolation between adjacent values.
- n.d. non delimited: data exceeds reference boundaries.

	1970		19	90		19	1970		90
	Males	Females	Males	Females		Males	Females	Males	Females
Argentina				•	Brazil			•	
10-14 years	11.8	6.3	9.5	4.5	10-14 years	21.0	5.4	18.2	7.8
15-24 years	76.9	38.2	72.9	35.7	15-24 years	73.4	27.5	76.1	36.2
25-44 years	97.7	30.6	97.3	37.3	25-44 years	95.3	21.5	95.9	37.7
44-64 years	81.2	19.6	80.6	21.2	44-64 years	82.7	14.9	79.4	22.6
65 years and over	29.2	4.5	24.6	3.0	65 years and over	47.1	5.5	31.9	4.9
Chile					Colombia				
10-14 years	••				10-14 years	19.1	4.6	16.4	8.8
15-24 years	63.9	24.2	57.2	25.2	15-24 years	72.4	28.4	56.9	28.9
25-44 years	96.2	25.9	95.2	36.9	25-44 years	94.2	26.4	89.3	42.4
44-64 years	83.5	16.7	77.3	22.2	44-64 years	85.7	16.1	81.I	26.5
65 years and over	41.3	6.6	25.2	5.2	65 years and over	55.6	7.5	46.7	12.6
Mexico					Venezuela				
10-14 years	10.1	4.4	16.6	8.4	10-14 years				
15-24 years	66.9	21.9	69.0	32.8	15-24 years	65.2	23.8	59.5	24.3
25-44 years	90.6	16.8	95.2	34.9	25-44 years	94.9	25.2	96.1	39.9
44-64 years	86.4	14.2	91.5	27.5	44-64 years	87.6	15.4	83.9	20.2
65 years and over	67.5	10.5	67.2	17.5	65 years and over	52.7	5.9	39.0	4.9

Age-specific labour force participation rates by sex in selected Latin American countries, 1970-90 (percentages)

Note: In Chile and Venezuela labour force definition does not include 10-14 age bracket.

Source: Statistical Yearbook for Latin America and the Caribbean - 1993 Edition, I-13 to I-15, Santiago de Chile, February 1994.



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INEQUALITY AS A CONSTRAINT ON GROWTH IN LATIN AMERICA

Draft

by

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Introduction

A trade-off between augmenting growth and reducing inequality has been a basic tenet of conventional economic wisdom regarding the nature of the development process¹. The two most common explanations given for the view that an unequal distribution of income is necessary for, or the likely consequence of, rapid economic growth are: first, following Kaldor², since a high level of savings is a prerequisite of rapid growth, income must be concentrated in the hands of the rich whose marginal propensity to save is relatively high; second, following Kuznets³, as labour shifts from a low-productivity sector to a high-productivity sector, aggregate inequality must initially increase substantially and only later decrease.

Why, then, in Latin America do we find relatively low rates of economic growth and high inequality and in East Asia low inequality and rapid growth? Figure 1 relates percentage growth in GNP, for the period 1965 to 1989, and income inequality, as measured by the ratio of the income shares of the top and bottom quintiles, for a number of Latin American and East Asian countries. The difference between the two regions is striking: Latin American countries, concentrated in the south-east corner, experienced slow or negative growth and high inequality while East Asian



Figure 1. Income inequality and growth of GDP, 1965-89

Note: The ratio of the income shares of the richest 20 per cent and the poorest 20 per cent of the population. Source: World Bank, 1993. The East Asian Miracle: Economic Growth

and Public Policy, Based on World Bank data.

countries, which stand alone in the north-west corner, achieved both extremely low inequality and rapid growth.

Part of this disparity can be attributed to key differences in the political economy of the two regions. In East Asia, there was competition with domestic Communist insurgents, backed by powerful external forces, for the political allegiance of those in the bottom third of the distribution of income. In this way governing élites came to perceive that their future political and economic well-being depended on the future well-being of the poor. To widen the base of their political support, leaders used a variety of tools, including land reform, public housing, investment in rural infrastructure and, most common, widespread high-quality basic education⁴. The aim of these policies was to ensure that all groups in the population benefited visibly from growth. More fundamentally, the export-oriented, labour-demanding development strategy adopted in East Asia contributed to rapid growth of output and, by increasing employment opportunities and wages, ensured that the benefits of growth were widely shared. The common denominator of all the shared growth policies was that they tended to enhance the productivity of the poor; East Asian leaders did not use Robin Hood-like transfer policies, which frequently stifle entrepreneurship and investment.

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In Latin America, Communism did not pose as serious a threat, thus making suppression of insurgence a more viable option. Governing élites were not compelled to see a link between their own future well-being and that of the poor. In fact, they chose policies that suggested the opposite perception, namely that they could thrive irrespective of what happened to those in the bottom third of the distribution of income. There were no serious attempts at land reform, education policies tended to favour the children of the rich rather than the children of the poor and, most fundamentally, development strategy tended to be biased against both agriculture and exports, resulting in relatively slow growth in the demand for labour. Ironically, Robin Hood policies were more common in Latin America than in East Asia swings to populist regimes and policies in reaction against the self-serving myopic policies of the conventional élite resulted in large transfer programmes, which did not augment the productivity of the poor and were, in many cases, growth constraining. The net result in Latin America was a persistence of high-level of inequality and unrealised growth potential.

In this paper we focus on the relationship between equity and growth, contrasting the experience of Latin America with that of East Asia. We begin by presenting empirical support for a causal effect of inequality on economic growth, using cross-country data. We then look more closely at what might account for the association of high inequality and slow growth in Latin America, both from the supply side of the economy in particular, how poor educational performance contributed to high inequality and low growth and from the demand side how development strategy compounded this effect. Finally, we will look at why high inequality appears to be an independent factor constraining growth in Latin America.

Twenty years ago, prior to the fulfilment of East Asia's remarkable potential and Latin America's "lost decade", Ahluwalia concluded on the basis of the cross-country data then available, "there is no strong pattern relating changes in the distribution of income to the rate of growth of GNP. ...This suggests that there is little firm empirical basis for the view that higher rates of growth inevitably generate greater inequality⁵". He did not, as we do in this paper, suggest that high inequality may actually hinder growth. Our conclusion is stronger; contrary to the conventional wisdom, the evidence suggests that the association of slow growth and high inequality in Latin America is in part due to the fact that high inequality may be, in and of itself, a constraint to growth. Conversely, East Asia's low level of inequality may have been a significant stimulus to economic growth. Investment in education is, therefore, a key to sustained growth not only because it contributes directly through productivity effects, but because it reduces income inequality.

Econometric results

Cross-country comparisons have been a prominent feature over the past 50 years of the empirical search for uniformities in the process of the transformation of low- into high-income countries⁶. In this section we quantify the effect on Brazil's economic growth of its high level of income inequality using the results of an econometric analysis of the relationship between income distribution and economic growth in a cross-section of countries. We build on the results reported by Barro (1991), who has recently joined the ranks of those searching for uniformities in the process of economic growth. He estimates equations to explain variation among 98 countries in the growth rate of real per capita income over the period 1960-85. Among the explanatory variables, he includes the level of per capita gross domestic product (GDP) at the start of the period and education enrolment rates in 1960, a crude proxy for the initial stock of human capital. His key finding is that the growth rate is positively related to initial stock of human capital and negatively related to initial per capita GDP. For a given quantity of initial human capital, a poor country tended to grow faster than a rich country, so that incomes were converging over the period among countries with similar levels of education⁷

We used Barro-style growth-rate functions to assess the impact of the distribution of income on subsequent economic growth. Clarke had found a negative relationship between income inequality and average annual growth in per capita GDP for 1970-1988⁸. This relationship is robust to choice of (five) inequality measures and alternative specifications of the explanatory variables⁹. We modified the Clarke exercise because: a) we wanted estimates for 1960-1985 for comparability with Barro and our other results; b) in Clarke's data set, inequality observations for some countries are as recent as 1980. Current inequality, arguably, is simultaneously determined with growth. We assembled country observations from a variety of sources on the ratio of the income shares of the top 40 per cent and the bottom 20 per cent. We chose the earliest available observation and dropped observations where the measure post-dated 1970. This procedure yielded a data set with 74 observations.

The addition of the inequality measure to the basic Barro growth rate function reported in Equation 1 of Table 1 does not much change the parameter estimates. The education variables remain significantly positive. The inequality variable is negative and significant (at the 10 per cent level). Controlling for other determinants of growth, in a sample of 74 countries inequality and growth are inversely related.

How big a constraint on growth is high inequality? For our sample of low- and middle-income countries in 1960, the average annual growth in per capita GDP between 1960 and 1985 was 1.8 per cent. One standard deviation increases in primary and secondary education raises growth rates by 0.62 and 0.34 percentage points respectively. A one standard deviation decrease in the level of income i inequality raises the predicted growth rate by 0.32 of a percentage point. Although the impact on . growth of a change in inequality is smaller than similar changes in enrolment rates, the effect of reducing inequality is still substantial. For example, ceterus paribus, after 25 years, GDP per capita would be 8.2 per cent higher in a country with low inequality than in a country with inequality one standard deviation higher.

Some simulations

How big was the effect of high inequality on growth in Latin America? In an attempt to answer this question we conduct some simulations which assess how much slower. Korea would have grown if Korea had Brazil's high levels of inequality. The ratio of the income share of the top 20 per cent to the bottom 20 per cent was roughly 8 in Korea and 26 in Brazil. Korea grew at an average rate of 5.95 per cent between 1960 and 1985. Consider two alternative simulations: in the first, we assume Korea would have grown at 5.95 per cent except for the impact of changes in inequality; in the second, we assume Korea would have grown at 5.95 per cent except for the impact of changes in

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1960 primary and secondary enrolment rates. Using Equation 1 as our predictor we alternatively set the inequality and enrolment rate variables to the average for all countries in our sample, to the average for all low- and middle-income countries and to the level for Brazil. We obtain the following predicted growth rates for Korea:

,, ,	Inequality	Enrolments
Average	5.76	5.68
Low/Middle income	5.67	4.77
Brazil	5.29	5.39

The most striking simulations are the ones in which Brazilian values are substituted for Korean values. If, in 1960, Korea had had Brazil's level of inequality, Korea's predicted growth rate over the following 25 years would have been reduced by 0.66 percentage points each year, implying that after 25 years GDP per capita in Korea would have been 15 per cent lower. In 1960 the percentage gap between Korea and Brazil in enrolment rates was smaller than the gap in inequality; as a consequence, the impact on Korea's predicted growth of substituting Brazilian enrolment rates is smaller than the impact of substituting Brazilian inequality. Moreover, as we see below, low enrolment rates in Brazil were in part due to the constraint on the demand for schooling imposed by high inequality. If Korea had Brazil's inequality, Korea's enrolment rates would have been lower, suggesting a still larger gross constraint of high inequality on economic growth. This evidence, crude though the data and methods may be, lends support to the hypothesis that high inequality in Latin America constrained growth and that the impact was large.

Poor educational performance, slow growth and high inequality in Latin America

Differences in educational performance help to explain why Latin America experienced relatively low rates of growth and high inequality while East Asia experienced high rates of growth and low inequality. Figures 2 and 3 present a stylised summary of the results of regressing primaryand secondary-school enrolment rates on per capita national income for more than 90 developing countries for the years 1965 and 1987¹⁰. Countries in East Asia, with the exception of Thailand, had significantly higher primary and secondary enrolment rates than those predicted by cross-country comparisons. The performance of Latin American countries is not nearly as strong as that of East Asia and is mixed relative to the international norms. Where enrolment rates are low, as in Brazil and Guatemala, children of the poor are the least likely to be enrolled. It follows that a corollary of low enrolment rates is high inequality of access by socioeconomic background.

Finally, in contrast to East Asia where increases in quantity were associated with improvements in the quality of education, expansion of enrolments in many Latin American countries have resulted in the erosion of quality, particularly for the poor. Trends in drop-out rates are an indicator of trends in quality, with quality improvements generally associated with reduced drop-outs¹¹. In Brazil, the expansion of primary school coverage was associated with a dramatic decline in completion rates, due to the inability of the system to offer adequate quality schooling to a larger and more diverse pool of students. By contrast, in East Asian countries, where quantity and quality were improved simultaneously, completion rates remained high. In the 1950s, Brazil's primary completion rate was higher than that of Korea 60 per cent compared with 36 per cent. Over the next three decades, Brazil's primary completion rate dropped to 20 per cent while in Korea more than 90 per cent of those enrolled completed primary education¹².

In this section we have focused on two "vicious circles": how, in a process of cumulative causation, poor educational performance (which limited the supply of human capital) in combination with inward looking, capital-intensive development strategies (which limited the demand for human capital) contributed to slow economic growth in Latin America, and how, in turn, slow economic



growth contributed to low investment in education. We have also demonstrated how poor educational performance contributed to high income inequality and how, in turn, high income inequality constrained educational investments. In the following section we discuss the effect that low income inequality, independent of its effect on investment in education, has had on economic growth.

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*Education and growth

The accumulation of human capital, as measured by the level of, or increases in, the educational attainment of the population, has consistently emerged as an essential feature of economic growth and development. The direction of causality implied by the positive correlation between educational attainment and per capita output in a cross-section of countries is unclear: it could simply indicate that education is a luxury consumer good that is increasingly demanded as incomes rise. This concern has been eased by the Barro-style regressions¹³, in which the characteristics of economies decades ago are used as predictors of subsequent rates of economic growth. The important contribution of education is



Note: Figures in parentheses are enrollment rates; bracketed numbers show residuals. Source: Behrman and Schneider (1992).

among the most robust findings of the burgeoning literature on the determinants of the variance among countries in growth rates, proving to be relatively insensitive to changes in either specification or sample composition¹⁴.

This is what human-capital theory, the theory of investment in people, would predict: education augments cognitive and other skills which, in turn, augment the productivity of labour¹⁵. It is also what endogenous-growth theory predicts: a larger stock of human capital facilitates technological progress or, for a country that is not on the technological frontier, relatively rapid acquisition of technological capability¹⁶. Moreover, rates of return to human capital may actually be increasing over some range, due to spillover benefits i.e. when more education of one worker makes an entire group of workers more productive¹⁷.

We use a modified version of the Barro regression¹⁸ to conduct counterfactual simulations which provide a basis for assessing the magnitude of the contribution of investment in human capital to rates of economic growth. Figure 4 (based on column 1 of Appendix Table A) shows the growth path of GDP per capita over the quarter century from 1960 to 1985 for a country characterised by the average value of each of the variables in the Barro sample. It also shows the changes in growth and per capita

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GDP for that country, assuming it had achieved a 1960 primary, or both a 1960 primary and secondary, enrolment rate one-half standard deviation above (or below) the mean. There is a 0.7 per cent gap in growth rates between the simulation which varies primary enrolments [GR(P)], and a 1.5 per cent gap in growth rates between the simulations which vary both primary and secondary enrolments [GR(P+S)]. Illustrating the power of compounding, the cumulative effect of these differences in growth rates on 1985 per capita GDP are large: 20 per cent and nearly 40 per cent, or respectively. In 1960, Korea and Taiwan had enrolment rates roughly one-half standard deviation above the mean while Guatemala and Bolivia had rates roughly one-half standard deviation below the mean¹⁹.

Substituting gender-specific primary-school enrolment rates into the original Barro model²⁰, our results (Appendix Table A, column 2), indicate no significant difference between the coefficient values for males and females, suggesting that increasing primary-school enrolments for girls will be just as effective in stimulating growth as increasing primary enrolments for boys²¹. This conclusion from cross-country data is consistent with the microeconomic evidence summarised by Summers (1992), indicating that the private rates of return to education among wage earners are roughly the same for women as for men²².

Of course, the rate of participation in the wage-labour market is much lower for women than for men. However, the economic pay-off to educating girls is not confined to increases in the productivity of wage labour, but is also derived from changes in behaviour within households, e.g. fertility, which yield non-wage social benefits. Educated mothers have fewer children²³. In East Asia the fertility rate for women with over seven years of schooling is 54 per cent of the rate for uneducated women. Closing a virtuous circle, the early fertility decline in East Asia, which started in the mid-1960s, resulted in a marked slowing of the growth of the school-age population in the 1970s. This contributed to the growth of public expenditures on basic education per eligible child more rapid than elsewhere (see below), permitting, in East Asia, more rapid increases in the quantity, and improvements in the quality, of schooling provided.

While fertility rates in Latin America have declined during the past two decades, the total rate remains high relative to East Asian rates, particularly in the poorer countries. In Bolivia, Guatemala, Honduras and Nicaragua the total fertility rate exceeds five children per mother, whereas in Korea the total fertility rate is less than two children per mother. This high fertility has placed added stress on already strained resources for education; per child spending on books, equipment and teacher training in Latin America has declined. The result of the decline in per child spending (from an estimated \$164 in 1980 per primary-school child to \$118 in 1989), has been a decline in school quality, continued high repetition the highest in the world and high drop-out rates²⁴.

Development strategy and the impact of education on growth

In short, both the micro and cross-country evidence indicate that a region's educational performance is an important determinant of its future economic growth. However, as the Latin American and East Asian experiences show, the supply of human capital is not the whole story of the contribution of education to growth. The demand for human capital is also important. The import-substituting, capital-intensive strategies that primarily served the élite and labour insiders in Latin America, did not generate strong demand for labour. By contrast, an export-oriented strategy maintained East Asia on a labour-demanding growth path.

Differences among countries in the demand for skills have been neglected in the cross-country assessment of the contribution of education to growth. The resulting omitted variable bias may explain the substantial overprediction, by Barro-type growth functions, of rates of growth for some countries with higher than predicted rates of enrolment in primary and secondary schools in the 1960s. Weak demand for educated labour may help explain why countries such as Peru and Argentina, which like East Asia, had greater than predicted (for their initial levels of income) human-capital endowments, nevertheless have tended to underperform, with respect to growth²⁵.

Figure 5 illustrates the link between the demand for skill and the contribution of education to growth. S and D are, respectively, the skill supply and demand functions of the typical Latin American country; S' and D' are the skill supply and demand functions of the typical East Asian country²⁶. S' is shifted to the right because, for example, of greater public commitment to basic education²⁷. At any given rate of return to skill, skilled workers are in greater demand in East Asia than in the typical Latin American country²⁸. As drawn, in East Asia high levels of demand for skill have offset the tendency for educational expansion to induce diminishing returns to investment in human capital.



By contrast, while enrolment rates are higher in country X than in the typical Latin American country, the returns to education are lower. This is because X has the same human-capital supply function as East Asia but the same skill demand function as the typical Latin American country. The net result of high levels of both supply of and demand for human capital is that skilled labour is more abundant in East Asia than in the typical Latin American country, while the rate of return to human-capital investments is at least as high.

We use the degree to which an economy is oriented toward manufactured exports as a proxy for the state of the demand side of the market for skill²⁹. Our hypothesis is that, in a standard growth rate function, there is a positive interaction between education endowments in 1960 and the degree of orientation of the economy toward manufactured exports, i.e. the more oriented toward manufactured exports the economy is, the greater will be the demand for skilled labour and the greater will be the impact of a given educational endowment on growth.

Though not without ambiguity, our results (Table 2) generally support our hypothesis³⁰. The regression with the additional variables shows that the contribution of education to economic growth tends to be greater in countries in which exports as a proportion of GDP is higher. The stimulus that the greater supply of human capital has given to economic growth appears to have been augmented by the export orientation of the East Asian economies and the resulting labour- and skill-demanding growth paths they followed. Latin American countries, which in general followed a more inward-looking, capital-intensive growth path, failed to benefit from this positive interaction between human capital and the demand for skilled labour.

The feedback from growth to human-capital accumulation

A combination of lower supply of, and demand for, educated workers contributed to the slower growth in Latin America than in East Asia. In addition, the region missed out on the positive feedback from rapid growth and altered household behaviour to human-capital accumulation. Figure 5 illustrates one of the feedback mechanisms. In the absence of the skill intensification of labour demand, diminishing returns result from educational expansion. Investment in human capital by households is greater in East Asia than in Latin America in part because the demand for educated workers is greater, and consequently the returns to investment in schooling are higher³¹. Stronger demand for educated workers elicits a greater supply.

The other feedback mechanism is equally simple: rapid economic growth in East Asia increased the numerator while declining fertility reduced the denominator of the ratio of public expenditures on basic education per school-age child. Neither in 1960 nor in 1989 was public expenditure on education as a percentage of GNP much higher in East Asia than in Latin America. In 1960 the share was 2.2 per cent for all developing countries, 2.3 per cent for Latin America and 2.5 per cent for East Asia. Over the three decades, all regions markedly increased the share of national output they invested in formal education, to 3.6 for all developing countries, 3.4 per cent in Latin America and 3.7 in East Asia³².

It was not, in short, extraordinary government commitment that produced East Asia's extraordinary performance with respect to the provision of education³³. By the same token, poor educational performance in Latin America can not be blamed solely on a lack of commitment to education by governments. However, it is obvious that the more rapid the growth of aggregate output, the more rapid the growth of the constant share of GDP that goes to education. For example, from 1965 to 1980 GDP growth averaged 7.4 per cent in Malaysia and 3.4 per cent in Argentina. This implies that over the decade from 1965 to 1975, given a constant share of GDP allocated to education, the resources available to the education sector in Malaysia more than doubled, while in Argentina they increased by less than 50 per cent.

Table 3 indicates that in 1970, public expenditure on basic education per eligible child was not much higher in Korea (\$95 in 1987 dollars) than in Mexico (\$68)³⁴. However, between 1970 and

1989 it more than quadrupled in Korea, to \$433, whereas in Mexico it did not even double. As a consequence, in 1989 Mexican public expenditure on basic education per eligible child was only 26 per cent of Korean expenditure per eligible child. What accounts for this divergence? Again, it was not government commitment, since public expenditure as a percentage of GNP over this period was actually declining in Korea and rising in Mexico. The absolute level of expenditure on basic education rose much more rapidly in Korea because GNP was growing so much faster than in Mexico. Moreover, while in Mexico the number of children eligible for basic education increased by nearly 60 per cent, in Korea the school age cohort was actually 2 per cent smaller in 1989 than in 1970³⁵.

Of course, rapid growth also raises the demand for labour, hence wages and, in particular, the wages of teachers. Because the pay of teachers accounts for a large proportion of recurrent expenditure on education in low-income countries, the tendency for rising costs to diminish the benefits of rapid growth would be strong, except for an important mitigating factor. Rapid accumulation of human capital in one period increases the potential supply of teachers in the next, thereby reducing the relative earnings premium teachers command. While growth is inducing increases in average wages, the wages of more educated workers, including teachers, tend to rise at a slower rate.

Education and inequality

In high-income countries the inequality of pay accounts for two-thirds of total income inequality. In low-income countries, as the share of wage employment in total employment increases, so does the share of the inequality of pay in total income inequality³⁶. As the relative abundance of educated workers increases, the scarcity rents that the educated earn are eroded. The resulting compression of the educational structure of wages may, in turn, reduce the inequality of pay. By reducing the inequality of pay, educational expansion may reduce total income inequality.

In its effect on the inequality of pay, the compression effect of educational expansion may, however, be counteracted by a disequalising composition effect³⁷. Whether the compression effect or the composition effect dominates will, therefore, determine whether educational expansion decreases or increases the inequality of pay. The compression effect tends to dominate; in a cross-section of more than 80 countries, there is a strong, and statistically significant, negative correlation between basic education enrolment rates and the level of income inequality as measured by the gini coefficient³⁸.

A comparison of microeconomic data for Brazil and Korea³⁹ confirms this negative correlation and suggests that differences in educational attainment contribute to the marked differences in inequality between East Asian and Latin American countries. Brazil and Korea have similar levels of per capita income. However, as noted above, in Korea the share of income going to the top 20 per cent of income earners is roughly eight times the share earned by the bottom 20 per cent (1976), while in Brazil that ratio is 26 to one (1983).

Figure 6 summarises our assessment of the effects of educational expansion on the inequality of pay in the two countries over the decade between the mid-1970s and the mid-1980s⁴⁰. Table 4 shows that in Korea the educational composition of the labour force changed markedly: the proportion of high-school and post-secondary graduates in the wage-labour force sharply increased and the proportion of workers with elementary schooling or less had declined to only 8 per cent. Consistent with the competitive market prediction that the returns to a factor decrease as its relative supply increases, the wage premium earned by educated workers in Korea declined. Table 5 indicates that standardising for other predictors, in 1976 workers with high-school education earned 47 per cent more than primary school graduates; by 1986 that premium had declined to 30 per cent. Similarly, the premium earned by workers with higher education declined from 97 to 66 per cent⁴¹.

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Figure 6 shows that, by itself, the effect of the compression of the educational structure of wages (WS) would have been to reduce the inequality of pay in Korea⁴². By itself, the change in the educational composition of the wage-labour force (CP) would have increased the inequality of pay. The compression effect, however, dominated the composition effect. The net effect (CB) of educational expansion was to reduce substantially, by 22 per cent, the log variance of wages.

In Brazil the proportion of workers with secondary or higher education increased as rapidly as in Korea, but from a smaller base. Hence the absolute increment to the labour force, of relatively well-educated workers was so small that it did not take much of an increase in the demand. for educated workers to offset any wage compression effect of the increase in supply. Table 5 shows that the educational structure of wages barely changed in Brazil. For example, the wage premium earned by university leavers was 159 per cent in 1976 and 151 per cent in 1985⁴³.

Brazil did not benefit from a wage-structure effect (WS) on inequality and the impact on pay inequality of changes in the educational composition of the labour force was substantial (see Figure 6). By itself, the composition effect (CP) would have increased the log variance of wages by 8.1 per cent. The net effect of educational expansion in Brazil over the decade was to increase the log variance of wages by roughly 4 per cent, in marked contrast to the 22 per cent decline that resulted from educational expansion in Korea.

What would the inequality of pay in Brazil have been had educational policy resulted in educational attainment comparable to that in Korea in the mid-80s? Simulations (see CB* in Figure 6) indicate that Brazil would have had a log variance of wages in the mid-80s some 17 per cent lower than the actual. This 17 per cent reduction represents over one-quarter of the gap between Brazil and Korea in the log variance of wages.

Inequality and the demand for schooling

Below-average levels of educational attainment in Latin America thus contributed to above-average levels of income inequality. There has also been a feedback effect, closing a vicious circle, from high inequality to low enrolment rates. High income inequality limits household demand for education and probably decreases public supply. Budgetary constraints, and capital-market imperfections, mean that poor households often do not make human-capital investments in their children even when the returns are high. The pressing need to use income simply to subsist crowds out high-return investments and constrains the demand for education. Table 6 pairs East Asian countries with others with very similar levels of average per capita income, but considerably higher levels of income inequality, hence considerably lower absolute incomes of the poor. For example, while the per capita income of Brazil (in 1983) slightly exceeded average income in Malaysia (in 1987) the bottom quintile received 4.6 per cent of total income in Malaysia but only 2.4 per cent of total income in Brazil. The per capita income of the bottom quintile in Brazil was thus only 54 per cent of the income elasticity of demand for basic education of 0.50 (a conservative figure), if the distribution of income were as equal in Brazil as in Malaysia, enrolments among poor Brazilian children would be more than 40 per cent higher. There is some evidence that among the poor the income elasticity of demand for basic schooling exceeds 1.0, in which case enrolments among poor Brazilian children would be over 80 per cent higher.

A variable measuring inequality in the distribution of income was added to an analysis of the determinants of differences among countries in secondary enrolment rates⁴⁴. The income-distribution variable had the predicted effect: more egalitarian societies had higher secondary-school enrolment rates⁴⁵. The estimated equation was used to decompose the difference in enrolment rates between Brazil and Korea. Table 7 summarises the results. The decomposition indicates that none of the 27 percentage-point difference can be explained by GNP per adult which was at that time lower in South Korea. Nor do less costly teachers contribute to the explanation, as teacher pay in relation to GNP per capita was also lower in Brazil. The larger size of the school age cohort in Brazil explains a small proportion of the gap. Nearly all of the portion of the gap that can be explained is due to the greater inequality in the distribution of income in Brazil than in Korea⁴⁶. If income was distributed as equally in Brazil as in Korea, the prediction is that instead of being 27 percentage points higher, Korea's secondary enrolment rate would be only 6 percentage points higher. The cross-country evidence is consistent with the micro-evidence: the impact of differences in income inequality on enrolment rates can be large.

High income inequality may have an influence on the supply side as well as the demand side of the market for education. For the government to provide subsidised basic educational opportunities for a large segment of the school-age population when the distribution of income is highly unequal, the tax burden on the rich would have to be heavy. High-income families are likely to resist such measures and attempt to channel subsidies to higher education where their children will be the beneficiaries. If incomes are more equally distributed, as was the case in East Asia, the incidence of taxes to finance mass education need not be as concentrated and resistance to such programmes by high-income families is likely to be weaker. While public expenditure on education as a share of GNP is not significantly lower in Latin America than in East Asia, the share of public expenditure on education allocated to basic education has been consistently lower⁴⁷, which helps explain why opportunities for basic education are less abundant and of poorer quality in Latin America. The lower share of public resources for education allocated to basic education in Latin America than in East Asia and public expenditure on the share of public expenditure on the share of public resources for education allocated to basic education and of poorer quality in Latin America. The lower share of public resources for education allocated to basic education in Latin America than in East Asia may be a function of high inequality in the distribution of income.

Why might low inequality stimulate growth?

Using income transfers to reduce income inequality is unlikely to be good for growth: transfers often result in the diversion of scarce savings from investment to the subsidisation of consumption; the targeted group is often not the one to benefit from transfers, reducing the effectiveness of transfers as a means of raising the standard of living, hence the savings and investment rates, of the poor; transfers tend to distort incentives and reduce both allocative and X-efficiency. However, policies that increase the productivity and earning capacity of the poor may be quite a different matter.

Consider four ways in which low inequality can stimulate growth:

- by inducing large increases in the savings and investments of the poor;
- by contributing to political and macroeconomic stability for example by reducing the tendency for fiscal prudence to be sacrificed to political expediency, by discouraging inappropriate exchange-rate valuation, and by accelerating the adjustment to macroeconomic shocks⁴⁸;
- by increasing the X-efficiency of low-income workers; and
- by raising rural incomes which limits intersectoral income gaps and the rent-seeking associated with such gaps and increases the domestic multiplier effects of a given increase in per capita income.

First, liquidity constraints can keep the poor from investing even when expected returns are high. We saw above how reducing inequality increases investment in education by easing such constraints. Reducing inequality can have a similar impact on such other dimensions of human capital investment as health and nutrition. While part of this effect is through education, particularly of mothers, part is independent of the education link⁴⁹. Lower income inequality implies higher absolute incomes for the poor. Nutritious food, and preventive and curative health care, are superior goods and services. Therefore, the impact of reducing inequality on the consumption by the poor of these goods and services is likely to be larger than the impact of reducing inequality on the incomes of the poor. Among the poor, the productivity of labour is adversely affected by inadequate nutrition and ill health. By improving the health and nutrition of the poor, greater equality will increase productivity and thus stimulate growth.

We are suggesting that the higher the absolute income of the poor, the smaller the negative impact on their investment rate of the capital-market imperfection that prohibits borrowing to finance investment in human capital. This implies that where income inequality is low, the positive association between income and savings rates may not be as strong as Kaldor presumed, nor as national income data indicate. The data only capture savings channeled through financial intermediaries, not the increased investments in human capital that result from eased liquidity constraints⁵⁰.

Second, lower inequality can stimulate growth by increasing political, and macroeconomic, stability. When the incomes of the élite rapidly increase, while the incomes of non-élites stagnate, the risk is that a large proportion of the population becomes politically alienated. Declining inequality implies that non-élites are sharing in the benefits of economic growth. This reduces the risk of their political alienation, legitimises government in the eyes of the mass of the population, and helps build broad-based political support. A more stable political environment is conducive to economic growth: investment is likely to be higher where the risk of economically disruptive political upheaval and the expropriation of private assets is reduced.

The likelihood that policies will swing between the extreme of serving narrowly defined, and myopic, interests of the élite, and an equally myopic populist extreme is lower where there is broad-based political support for the government. Such policy swings, much more common in Latin America than in East Asia, increase economic uncertainty and thereby reduce investment. Policies at each extreme also tend to divert scarce resources directly from high-return investments to consumption, which suggests a link between the distribution of income and macroeconomic stability. By macroeconomic stability we mean that inflationary spending is kept under control, internal and external debt remain manageable, and the macroeconomic crises that result from unanticipated shocks are quickly resolved⁵¹.

Low inequality can ease pressure for public spending on favoured groups. At one extreme, the substantial allocation of limited fiscal resources for tertiary education, so common in Latin America, is an example of a fiscal policy from which the children of the élite disproportionately benefit, but which contributes little to growth⁵². The government, in essence, subsidises the consumption of

high-income families: since private returns to, and the resulting demand for, tertiary education are high, the élite would have undoubtedly been willing and able to pay to provide this schooling for their children in the absence of subsidies.

At the other extreme, the provision by many Latin American governments of make-work jobs in the public sector in an attempt to satisfy the excess demand for high-wage employment is an all too common example of populist policies. Because in these circumstances wages in the public sector are generally higher than the marginal product of labour, which may be zero or even negative, this excess employment is heavily subsidised and diverts scarce savings from high return investments to consumption⁵³.

Low inequality can also contribute to macroeconomic stability by strengthening resolve to avoid exchange-rate overvaluation. A myopic, self-serving élite that is not concerned with the welfare of the poor will tend to overvalue the exchange rate⁵⁴. This will reduce the price of imports, which the urban-dwelling élite has a high propensity to consume, at the expense of agriculture, in which the poor are concentrated, and other export-oriented sectors, thereby worsening the distribution of income. In addition, overvaluation is likely to exacerbate external imbalance, a common cause of macroeconomic instability. A government that places a high priority on raising the incomes of the poor is less likely to discriminate against agriculture and other exportables in this way. East Asian countries have maintained relatively stable exchange rates over the last two to three decades, avoiding the rapid appreciation so common in Latin America⁵⁵. Stable exchange rates eased the task of containing inflation and limiting internal and external debt to manageable proportions.

The ability to respond quickly to unanticipated shocks is another link between the distribution of income and macroeconomic stability. To respond quickly a government must have the political legitimacy that derives from substantial popular support and, closely related, it must have enough power to act independently and not gain approval for each major initiative. As noted, reducing inequality is one means of increasing the legitimacy of the government in the eyes of the population; reducing inequality also implies that the poor are sharing in the fruits of economic growth.

Those in the bottom half of the distribution of income are more likely to be willing to share the burden of adjustment to a negative shock if the short run consequence is a decline in the rate of growth, rather than in the absolute level, of their incomes⁵⁶. Sharing the burden means the government will be better able to adjust domestic absorption by reducing consumption while protecting investment. If incomes of the poor are not rising or rising very slowly, a reduction of wages or subsidies, as a means of reducing domestic absorption, even if to promote long-term growth, is more likely to provoke a strong negative reaction and could lead to political and economic disruption.

Third, low inequality can stimulate growth by increasing X-efficiency. Children from low-income households who learn from experience that no matter how great their effort, in the competition for such rewards for academic excellence as access to scarce places in the university system, it will be insufficient to compensate for the low quality of the schools they attend, are unlikely to make an extra effort. By contrast, poor children in high-quality schools who see tangible rewards for effort are more likely to make such an effort.

Similarly, extra effort is unlikely to be forthcoming from low-income workers or farmers who, because of policy biases, face economic incentives that do not reward effort. They are more likely to shirk and to become resentful and alienated. By contrast, if economic incentives do reward effort, they are likely to respond. Though difficult to quantify, the increases in productivity associated with low inequality may, nevertheless, be large. The work ethic for which East Asian children and labour are well known may be less an exogenous cultural trait than an endogenous response to incentives that reward effort.

Land reform is the most straightforward example of an agricultural policy, implemented in Korea and Taiwan, that both reduced inequality and increased productivity. Labour intensity and yield tend to increase as farm size decreases: value added per hectare on small farms (three hectares or less) tends to be three to five times greater than the average for large farms (500 hectares or more)⁵⁷. This implies that the reduction in the inequality of land holding, and in the average size of farm, that resulted from the land reforms in Korea and Taiwan also increased agricultural output and labour demand. In Indonesia, Thailand and Korea, both the average size of farms and the gini coefficient of farm-size distribution are much smaller than in Brazil, Mexico, Argentina, and most other countries in Latin America⁵⁸.

Finally, low income inequality can stimulate growth by reducing the risk of costly rent seeking in the labour market and by increasing the domestic multiplier effect of a given increase in incomes⁵⁹. As a result of policies that contribute to, rather than sap, the dynamism of the agricultural sector, societies with low income inequality will generally have a smaller gap between rural and urban income, and a relatively better off rural population⁶⁰. Hence, the pressure, referred to above, to generate make-work jobs in the high-wage urban public sector is reduced as are the negative consequences for growth of an expanding "job sink". The small rural-urban income gap also implies a relatively weak Kuznets effect, i.e. the tendency for the intersectoral transfer of labour, which results from the rapid growth of output and employment in the sector manufacturing goods for export, to induce greater income inequality is not as strong.

Higher income in the rural and agricultural sectors also means higher demand for the agricultural inputs and consumer goods that can then stimulate the growth of non-agricultural output and employment. In Taiwan, for example, in the 1950s and early 1960s agriculture, not manufacturing for export, was clearly the "leading sector" and roughly 60 per cent of the increment to aggregate demand was domestic. More generally, among Asian countries there is a strong positive correlation between the rate of growth of the agricultural sector and the rate of growth of the non-agricultural sector⁶¹. The relationship suggests that the multiplier effects of agricultural growth on manufacturing, construction and services are large: a 1 per cent increase in agricultural growth is associated with a 1.5 percentage increase in the growth rate of the non-agricultural sector⁶².

The relatively simple manufactured inputs and consumer goods demanded by rural residents are generally more efficiently produced with labour-intensive techniques, the employment effects of these increases in demand, therefore, are amplified⁶³. When the incomes of the urban élite increase, however, the tradeables on which they spend their increased income tend to be capital-intensive goods. Given the high inequality in Latin America, the domestic demand for labour-intensive goods remained relatively weak. In East Asia, however, strong domestic demand may have given early manufacturers a competitive advantage in international markets, by giving them the opportunity to test market labour-intensive goods and achieve economies of scale.

Conclusion

The contrasting experiences of Latin America and East Asia suggest that inequalities in the distribution of both education and income may have a significant and negative impact on the rate of economic growth. The unequal distribution of education in Latin America, in terms of both quantity and quality, constrained economic growth in the region by foregoing opportunities to increase labour productivity and change household behaviour. At the same time, the relatively small size of the educated labour force and high scarcity rents of the more educated contributed to high inequality, in the distribution of income. Closing a vicious circle, slower growth and high income inequality, in turn, further limited the supply of, and demand for, education. In East Asia, however, the poor have had relatively equal access to quality basic education, leading instead to a virtuous circle of high educational performance that stimulated growth and reduced inequality.

Education policy alone, however, does not explain the tremendous differences in equity and growth between the two regions. We have suggested that macroeconomic and sectoral policies in Latin America, which favoured capital-intensive production and were biased against the agricultural sector, almost certainly exacerbated the inequality problem and may, in fact, have hindered growth as well. The East Asian development strategy, however, promoted instead a dynamic agricultural sector and a labour-demanding, export-oriented growth path, adopted in part because of their beneficial impact on all groups in the population, thereby reducing inequality and stimulating growth. We have also suggested that low inequality may not only contribute to growth indirectly, by increasing investment in education, but may by increasing investment in dimensions of human capital other than education, by increasing political and macroeconomic stability, and by decreasing intersectoral income gaps and increasing the domestic multiplier effects of a given increase in income have a direct positive effect on the growth rate.

The experience of the two regions is sufficient to reject the conventional wisdom of a necessary link between high income inequality and rapid growth. While our analysis has not been sufficient to confirm the opposite, we hope others now seriously consider the hypothesis that high inequality, and policies that ignore or even exacerbate inequality, constrain growth in the long run. The challenge in Latin America is to find ways to reduce inequality, not by transfers, but by eliminating consumption subsidies for the rich and increasing the productivity of the poor.

Notes

- Robinson (1976) observed that the tendency for inequality to increase first, and only later to decrease with economic development had "acquired the force of economic law." Anand and Kanbur (1993) list studies, nearly all of which were done in the 1970s, providing empirical evidence from the contemporary cross-country data that the relationship between inequality and per capita income tended to have an inverted U-shape. They also demonstrate the sensitivity of the estimated relationship to changes in functional form and choice of observations.
- 2. See Kaldor (1978) who assumed that a high proportion of profits and a low proportion of wages are saved.
- 3. See Kuznets (1955).
- 4. See Chapter 4 of *The Miracle* (World Bank, 1993) for additional discussion of "shared growth".
- 5. See Ahluwalia (1974).
- 6. Clark (1940) and Kuznets (1966) were pioneers in this effort. More recently Chenery and Syrquin (1975) provided a comprehensive description of the structural changes that accompany the growth of developing countries and analysed their relations.
- 7. All else equal, had per capita real GDP been \$1 000 higher in 1960, growth over the following 25 years would have averaged 0.75 percentage points per year lower. Had primary- or secondary-school enrolment rates, respectively, been 10 percentage points higher in 1960, growth would have averaged 0.25 or 0.30 percentage points per year higher.
- 8. See Clarke (1992). See also Alesina and Rodrik (1991) and Persson and Tabellini (1991).
- 9. Clarke does not explore the sensitivity of his results to outliers or alternative samples.
- 10. The analysis we describe was conducted by J. Behrman and R. Schneider and presented in two papers, Behrman and Schneider (1991) and Behrman and Schneider (1992). The regressions control for a polynomial in average per capita income in the relevant year.
- 11. As school quality increases so do the productivity-enhancing cognitive skills acquired in school and, hence, the expected returns to a given number of years of schooling. Higher expected returns are an inducement to remain in school.
- 12. Birdsall and Sabot (forthcoming).
- 13. See Barro (1991).
- 14. 47 See, for example, Levine and Renelt (1991).
- 15. ** See Becker (1964) and Schultz (1961).
- 16. See, for example, Nelson and Phelps (1966) and Romer (1990).
- 17. See Lucas (1988) and Becker, Murphy and Tamura (1990).
- 18. For modifications to the original Barro regressions, see Birdsall and Sabot (1993).
- 19. Similarly, if Korea had had Brazil's 1960 enrolment rates, its growth rate would have been 5.6 per cent rather than 6.1 per cent, resulting in 1985 per capita GDP 11.1 per cent less than Korea actually attained.
- 20. There is substantial multicollinearity affecting the estimators of the primary-school enrolment coefficients in our models. Taken individually, we are unable to distinguish the coefficients on the enrolment variables from zero. However, a joint F-test rejects the null hypothesis that both primary-school enrolment coefficients are zero. The estimated equation differs from Barro's by dropping the revolution and assassination variables and adding nine additional observations. All other coefficients are qualitatively unchanged.

- 21. Results are available on request. The relevant test statistics are $F_{2,101} = 8.16$ and $F_{1,101} = 0.001$, respectively. Barro (1993) has conducted a similar exercise. His results show that the impact on growth of educating girls is smaller. Why his results differ from ours has yet to be determined.
- 22. See also Behrman (1991) and Schultz (1991) for detailed reviews of the evidence from developing countries. See Birdsall, Ross and Sabot (1992) and Sathar (1988) for evidence from rural Pakistan.
- 23. They are also more efficient users of health services for themselves and their children. They send children to school who are already better prepared to benefit from society's schooling investment, and they are more likely to send their own daughters to school. See Birdsall, Ross and Sabot (1992).
- 24. See World Bank, Latin America and the Caribbean: A Decade After the Debt Crisis (1993).
- 25. See Birdsall, Page, Ross and Sabot (1993) for more detailed discussion of the importance of the demand for skilled labour.
- 26. The horizontal axis measures the magnitude of human capital investment, as proxied, for example, by enrolment rates in basic education. The vertical axis measures the rate of return to human-capital investment (schooling) and, implicitly, for a given level of human-capital investment, the contribution of investment to growth.
- 27. The supply function is more elastic because a more equal distribution of income, hence less absolute poverty, relative to the typical developing country, enables families near the bottom of the distribution of income to be more responsive to increases in returns to human-capital investments (see below).
- 28. Labour demand in East Asia has become increasingly skill-intensive, largely in response to the increased abundance of educated labour, and consequent declines in its relative price, and changes in comparative advantage. East Asian exporters shifted into more technologically sophisticated, and more capital- and skill-intensive, goods as rapidly rising wages of unskilled labour eroded international competitiveness in labour-intensive manufactured goods. As a share of wage employment, white-collar and technical employment increased steadily during the 1970s and the 1980s, for example in Korea, from 29 per cent in 1980 to 36 per cent in 1990 or, in Taiwan, from 32 to 40 per cent over the same period. See Birdsall and Sabot (1993).
- 29. In doing so we build on evidence according to which increases in the share of manufactured exports in output are associated not only with increases in the share of physical-capital investment in GDP and the rate of economic growth, hence in the derived demand for labour and skill, but also for a given rate of growth of output, with greater labour and skill intensity of production.
- 30. When we add the interaction term to the basic Barro growth regression, both the interaction variable and the educational-attainment variable are significant and positive. When we also add the average share of exports in GDP as a separate independent variable, the educational-attainment variable remains positive and significant, but both the interaction term and the separate export-share variable, though positive, are insignificant. However, there is a high degree of multicollinearity between the interaction term and the average ratio of manufactured exports to GDP and an F-test rejects the null hypothesis that, taken jointly, the coefficients on the three variables (education, the interaction term and exports) are not significantly different from zero. Likewise, and more important, an F-test rejects the null hypothesis that, taken jointly, the coefficients on the interaction term and the export variable are not significantly different from zero.
- 31. In Figure 5, S₁-S₂ is the difference between the typical East Asian country and X in the level of investment in human capital induced by greater demand for educated labour.
- 32. See Birdsall and Sabot, 1993, for data sources. Government expenditure on education, expressed as a percentage of GNP, was used as an explanatory variable in a cross-country regression in which expected years of schooling of the school-age cohort (essentially an aggregate of enrolment rates) is the independent variable. For a sample of 15 Asian and Latin American countries, the expenditure variable was insignificant. See Tan and Mingat (1992).
- 33. Nor were initial conditions, the colonial legacy, decisive in explaining why enrolment rates have been so much higher in East Asia than elsewhere. While Korea had much higher enrolment rates in 1950 than did most other developing countries, the roughly 50 and 70 percentage point increases since then in, respectively, primary and secondary enrolment rates, account for much of the current gap between Korea and other middle-income countries. Similar claims can be made for other East Asian countries.
- 34. Indeed, in 1975, expenditures per eligible child were higher in Mexico than in Korea.
- 35. The difference in fertility rates, of which these diverging trends are a reflection, is in part due to differences in educational attainment, in particular the educational attainment of women.
- 36. See Knight and Sabot (1983) and Knight and Sabot (1991).
- 37. The disequalising effect of the relatively rapid growth of the more educated, high-productivity portion of the labour force is analogous to the Kuznets effect (see above), which results from the intersectoral transfer of labour.

- 38. See Birdsall and Sabot (1993).
- 39. See Park, Ross and Sabot (1992).
- 40. Korea and Brazil have both achieved universal primary education. There has, however, been a large and widening gap between Brazil and Korea in secondary and tertiary enrolment rates.
- 41: See Birdsall and Sabot (1993).
- 42. Increases in the supply of educated workers outstripped increases in demand, despite the fact that demand for educated workers increased dramatically.
- 43. Because educational expansion compressed substantially the educational structure of wages in Korea but not in Brazil, the gap in premiums between the two increased over the decade.
- 44. See Williamson (1993) who builds on the analysis of Schultz (1988). The income-distribution variable used was the ratio of the share of total income of the bottom 40 per cent to the share of total income of the top 20 per cent. Among the other variables in the regression were GNP per capita, a measure of teacher cost relative to GNP and the share of the population which is of school age.
- 45. In the equation in which expenditure per eligible child was the dependent variable the income distribution variable was statistically significant; in the enrolment rate equation the t-statistic on the distribution variable was somewhat lower than conventionally accepted for significance. See Williamson (1993).
- 46. Williamson attributes the unexplained portion of the enrolment rate gap, the residual, to a cultural bias against education in Brazil. Alternatively it could be due to lower quality schooling in Brazil, hence lower expected returns and lower demand. Of course, any meaning attributed to the residual is speculative.
- 47. Korea and Venezuela are extreme examples. While in 1985 Venezuela allocated 43 per cent of its public-education budget to higher education, Korea allocated only 10 per cent of its budget to post-secondary schooling. See Birdsall and Sabot (1993).
- 48. Persson and Tabellini (1991) argue that where distributional conflict is greater, the incentives for the accumulation of knowledge by individuals are weakened. Alesina and Rodrik (1991) argue that democracies with a more unequal distribution of capital ownership will grow less rapidly than more egalitarian democracies because the median voter has a relatively small endowment of capital when wealth is unequally distributed and thus favours high taxes on capital.
- 49. As noted above, lower inequality increases the demand for schooling and enrolment rates. The resulting increases in the educational level of parents, hence in their capacity to process available preventive health-care information, results in improvements in the health and nutrition of children.
- 50. There may be a similar effect on other investments of the poor, for example in agriculture or small enterprises, though this effect is more likely to be reflected in measured investment rates.
- 51. The Miracle (World Bank, 1993), p. 105. Macroeconomic stability is an important dimension of an environment conducive to growth. Low inequality may have contributed to the success of East Asian governments in establishing such an environment; high inequality may have contributed to macroeconomic instability in Latin America.
- 52. See Birdsall and Sabot (1993).
- 53. See Gelb, Knight and Sabot (1991).
- 54. See Sachs (1985),
- 55. The Miracle (World Bank, 1993), Ch. 3. Why did East Asian governments avoid overvaluation while Latin American governments were so much more prone to the problem? Sachs (1985) suggests that the greater political power of rural areas, which have a stake in a low exchange rate, is a factor. He notes that the proportion of the population living in urban areas in 1980 was markedly higher in Latin America, 72 per cent, than in East Asia, 31.5 per cent. See Birdsall and Sabot (1993). As we noted above, the political power of the rural population in East Asia was reinforced by the threat of Communist insurgency.
- 56. Mazumdar (1993) notes that as part of Korea's adjustment to the first oil shock "the unit cost of labour was reduced by a massive 25 per cent", largely accounted for by currency devaluation. He goes on to observe that "even this amount of decline of the real share of labour did not imply a fall in the real wage. Rather the wage increase in 1975 was held down to 1.4 per cent compared with the annual wage increase in excess of 10 per cent in 1966-73". By contrast, in Latin America adjustment generally entailed the erosion of real wages.
- 57. See Squire (1981) and Berry and Cline (1979).
- 58. Squire (1981), page 156.
- 59. See Mellor (1993).

- A larger share of public investment was allocated to rural areas in East Asia than in Latin America. Equally important, 60. levels of direct and indirect taxation of agriculture were lower in East Asia. See The Miracle (World Bank, 1993), pp. 32-37. and the second
- See Mellor (1993). 61.

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62. The relationship also implies that the faster agriculture grows, the faster its share of total output declines. Again with the exception of the East Asian city states, those Asian countries with the fastest rates of growth of agricultural output over the last 30 years have tended to experience the biggest declines in the share of agricultural output in GNP. .,

See Ranis and Stewart (1987). A detailed study of these backward and forward linkages in the Muda River region of 63. Malaysia provides microeconomic confirmation of the magnitude of the intersectoral multiplier suggested by the cross-country relationship. See also Bell, Hazel and Slade (1982).

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1960 Real per capita GDP	-0.0075	-0.0020	-0.0061
(in thousands of 1980 US\$)	(-4.730)	·(-1.801)	(-3.547)
1960 Primary enrolment rate	0.0243		0.0199
	(3.024)		(2.493)
1960 Secondary enrolment rate	0.0366		0.0361
	(2.427)		(2.189)
Ratio of real govt. consumption (excluding defense and	-0.1229	-0.1495	-0.0969
education)	(-4.380)	(-4.760)	(-3.162)
to real GDP, averaged over 1960-85			
Number of revolutions and coups	-0.0176	-0.0268	-0.0177
(per year, 1960-85)	(-1.867)	(-2.493)	(-1.906)
Number of assassinations	-0.0055	-0.0067	-0.0033
(per million population per year, 1960-85)	(-1.526)	(-1.626)	(-0.920)
Absolute value of the deviation of the PPP value for the	-0.0086	-0.0176	-0.0063
investment deflator (US=1) from the sample mean (1960)	(-1.093)	(-2.012)	(-0.810)
National household income distribution	0.0013		0.0007
(Rottom 40% to top 20%)	-0.0015 (-1.897)	-0.0018	-0.0007
	(-1.077)		(1.04)
Intercent	0.0418	0.0706	0.0330
increp:	(4.185)	(7.871)	(3.108)
R ²	0.5389	0.3574	0.4542
an a	0.000	74	
Number of observations	/4	/4	00

Table 1. Determinants of GDP growth (1960-85)

Notes: Values of t-ratio are reported in parentheses beneath regression coefficients.

Equation number		i		2
Intercept		0.0388		0.0380
		(5.822)		(5.016)
GDP 60		-0.0067		-0.0067
		(-4.406)		(-4.922)
ED 6085		0.0042		0.0029
		(4.698)		(2.950)
GOV		0.0008	: ,	0 1051
001		(-3.758)		-0.1031
		(223)		(
REVOL		-0.0187		-0.0249
		(-1.606)	•	(-3.071)
ASSASS		-0.0042		-0.0034
		(-1.151)		(-1.172)
PP160DEV		-0.0250		.0.0122
TT TOODE V		(-3.271)	:	-0.0122
		() ,		(==== ; ; ;)
EDMX6085				-0.0000
				(-0.676)
M X6085				0.0004
			· ,	(2.527)
ADJ-R2		0.3961		0.5955
RMSE		0.0142		0.0117
Observations		84		76
Note:	Statistics in parenthesis	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
	-			
Source:	Birdsall, Page, Ross and Sabot (1993).			
			· .	

Table 2. Effect of ratio of manufactured exports/Total exports on growth rates

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	Couñtry	1970	1975	1985	1989	% Change, 1970-89
orea	Expenditure on basic education per eligible child	ġŚ.ś	81.6	357.1	433.4	354.7
	Public expenditure as % of GNP	3.1	1.9	3.8	2.7	-12.9
	Index for absolute expenditure on basic education	100	91	388	444	
	Number of children eligible for basic education (000)	10 074	10 754	10 420	9 848	-2.2
exico	Expenditure on basic education per eligible child	68.4	124.9	113.5	111.9	63.ŏ
	Public expenditure as % of GNP	1.6	2.6	2.0	2.0	25.0
	Index for absolute expenditure on basic education	100	222	255	259	
	Number of children eligible for basic education (000)	16 168	19 726	24 912	25 649	58.6
iya	Expenditure on basic education per eligible child	38.6		46.6	53.4	38.3
	Public expenditure as % of GNP	4.0		4.9	4.9	22.5
	Index for absolute expenditure on basic education	100		220	286	
	Number of children eligible for basic education (000)	3 814	4 591	6 973	7 900	107.1
cistan	Expenditure on basic education per eligible child	7.9	9.4	13.4		
	Public expenditure as % of GNP	İ.1	1.6	1.6		
	Index for absolute expenditure on basic education	100	150	277		
	Number of children eligible for basic education (000)	20 983	26 563	34 414	42 249	101.4

Table 3. Public expenditure on basic education per eligible child and some determinants

Notes: a) Absolute expenditures on basic education in real 1987 US dollars used to calculate indices for absolute expenditures on education. b) Number eligible for basic education calculated using enrolment rates and number of students in the 1st and 2nd levels.

Sources: UNESCO, Statistical Yearbook; World Tables for real gross national income figures.

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	Brazil		~~-	Korea	
	1976	1985	·**	1976	1986
Uneducated	25.6	20.5	Elementary and below	519.6	7.5
Primary (lower)	45.5	40.8	Middle	30.5	25.4
Primary (upper)	17.8	21.6	High school	32.2	43.5
Secondary	6.7	11.1	Junior college	2.6	4.8
University	4.4	6.0	University	15.1	18.8
			· · · · · · · · · · · · · · · · · · ·		

Table 5. Male wage structure

Table 4. Educational composition of male wage labour force

Brazil Korea 1976 1985 1976 1986 돣 0.092 (7.54) 0.296 Premium to 0.488 0.449 0.176 (19.66) primary schooling (55.68) (67.23) 733.95 CVB Lorat 0.473 Premium to 0.958 0.886 se (23.40) (48.19) secondary schooling (85.70) (110.53) ີ່ 0.655 Premium to 1.593 1.508 0.969 . tertiary schooling (127.40) (100.22) (71.48) (42.06) 2 Experience 0.045 0.048 0.067 0.078 (61.90) 🗄 (64.97) (83.91) (69.61) Experience² -0.0006 -0.0007 -0.001 -0.001 (61.41) (79.27) (39.13) (50.27) Constant 1.149 7.043 10.231 11.779 \mathbb{R}^2 0.546 0.562 0.532 0.449 Ν 85,106 118,000 23,838 24,486 1.864 8.095 Mean log of wages 11.363 12.895

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Note: Dummy variables were included to control for region, occupation, industry, head of household (Brazil only); t-statistics appear in parentheses.

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		Table 6. Absolu	te income share	of lowest quintile		: <u>1</u>
Country	GNP per capita (millions of U.S. dollars)	Population (millions)	Total GNP	Income share of bottom 20% of households	Absolute income of bottom 20% of households	Per capita income of bottom 20% of households
Indonesia, 1976	240	135.2	- 32,448	6.6	2,141	79
Kenya, 1976	240	13.8	3,312	2.6	86	31
Malaysia, 1987	1,810	í 16.5	29,865	4.6	1,374	416
Brazil, 1983	1,880	129.7	243,836	2.4	5,852	226
Malaysia, 1987	1,810	16.5	29,865	4.6	1,374	416
Costa Rica, 1986	1,480	2.6	3,848	3.3	127	254
Korea, 1976	670	36	24,120	5.7	1,375	191
Botswana, 1986	840	1.1	924	2.5	23	115
Indonesia, 1987	450	171.4	77,130	8.8	6,787	251
Philippines, 1985	580	54.7	31,726	5.5	1,745	160

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Source: World Development Report, various years.

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Variable	South Korea	Brazil	Difference (Δ)	β _{ij} ΔX _j
Enrolment ratio	0.620	0.349	+0.271	
Regression Results: Dependent Var	iable X _j			
Log GNP per adult	6.800	6.904	-0.104	-0.033
Log relative price teachers	0.360	-0.538	+0.898	-0.410
Urban ratio	0.494	0.582	-0.088	(⊭\Q32 -0.030
School age population ratio	0.149	0.159	-0.010	भरताल्ल 910.0+
Bottom 40%/Top 20%	0.373	0.105	+0.268	+0.213
"Culture" = Residual				+0.512
ource: Williamson (1993).				VQA
	•			.10.49
				A\$\$4.85

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Table 7. Why commitments to secondary education were so different in South Korea and Brazil in the early 1970s: a decomposition analysis

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Sources — Rindship from and Sabor (1994).

Appendix - Table A Growth Regressions

a 2

Dependent variable	(1) GR6085	(2) GR6085
	······	
No. of Obs.	98	·. 108
Const.	0.0302 (-0.0068)	0.0137 (0.0075)
GDP 60	-0.0075 (0.0012)	-0.0056 (0.0014)
SEC60	0.0305 (0.0079)	0.0357 (0.0132)
PRIM60	0.0250 (0.0056)	
PRIMF60		0.0138 (0.0103)
PRIMM60		0.0131 (0.0113)
GOV	-0.1190 (0.0280)	-0.0604 (0.0251)
REVOL	-0.0195 (0:0063)	
ASSASS	-0.0333 (0.0155)	
PP160DEV	-0:0143 (0:0053)	-0.0075 (0.0046)
R2	0.56	0.41

Notes: Statistics in parentheses.

Source: Birdsall, Ross and Sabot (1992).

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Draft POVERTY, REDISTRIBUTION, AND POLITICAL CONFLICTS: A THEORETICAL FRAMEWORK WITH APPLICATION TO LATIN AMERICA by **Gilles Saint-Paul**



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I. Introduction

The 1980s were characterised by a reversal of the prevailing post-war trend towards a decline in inequalities. The poorest countries became poorer, while the richest countries continued to become richer, although at a slower tempo than before. Within each country, there were also increases in inequalities between personal incomes. In the United States, average income stagnated, but the purchasing power of the lowest wages decreased by 30 per cent. In Latin America, there was an increase in the percentages of populations living below the poverty line: from 19 per cent in 1981 to 24 per cent in 1987 in Brazil, from 24 per cent in 1978 to 25 per cent in 1988 in Colombia, and from 12 per cent in 1982 to 16 per cent in 1987 in Venezuela¹.

The growth of poverty and inequality was accompanied by highly conservative political and budgetary tendencies. Consequently, many countries adopted programmes for reducing public expenditure, including social transfers, and for reducing marginal tax rates.

This paper studies the effect of changes in income distribution, especially the rise in poverty, on tax policies and in particular inquires if the changes in the taxation system induced by the rise in poverty counters or increases the rise in poverty. This is done in a "political-economic" context, using an hypothesis that taxation is the outcome of a political decision process, which under the influence of the different groups, determines the arbitrage between their divergent interests.

Section II describes the "traditional" theory of policy choices in redistributive taxation. This theory affirms that greater inequality will increase the weight of redistributive taxation. Thus it cannot explain the concomitant growth of inequality and conservatism in the 1980s. Section III shows how the hypotheses of this theory can be revised to reconcile it with the facts. Section IV develops the idea that if the poor face liquidity constraints, fiscal conservatism and poverty are two phenomena which mutually reinforce each other. Section V studies how an increase in poverty can lead to governments' being overthrown, and analyses the options of dominant social groups for preventing such occurrences. Section VI studies the experience of Latin American countries from the standpoint of the analysis developed in the preceding sections.

II. "Traditional" theory

The theory which we call "traditional" is described in Meltzer and Richard (1981), for example. It assesses that a growth in inequality is translated into higher taxation. The mechanism giving rise to this result is accountable in two ways. First, it is observed that in most countries income distribution is asymmetric, having a profile as shown in Figure 1. Such an income distribution implies that the median (M') is poorer than the average (M). An increase in inequality in general translates into greater asymmetry, so that the median (M') moves away from the average (M), and becomes poorer in relative terms (M''). Such an increase in inequality is represented in Figure 2. This is the first part of the argument.

Second, if agents vote on the system of redistributive taxation, then the theory predicts that vote results will correspond to the tax rate



preferred by the *median* agent, which here is the median of the income distribution. Moreover, the poorer the median is in relation to the average, the higher will be the tax rate chosen. Actually, the poorer the median, the less the median can bear a high tax rate; and furthermore, the higher the average is, the greater is the amount of taxable money, and in turn, the incentive to tax.

A rise in inequality can then increase the tax rate, since it leads to a relative impoverishment of the median. The traditional model can be summarised by the idea that the "poor take the money of the rich", and to a greater extent, that the income difference expands between the two. We note that the theory applies equally to redistributive taxation or to financing a public good.

This theory has been more recently applied to the problem of the relationship



Figure 2. Asymetry following increased inequality

between inequality and growth, creating a negative relationship between the two; to establish this it is enough to assume that high tax rates discourage growth, for example, by reducing the rate of savings (see Alesina and Rodrik, 1994; and Persson and Tabellini, 1994).

"Traditional" theory guides the thinking of most economists on the relationships between inequality, redistribution, and growth. However, this theory is not problem free.

On the theoretical level, there is no assurance that its underlying hypotheses will correspond with reality. On the one hand, as will be seen in the following section, it is not always true that increased inequality will make the median poorer. Plausible increases in inequality which enrich the median in relation to the average are conceivable. Secondly, the assumption that the outcome of a vote represents the preferences of the median is based on a number of rather strong hypotheses. To begin with one must assume that there is a political equilibrium, which is assured only under very restrictive conditions (for example, see Laffont, 1986). Then, one must assume that all agents vote and have the same political weight. If the percentage of participation by the poor is lower, the decisive voter will be richer than the median agent. Thirdly, the ratio of the median to average income is only relevant to a particular type of redistributive system, that is, when taxation is proportional to income and there is a fixed transfer independent of income. In more complex systems, in which taxation and transfers are to some extent progressive, the relevant ratio is not that of the median to average income, but of the median to a non-linear aggregate of the income distribution, homogenous of degree one. The more progressive the transfers, the more probable it is that an increase in inequality will heighten, rather than reduce, the ratio of the median income to such an aggregate.

Empirically, the regularities that are observed in time series and in a cross-section of countries are contrary to what the traditional model suggests. Actually there is less redistribution of income in the countries having the greatest inequalities, and the reduction in inequalities in the western countries in the 1945-80 period was accompanied by an increase in the weight of redistributive taxation. Tax reductions only played a role on the political agenda during the 1980s, which is precisely when there was a reversal of the trend towards a narrowing of the range of incomes. Thus reality seems clearly at variance with the traditional model.

III. Alternative models

The hypotheses on which the model is based are therefore fragile. It is possible to revise these hypotheses so that the predictions are more compatible with the empirical evidence. Under certain conditions, this will lead to greater inequality being associated with a decrease in redistributive taxation².

First consider the hypothesis that an increase in inequality will necessarily lead to an impoverishment of the median with respect to the average. As was noted, that is clearly an hypothesis, and by no means ensues logically from observing that the median is poorer than the average. It is absolutely possible to construct an example in which the median is not as poor as the average, inequality increases, and the median grows comparatively richer than the average. Consider the case in which the population consists of three classes of agents, the poor, the middle class, and the rich. We will assume that the income of a poor person is \$50, a member of the middle class, \$100, and of a rich person, \$500. Initially, 30 per cent of the population are poor, 10 per cent are rich, and 60 per cent belong to the middle class. In this situation, the median income is \$100 and the average income is \$125. This is clearly a typical configuration in which the median income is less than the average income. Now consider the following change: first, the proportion of the poor increases from 30 to 40 per cent, while the proportion of the middle class declines to 50 per cent. Then the economy experiences uniform growth of 4.16 per cent, so that incomes of the three classes become \$52.08, \$104.16 and \$520.83 respectively. One can verify that in the new configuration, the median income is \$104.16, while the average income remained unchanged, still being \$125. Moreover, it can be verified that there is greater inequality in the new configuration than in the old, whatever the measure of inequality used. Actually what is involved here is a "mean preserving spread" in the sense of Rothchild and Stiglitz (1970). More generally, an increase in inequality can lead to an increase in median income with respect to the average if it is concentrated among the population's poorest income classes, and has little affect on the rest of the income distribution.

Similar results can be obtained if it is assumed that there is a positive correlation between political participation and income level. For example, assume that voting rights depend upon a minimum income level of say \$15. Consider an economy having four classes of agents, A, B, C and D. Assume also that initially the personal income and the proportion of agents in each class are given by Table 1. The result would be an economy with an average income of \$35 and a median income of \$20. Only the agents of classes B, C and D vote. Class B represents 50 per cent of the voting population. To simplify things, assume that they represent slightly more than that: thus the decisive voter will be an agent of class B, so that the tax rate will be a decreasing function of the ratio of this agent's income (\$20) and the average income (\$35). Let us assume that the income distribution of this economy evolves towards that situation represented in Table 2. Inequality has obviously increased, since there are more poor (A) and rich (D) and fewer agents in the middle class (B and C). The average income (\$36) and median income (\$20) are unchanged. However, the political equilibrium will be affected because the agents dropping from class B to class A no longer participate in the political process. Among the three voting classes, the Bs are now a minority and class C is the median of this population. Thus the income of the decisive agent in the political process increases from \$20 to \$30, which implies a decrease in the equilibrium tax rate.

Finally, it is also possible to obtain results implying a negative relationship between inequality and tax rates if it is assumed — realistically — that transfers are not constant but progressive. Consider the following example in which the transfers are highly progressive. There are three classes of agents A, B and C. The initial income distribution is shown in Table 3. The median income is \$20 and the average income is \$23. Assume there is a vote to choose between two tax systems: in one there would be no taxation, in the other the tax rate would be 35 per cent. Also assume that tax receipts are reserved for agents on the following basis: the poor (class A) receive all the tax receipts until their income is equivalent to that of the middle class (class B). The possible excess is then divided equally between the two classes. Which system will be chosen under the configuration of Table 3? Assume that the system with taxation is chosen. The after-tax incomes of classes A and B before transfers are \$6.5 and \$13 respectively. The amount of money necessary to equalise the net income of the middle class and poor is thus 0.3 x (\$13 - \$6.5) = \$1.95. Tax receipts (in proportion to the size of the population) are $$23 \times 0.35 = 8.05 . The surplus, \$8.05 - \$1.95 = \$6.10, is to be divided between the poor and the middle class, that is a per capita transfer of \$6.10/0.8 = \$7.625. Thus the final income of class B is \$13 + \$7.625 = \$20.625. As class B is politically decisive it will opt for the 35 per cent tax rate, providing a net income of \$20.625, which is greater than the \$20 it obtains without taxation.

Now assume that this economy experiences an increase in inequality, so that the income distribution is described by Table 4. There has been a decrease in the middle class, which is translated into increases in classes A and C. The average and median incomes are unchanged at \$23 and \$20 respectively. The politically decisive agents remain those of class B. Now the amount of money necessary to equalise the incomes of classes A and B is: $0.45 \times (\$13 - \$6.5) = \$2.925$. Total tax receipts being still \$8.05, there is now \$8.05 - \$2.925 = \$5.125, to be divided equally between the members of classes A and B, that is \$5.125/0.75 = \$6.40625. The final income of members of class is B is now only \$13 + \$6.40 = \$19.40, which is less than \$20, so they will vote to dismantle the tax system. An increase in poverty therefore heightened the costs and reduced the benefits for the median, and the more so, since these transfers are progressive.

IV. Consequences for the dynamic of inequality

In the preceding section we indicated some circumstances in which increased inequality is translated into greater fiscal conservatism. This section deals with the effects of this conservatism in turn on the dynamic of inequality. In particular, we want to determine whether the reduction of transfers associated with an increase in poverty amplifies or attenuates the initial change.

We assume that the poor have access to technology of investment that will enable them to change their situation and become members of the middle class. Such technology can be interpreted in terms of training, looking for employment, or mobility (for example, from rural to urban zones, or from disadvantaged to advantaged districts). Two cases can be distinguished:

- With perfect financial markets, the return on such an investment is given by the sum of the discounted differences between the net

incomes of a middle class and of a poor agent. Naturally a reduction of the tax rate will increase this difference, thus giving the poor a greater incentive to bear the costs of investment. A more conservative fiscal policy will then be associated with greater investment by the poor, and thus a reduction in poverty. In other words, the decreasing poverty is a decreasing function of the tax rates. An exogenous increase in poverty will thus be attenuated by its induced effect on tax rates. This booster effect will finally lead the economy towards a single, stable, stationary state, like that in Figure 3, which shows a poverty indicator, tax rates and investment levels of the poor.



Now what happens if imperfect financial markets prevent the poor from borrowing to finance their investment? It is clear that lower tax rates are then associated with a decrease in transfers towards the poor and a decline in their level of investment. If this effect is strong enough, fiscal conservatism and poverty will be mutually reinforcing, which could lead to an unstable dynamic, and to multiple income distributions in the long term. Such a phenomenon is shown in Figure 4. where it is assumed that for a certain range of values of the investment indicator, the level of investment decreases with this indicator. Figure 4 portrays the dynamic of such an economy. The upper part shows the tax rate as a function of the poverty



index n, while the lower part shows the rate of change of n as a function of n. For very high (or very low) values of n, it is assumed that n can only decrease (or increase). For intermediate values of n, there is a range where n increases, especially since it is already high. If there is initially a high poverty rate, there will be a convergence towards an equilibrium where this rate remains high, and where there is little redistributive taxation. Conversely, a society in which there is initially a low level of poverty will converge towards an equilibrium with a high level of redistribution and little poverty. If the economy's initial conditions are located near point I, then it will experience strong local instability and the final equilibrium will be very sensitive to the initial conditions.

Thus there is a relationship between financial development and the dynamic of the income distribution, as has been already noted by Loury (1982), Galor and Zeira (1993), Perotti (1993), etc. If the conditions indicated above are verified, the character of the fiscal conservatism associated with an increase in poverty will increase the instabilities and the multiple stationary states resulting from financial constraints.

V. Poverty and political conflicts

We will now analyse the consequences of the increase in poverty on the dynamic of policy choices.

We have already seen that under certain conditions, an increase in poverty makes the median voter more fiscally conservative.

We have also seen that in the presence of liquidity constraints, this conservatism leads to an increase in future poverty. From that, we have deduced that the mutual interaction of poverty and conservatism leads to instabilities and multiple equilibria. However, we have implicitly assumed that the necessary conditions for a positive relationship between poverty and conservatism were satisfied on the entire path of equilibrium.

That is not necessarily true. There could be a positive relationship between poverty and conservatism in some ranges, a negative one in others. Then accumulation of poverty could lead to a policy reversal, and to a transition from a conservative towards a redistributive economy.

Such phenomena could appear in an economy with three classes of agents, like those we have analysed in the previous numerical examples. As long as class B is the median agent, an increase in poverty in which a reduction in the size of class B is translated into increases in the two others, leads to an additional increase in class A (the poor) because of a reduction of transfers. This rise itself feeds the conservative process. However, this dynamic prevails only as long as the poor represent less than

50 per cent of the population. As soon as the proportion of the poor exceeds this level, the middle class loses political power and the poor seize it. There is then massive increase in redistributive taxation (see Figure 5).

This is not simply an academic curiosity, but an important phenomenon which, in our view, provides a better understanding of the Latin American experience. Most Latin American countries are characterised by mass poverty. An increase in this poverty beyond a certain limit is liable to lead to profound political change, as shown by the populist experiments, such as those of Peron or Allende. Thus highly redistributive governments alternate with highly conservative governments.

In a democratic system, the middle class which expects to lose power has two options: it can leave the fiscal system unchanged, lose power, and face rises in tax rates; or it can conserve power by immediately



increasing redistribution, thereby preventing the mass of poor from growing beyond the critical point. Thus the expectation of political change can lead to a less conservative attitude towards poverty.

This outline lacks a crucial element for applying it to Latin America, namely the fragility of democratic institutions in many countries. Thus it is reasonable to assume that the middle class has a third option: to "delegate" political power by a coup d'état to a dictator who will maintain a low level of redistribution, while preventing the poor from taking power. Thus dictatorship appears to be an endogenous response by the middle class to an increase in poverty which can threaten its political supremacy. That was how Marx (1852), for example, analysed the rise of Bonapartism in France before Napoleon III took power.

Now it is important to describe the political option chosen by the middle class in terms of the initial income distribution. For that we have developed a simplified two-period model in the Appendix. In particular, it was assumed that the dictator is more conservative than the middle class, that is to say he imposes a rate of redistribution less than its optimal rate.

The model's results can be summarised by Figure 6, which gives the option chosen as a function of two parameters of the income distribution: the number of poor (n) and their income (y).

As can be seen in Figure 6, the model's predictions are as follows:

If the number of poor is too low to threaten the political order, the middle class chooses its optimal tax rate, whatever the income of the poor may be. We call this the "conservative" option (CONS). Beyond a certain level, the middle class knows that it if applies its optimal rate it will lose power during the second period. Thus there are two cases to consider:

If the poor are not too poor $(y > \overline{y})$, then the tax rate that they would choose will not be too different from that chosen by the middle class. Thus it is preferable for the middle class to cede power to them than to resort to a dictator. There is an arbitrage between this option, here called "populism" (POP), and redistribution to maintain the number of poor below the level of losing power, which we call "social democracy" (SD). If the number of poor is not too large (if that level is near), SD is relatively uncostly and will be preferable to POP. Moreover, the greater y is, the less costly is POP in relation to SD. That explains the decreasing profile of the frontier between SD and POP in the upper part of Figure 6.



If the income of the poor is less than y
 y, the cost of ceding power to them is greater than recourse to a dictator for the middle class. Then there is an arbitrage between SD and dictatorship (D). It is clear that if n is small, SD is not very costly. That explains the position of the SD and D regions in the lower part of Figure 6.

Thus the model suggests:

- Massive poverty leads to "extreme" political solutions: either populism or dictatorship.
- A small proportion of poor people is associated with a "conservative" government, that is to say the middle class chooses its optimal tax rate. However, in this situation an increase in poverty is liable to strengthen the government's conservatism, as long as the poor do not threaten the existing system.
- An intermediate proportion of poor people leads to a redistributive "social democratic" government, in which the middle class retains power by "buying off" the poor.

The CONS, SD, POP, and D labels for the four governments envisioned by the model, as well as the designations "middle class" and "poor", should be interpreted in terms of situation in the case being considered. In particular, by "middle class" we mean the decisive agents in the political sphere, who can be very well off in countries not very democratic.

VI. The example of Latin America

In this section, we discuss the experience of some Latin American countries from the standpoint of the analysis developed above. "Traditional" theory, as described in Section II, flagrantly contradicts the data for a cross-section of countries or time series. On the one hand, the most redistributive countries are also the most egalitarian. On the other hand, the underlying decrease in inequality in the developed countries between 1945 and the 1980s was accompanied by a rise of the welfare state and an increase in social transfers. These two trends were precisely inverted in the 1980s, when there was a widening of the range of wages and increased fiscal conservatism.

How does Latin America figure in this? We first look at Mexico. Table 5 gives the change in inequality by deciles between 1984 and 1989, according to the OECD (1992). The figures are

striking. On the one hand, there is considerable inequality in Mexico, with a Gini coefficient of 0.47 compared to 0.35 in the countries with a similar average income. On the other hand, all the deciles became poorer in relative terms except for the richest 10 per cent. According to "traditional" theory Mexico should have experienced an increase in redistributive taxation between 1984 and 1989. However, this is precisely the opposite of what occurred. The fiscal reforms undertaken in 1987 and 1991 lowered tax rates and decreased public expenditure. Table 6 shows the changes in these tax rates. The share of public expenditure (excluding interest) in GDP fell from 29.7 per cent in 1980 to 27.5 per cent in 1985, and then to 23 per cent in 1990. Social expenditure (education and health) also declined from 6.6 per cent of the GDP in 1980 to 5.9 per cent in 1990.

There were similar changes in Argentina. To begin with, there was greater fiscal conservatism, since public expenditure went from 28 per cent of the GDP in 1983 to 23 per cent in 1987 and 21 per cent in 1990³. Expenditure on education and health fell in real terms⁴. At the same time, there was a rise in poverty and inequality. Table 7 shows the changes in income distribution in Argentina. As in Mexico, the richest became richer, so that here the top two deciles advanced, not just the richest 10 per cent.

The experiences of Argentina and Mexico confirm the relationship between inequality and fiscal conservatism. The fiscal reforms were part of an overall decontrol policy aimed at encouraging foreign investment and repatriation of capital by reducing trade barriers and the distortions created by the weight of the state in the economy. However, it can be asked how these reforms were politically viable at the end of a decade marked by a rise in poverty, and with the richest becoming richer. It is clear that this development is incompatible with the theory of the median voter, since the median did not get richer. We have previously proposed two other explanations: the role of progressive transfers and limits on political rights. It can be conjectured that the second explanation is perhaps more appropriate to Mexico, while the first explanation is more appropriate for Argentina, where the poor experienced a much greater relative loss of income than the median.

Another interpretation of the fiscal conservatism in Mexico and Argentina is that the public finally took cognisance of the distortions caused by taxation and decided to change fiscal policy to favour investment and growth. Saint-Paul and Verdier (1991) have shown that if the politically decisive agents have easy access to capital flight, an equilibrium with high taxation and considerable capital flight can coexist with an equilibrium having the opposite characteristics. The Mexican reform experience at the end of the 1980s seems to illustrate the passage from one equilibrium to the other.

VII. Conclusion

We have attempted to reconcile the traditional political-economic theory of taxation such as developed by Meltzer and Richard with the facts that seem to contradict it. However, whether this "revised" theory can be applied to Latin America appears to be problematical, because of the extreme concentration of the rise in inequality among the richest 20 per cent.

Notes

- 2. The analysis in this and the following sections is developed formally in Saint-Paul (1994).
- 3. World Bank (1993*a*).
- 4. World Bank (1990b).

^{1.} World Bank (1990a).

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Appendix

The model

In the following simplified model, there are two types of agents, the poor and the middle class, represented by the indices 1 and 2 respectively. There are two periods also indicated by 1 and 2. The income of an agent of type *i* is y_i , with $y_i < y_2$. The utility function of agent *i* is:

$$-(y_{i} + \tau_{1} - a)^{2} - (y_{i} + \tau_{2} - a)^{2}$$

where τ_j is the tax rate in period *j*. It is seen that the preferred tax rate of agent of type *i* is simply $a - y_i$. Thus the middle class prefers a lower tax rate than would the poor. The analysis developed in the article is no longer pertinent, since the tax rate preferred by the middle class is assumed to be independent of the income distribution. Let n_j be an indicator of the number of poor on date *j*. To simplify, assume the latter is normalised so that the poor are in the majority if and only if $n_2 > 0$. It is assumed that n_2 changes as follows:

$$n_2 = n_1 - \tau_1 + b$$

There are more poor in period 2 than in period 1 because the tax rate in period 1 was low.

Assume that the dictator has an income $y_D > y_2$. Thus he is more conservative than the middle class and chooses a tax rate $\tau = a - y_D$. During the first period the middle class is in the majority and determines the tax rate. Moreover, it has the option of delegating the choice of the tax rate in period 2 to the dictator.

First we consider the decision which will be made in the second period:

- a. If $n_2 < 0$, the middle class is in the majority and chooses $\tau_2 = a y_2$. Thus the second period's contribution to the utility of the middle class is 0.
- b. If $n_2 > 0$, the poor are in the majority and choose $\tau_2 = a y_1$. As a result, the second period's contribution to the utility of the middle class is $-(y_2 y_1)^2$.
- c. If the dictator is in power, he chooses $\tau_2 = a y_D$, and the second period's contribution to the utility of the middle class is $-(y_D y_2)^2$.

Now what will be the option chosen by the middle class during the first period? First note that if $n_1 + y_2 + a + b < 0$, then the middle class is assured of retaining power even if it chooses its optimal rate $a - y_2$. This defines the first regime (CONS), corresponding to $n_1 < a - b - y_2$.

If $n_1 < a - b - y_2$, the middle class has three options:

1. To choose $\tau_1 = a - y_2$ and abandon power to poor in the second period. The corresponding total utility is $-(y_2 - y_1)^2 = V_{POP}$;

- 2. To choose $\tau_1 = a y_2$ and entrust a dictator with power. Now the corresponding utility is $-(y_D y_2)^2 = V_D$;
- 3. To choose the lowest tax rate τ_1 which permits power to be maintained in the second period. Under the corresponding rate $n_2 = 0$, ie $\tau_1 = n_1 + b$. The utility associated with this strategy is $-(y_2 + n_1 + b - a)^2 = V_{SD}$.

As can be seen it follows that:

 ${\cal E}^{-1}$

 $V_{POP} \ge V_D$ if and only if $y_1 \ge 2y_2 - y_D = \overline{y}$;

 $\dot{V}_{POP} \ge V_{SD}$ if and only if $y_1 \ge -n_1 -b + a$;

 $V_D \ge V_{SD}$ if and only if $n_1 \ge -\overline{y} - b + a$.

These three conditions define the frontiers of the regions represented on Figure 6.

Table	1
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Class	Proportion (%)	Income (\$)
A	20	10
В	40	20
С	. 30	50
D	10	100

Table 2

Class	. Proportion (%)	Income (\$)
A	32.5	10
В	27.5	20
С	27.5	50
D	12.5	100

Table 3

Proportion (%)	Income (\$)
20	10
50	20
20	50
	Proportion (%) 20 50 20

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Table 4

Class	Proportion (%)	Income (\$)
A	45	10
В	30	20
С	25	50

Table 5. Income distribution in Mexico (% of total income)

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Decile	1984	1989
I	1.7	1.6
11	3.1	2.8
III	4.2	3.7
IV	5.3	4.7
v	6.4	5.9
VI	7.9	7.3
VII	9.7	9.0
VIII	12.2	11.4
IX	16.7	15.6
X	32.8	37.9
Source: OECD (1990/1991)		

Table 6. Tax rates in Mexico (%)

	1988	1992
Corporation tax	39.2	35
Personal income tax		
Highest marginal tax	50	35
Dividend tax	50	0
Property tax	10	6
Source: OECD (1990/1991)		

Table 7. Income distribution in Argentina(% of total income)

Decile	1984	1988
I	2.7	1.6
Ш	4.3	3
III	5.3	4.1
IV	6.4	5.3
V	7.6	6.4
VI	8.6	7.7
VII	10.2	9.5
VIII	12.3	12
IX	15.6	16.7
X	27	33.8

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Draft FINANCIAL FACTORS IN EDUCATION AND ECONOMIC GROWTH by José De Gregorio

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Introduction

How can financial markets increase job creation and improve the quality of the labour force? First, financial markets promote economic growth, and hence they foster job creation; and second, and perhaps more subtly, financial markets can stimulate the increase in the quality of the labour force by creating incentives for human capital accumulation. We focus here mainly on this second effect of financial markets on the labour market and economic activity.

Of course, financial markets may affect individual decisions through many other channels. It is worth mentioning, however, that financial markets may induce efficient specialisation. For example the existence of financial markets may facilitate specialisation between entrepreneurs and workers (King and Levine, 1993), or between receiving education and entering the labour force (De Gregorio and Kim, 1994). It may also affect income distribution and social mobility since in the absence of financial markets economic outcomes will depend crucially on the initial wealth of individuals (Galor and Zeira, 1993; and Banerjee and Newman, 1991). In contrast, financial markets allow individuals to specialise with greater independence from their initial wealth.

The main issue we wish to address in this paper is the effect that financial markets have on education decisions. Whether or not households have free access to financial markets will influence educational choices. Education is a way to transfer income from the present to the future. By sacrificing current income, individuals can increase their skills through education since they will receive a higher income in the future. However, individuals need to borrow not only to pay tuition and fees, which in many countries are zero in any case, but also to finance consumption while acquiring education. Therefore, the ability of individuals to borrow in order to finance current consumption will become an important determinant in the decision of human capital accumulation.

We begin with an overview of the direct effects of financial development on economic growth, followed by a simple model of education decisions when there are perfect financial markets. The framework used is an overlapping generations model (OLG) with endogenous growth (e.g. Romer, 1986; Lucas, 1988; Azariadis and Drazen, 1990; and Grossman and Helpman, 1991) where the only factor of production is human capital, which is accumulated through a linear education technology. The main result is that the young generation will spend its time in education. We then analyse the case when individuals cannot borrow as much as they want in financial markets. The inability of young individuals to borrow freely induces them reduce the time devoted to education and to increase the time devoted to work. The decline in human-capital accumulation is greater, the tighter are the borrowing constraints.

Some relevant extensions are then presented, beginning with consideration of the effects of intergenerational transfers in overcoming the inability of individuals to borrow. It can be argued that family arrangements may overcome the restrictions on borrowing. However, although parental support may reduce the distortion arising from borrowing constraints, it does not achieve the first best. The model is extended to discuss the role of physical capital. The life-cycle theory of consumption suggests that borrowing constraints increase savings¹. Therefore, to analyse the net effect of borrowing constraints on economic growth it is necessary to consider the trade-off between the accumulation of human capital (education) and the accumulation of physical capital (savings).

Some empirical evidence is presented on the relationship between financial market imperfections and human capital accumulation, measured by enrolment ratios. The evidence suggest that countries with more developed capital markets, in particular with lower degrees of borrowing constraints, indeed also have higher enrolment ratios. This is followed by conclusions.

Overview on financial development and growth

The effects of financial development on economic growth have been examined in recent literature². Growth may be the result of two elements: growth in the number of factors of production or increases in the efficiency with which those factors are used. For simplicity, we can consider growth as being induced by the increase (accumulation of physical capital) and the efficiency of investment. In a closed economy, investment is equal to savings, which is why savings is an important vehicle to increase growth³. The efficiency of investment, in turn, includes not only factor productivity growth, but also the accumulation of other factors not included in physical capital, such as the accumulation of human capital.

Financial development has a dual effect on economic growth. On the one hand, the development of domestic financial markets may enhance the efficiency of capital accumulation. On the other, financial intermediation may contribute to raising the savings rate and thus the investment rate. The former effect was first emphasised by Goldsmith (1969), who also finds some positive correlation between financial development and the level of real per capita GNP. He also states that the process of growth has feedback effects on financial markets by creating incentives for further financial development.

McKinnon (1973) and Shaw (1973) extend the earlier argument by noting that financial deepening implies not only higher productivity of capital but also a higher savings rate and therefore a higher volume of investment. Unlike Goldsmith (1969), who thought of growth and financial intermediation as both endogenous, the focus of McKinnon (1973) and Shaw (1973) is on the effects of public financial-markets policy on savings and investment. In particular, these two authors argue that policies leading to financial repression — for example, controls that result in negative real interest rates — reduce the incentives to save. Lower savings, in turn, result in lower investment and growth. They conclude that higher interest rates resulting from financial liberalisation induce households to increase savings. The empirical validity of the McKinnon-Shaw hypothesis has been challenged by various authors. Díaz-Alejandro (1985), for instance, argues that the Latin American experience shows that financial deepening is unlikely to increase savings; its main contribution to growth should be thought of as increasing the marginal productivity of capital, rather than the volume of savings and investment.

Recent theoretical work has incorporated the role of financial factors in models of endogenous growth in an attempt to analyse formally the interactions between financial markets and long-run economic growth. Greenwood and Jovanovic (1990) present a model in which both financial intermediation and growth are endogenous⁴. In their framework, the role of financial institutions is to collect and analyse information for channelling investible funds to the investment activities with the highest return. Since the activity performed by financial intermediaries involves costs, Greenwood and Jovanovic (1990) show that there is a positive two-way causal relationship between economic growth and financial development. On the one hand, the process of growth stimulates higher participation in financial markets thereby facilitating the creation and expansion of financial institutions. On the other, financial institutions, by collecting and analysing information from many potential investors, allow investment projects to be undertaken more efficiently and, hence, stimulate investment and growth.

Bencivenga and Smith (1991) present a model in which individuals face uncertainty about their future liquidity needs. They can choose to invest in a liquid asset — which is safe but has low productivity — and/or an illiquid asset — which is riskier but has high productivity. In this framework, the presence of financial intermediation increases economic growth by channelling savings into the activity with high productivity, while allowing individuals to reduce the risk associated with their liquidity needs. Although individuals face uncertain liquidity needs, banks, by the law of large numbers, face a predictable demand for liquidity and can, therefore, allocate investment funds more efficiently. In the absence of financial intermediaries, individuals may be forced to liquidate their investment (i.e. their savings held in illiquid assets) when liquidity needs

arise. Thus, the presence of banks also provides the benefit of eliminating unnecessary liquidations. Bencivenga and Smith show in their model, moreover, that growth increases even when aggregate savings are reduced as a result of financial development, because of the dominant effect that financial development has on the efficiency of investment.

Along similar lines, Levine (1992) analyses the effects of alternative financial structures on economic growth. In his model, financial institutions raise the fraction of total savings devoted to investment and avoid premature liquidations of capital. Banks, stock markets, mutual funds, and investment banks enhance growth by promoting the efficient allocation of investment through various channels.

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Saint-Paul (1992) develops a model where financial markets affect technological choice. In this model, agents can choose between two technologies: one technology is highly flexible and allows productive diversification, but has low productivity; the other is rigid, more specialised, and more productive. The economy is exposed to shocks due to consumer preferences, which may result in a lack of demand for some products. Therefore, in the absence of financial markets, risk-averse individuals (consumer-producers) may prefer technological flexibility rather than high productivity. Financial markets, in contrast, allow individuals to hold a diversified portfolio to insure themselves against negative demand shocks and, at the same time, to choose the more productive technology.

In a somewhat different approach, Roubini and Sala-i-Martin (1992) analyse the relationship between financial intermediation and growth by emphasising the role of government policy. In particular, they develop a model in which financial repression becomes a tool that governments may use to broaden the base of the inflation tax. Thus, financial repression requires higher seigniorage to finance government expenditures. In an optimal taxation framework where the tax instruments at the government's disposal are the inflation tax and an income tax subject to tax evasion, Roubini and Sala-i-Martin (1992) show that a high rate of income-tax evasion induces policy makers to repress the financial system and set a high inflation rate in an attempt to generate higher revenues from the inflation tax. Since financial repression reduces the productivity of capital and lowers savings, it hampers growth.

From a different perspective Jappelli and Pagano (1994) analyse the effects of financial market developments on the savings rate. They concentrate attention on the effect of borrowing constraints — that is, the inability of individuals to borrow freely against future income — on economic growth. This work shifts the focus from the effects of financial markets on the production side of the economy to their effects on household behaviour. A conclusion from this study is that the full or partial inability of individuals to borrow against future income induces them to increase savings. When individuals are unable to borrow, they must build up financial wealth by increasing savings in order to finance current consumption. Thus, this study suggests that financial deepening on the side of consumer credit is unlikely to increase savings. This result is consistent with casual observation in Latin America, where episodes of financial liberalisation have not increased savings rates.

The implication from Jappelli and Pagano (1994) that the relaxation of borrowing constraints is unlikely to stimulate savings does not necessarily imply that such a form of financial deepening will result in lower growth. De Gregorio (1993), in fact, suggests that the relationship between borrowing constraints and growth will ultimately depend on the importance of the effect of borrowing constraints on the marginal productivity of capital relative to their effect on the volume of savings. In particular, a relaxation of borrowing constraints increases the incentives for human capital accumulation. This effect is likely to increase the marginal product of capital and, hence, may lead to higher growth despite the reduction in savings. Following, we present a model that illustrates the effects of borrowing constraints on the accumulation of human capital. To simplify the analysis the role of savings is ignored by assuming that the economy is fully integrated to international capital markets and the only factor of production is human capital. Further on, savings are introduced to discuss the interactions of savings and human capital accumulation on economic growth in the presence of borrowing constraints.

A simple model with perfect credit markets

We consider here a small open economy, where individuals can freely lend and borrow at an interest rate equal to r. At period t each individual (indexed by $j \in J$) has a level of skills denoted by H_i^{i} and works I_i^{j} units of time. The economy produces only one, non-storable, consumption good according to the following linear technology:

$$Y_t = \sum_{j \in J} H_t^j l_t^j \tag{1}$$

The economy is populated by two overlapping generations⁵. According to equation (1), and using the price of the consumption good as the numeraire, competitive firms will set wages for worker j ($w\dot{i}$) equal to $H\dot{i}$. This corresponds to the familiar equality between the real wage and the marginal productivity of labour.

The generation born in period t inherits the average level of skills available in the economy, denoted by H_t . In order to increase these skills, individuals need to acquire education. The more time young people spend in formal education, the higher the level of skills when they reach middle age. To capture this idea we assume that individuals are endowed with one unit of non-leisure time in each period of their lives. When young, individuals have to allocate their endowment between education (h) and work (1 - h). When old, they supply, inelastically, one unit of raw labour. The level of skills at t + 1 of an individual born at time t who spends h^j units of time in education is given by:

$$H_{i+1}^{j} = (1 + \varepsilon + \delta h^{j}) H_{t}$$
⁽²⁾

This equation implies that when individuals do not invest in education, their level of skills grows at a minimum rate equal to ε . In the case where $\varepsilon = 0$, equation (2) says that in the absence of education the level of skills remains constant. The parameter ε represents the minimum rate of growth of human capital and can be interpreted as exogenous technological progress⁶. The value of ε could depend, for instance, on the economy's ability to absorb knowledge from other countries, in which case ε would be related to the degree of openness. It could also be related to the existence of learning by doing or could be affected by economic policy. The parameter δ , in turn, corresponds to the marginal efficiency of education per unit of skills and could also depend on the economic environment⁷.

Young individuals can earn a wage w_i^j (equal to H_i^j). On the other hand, allocating h^j units of time to education at time t allows them to earn a wage equal to $(1 + \varepsilon + \delta h^j) w_i^j$ in period t + 1. In consequence, lifetime income is given by $w_i^j (1 - h^j) + w_i^j (1 + \varepsilon + \delta h^j)/(1 + r)$. As a normalisation, no population growth is assumed and the size of each generation is set equal to one.

Individuals' behaviour is the result of a dynamic optimisation problem, where each individual of the young generation maximises an increasing and concave utility function of the consumption path subject to the intertemporal budget constraint (superscript j is omitted):

$\max_{\substack{(C_{1},\tau_{1},C_{1},\tau_{1})\\(C_{1},\tau_{1},t_{1}),h}} u(C_{1},\tau_{1},C_{1},\tau_{1})$	(3)
subject to ⁸ :	
$c_{t,\tau} + s_t = w_t (1 - h)$	(4)
$c_{t,\tau+1} = w_t (1 + \varepsilon + \delta h) + s_t (1 + r)$	(5)

where $c_{1,\tau}$ is consumption of an individual born in period t during period τ , and s_t savings (or borrowing) of an individual, born at t.

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We can combine the two constraints for consumption in each period into the following intertemporal budget constraint:

$$c_{t,\tau} + c \quad \frac{t,\tau+1}{1+r} = \frac{w_t(1-h) + w_t(1+\epsilon+\delta h)}{1+r}$$
(6)

The solution to this problem gives the optimal values for $(c_{t,\tau}, c_{t,\tau+1}, h)$. In this model there is no direct cost associated with education, since it is provided free of charge. This is consistent with the assumption that education does not need to rent factors in order to increase the level of skills. The only cost involved in education is the opportunity cost, which consists of foregone labour income.

Individuals can lend and borrow freely, therefore the optimal choice of h will be such that it maximises the present value of income (human wealth) regardless of the consumption choice, and the optimal choice of h will be such that the expression $1 - h + (1 + \varepsilon + \delta h)/(1+r)$ is maximised. In addition, because returns on education are linear in h, the solution will be at a corner, either h = 1, or h=0.

Each unit of time devoted to education when young will involve an opportunity cost of w_t . The benefit, in turn, will be additional earnings equal to (in present value) $w_t \delta/(1+r)$. Hence, whenever w_t is greater than $w_t \delta/(1+r)$, the individual will prefer to work rather than receive education. Conversely, when the present value of future wages, augmented by δ , is greater than the current wage, the individual will prefer not to work in favour of acquiring education. Therefore, we have that:

Result 1

For $\delta > l+r$ the optimal choice of h will be 1, and for $\delta < l + r$ the optimal choice of h will be zero.

We will go on to consider the case of $\delta > 1 + r$.

The individuals' path of consumption will be given by the standard equality between the marginal rate of substitution and relative prices. For simplicity, consider that the utility function has the following logarithmic form:

$$u = \log(c_t, t_1) + \beta \log(c_t, t+1).$$

In this case the path of consumption is given by:

$$\frac{c_t + 1_t}{c_t, t} = \beta(1+r) \tag{8}$$

which implies that consumption will be equal across periods if the (subjective) discount factor is equal to the interest factor ($\beta = \frac{1}{(1+r)}$).

Now, we can turn to the analysis of the equilibrium of this model. To go from individual behaviour to the aggregate economy, it is sufficient to note that the optimal individual decision of how much time to devote to human capital accumulation is independent of the decision of the rest of the population, and given that $\delta > 1 + r$, all individuals will choose h=1. Therefore, H_t will grow at $\varepsilon + \delta$. Consequently, the equilibrium rate of growth of the economy, denoted by γ , will be given by the following equation:

$$\gamma = \delta + \epsilon$$

(9)

(7)

By equilibrium in the goods market, consumption will grow at the same rate as output, human capital and wages. In addition, this economy will not exhibit transitional dynamics, and will always grow at the same rate, given by equation (9).

The effects of borrowing constraints

The economy described in the previous section is one in which individuals can lend and borrow without constraints (other than the standard solvency constraint). This enables them to use investment in education to maximise human wealth, regardless of the chosen consumption path. However, the presence of borrowing constraints may induce individuals to choose h taking into account the desire for consumption smoothing. Intuitively, if an individual cannot borrow against future income he or she will not be willing to devote all of her youth to education, since she will need to work when young to have positive consumption. Thus, even when the choice of h=1 is the one that maximises the value of total wealth, it will not be optimal for individuals to do so.

To analyse the effects of borrowing constraints formally, consider an economy where individuals can borrow only a fixed amount D_t , which is a fixed proportion (d) of current wages, i.e. $D_t=dw_t$. This constraint could be the result of informational problems in credit markets or could alternatively be the result of government regulation.

Although individuals cannot borrow as much as they might (in the absence of liquidity constraints), they can still lend at the interest rate r. The representative agent will no longer face a single intertemporal budget constraint as in equation (6), but will also face the following borrowing constraint⁹:

$$C_{1}, t \leq w_{1}d + w_{1}(1-h)$$

(10)

The optimal choice to the individual's problem when $\delta > 1+r$ will not be to set h equal to one, because consumption would be at most equal to $w_i d$, which could be too low.

Individuals maximise equation (7) subject to (6), (10) and the non-negativity constraints on c and h. The first order conditions of this problem are:

$$\frac{1}{c_{t,t}} = \lambda + \mu, \qquad (11)$$

$$\frac{\beta}{c_{t,t} + 1} = \frac{\lambda}{1 + r}, \qquad (12)$$
and
$$\mu = \lambda \left(\frac{\delta}{1 + r} - 1\right), \qquad (13)$$

where λ and μ are the Lagrange multipliers associated with constraints (6) and (10), respectively. Since λ is always positive, μ is also positive for all finite values of σ (under the maintained assumption that $\delta > 1+r$)¹⁰. Combining the first order conditions it can be verified that the consumption path is given by:

$$\frac{c_{t,t}+1}{c_{t,t}} = \beta \,\delta \tag{14}$$

We can now compare the consumption path of the economy without constraints [equation (8)] and the constrained economy [equation (14)]. Since $\delta > 1 + r$ the constrained economy faces a more steep consumption path. Indeed for $\beta = 1/(1 + r)$ the unconstrained economy has a flat consumption path while the constrained economy faces an increasing consumption path. This highlights a negative welfare effect of borrowing constraints since it reduces the extent of intertemporal smoothing of consumption.

Now, substituting (14) and (10) into the intertemporal budget constraint, the following is the expression for the optimal value of h (as long as it is strictly positive, see below):

$$h^{*} = d \frac{1+r+\beta\delta}{\delta(1+\beta)} + \frac{\beta\delta-1-\varepsilon}{\delta(1+\beta)}$$
(15)

By examining equation (15), the following result holds:

Results 2

 h^* is increasing in d, that is, human-capital accumulation increases as borrowing constraints relax. Consequently, growth increase with a relaxation of borrowing constraints.

An implication of equation (15) is that the parameters could be such that h^* could be negative. Indeed, for d=0 the value of h^* is strictly less than one and it could be negative if $\beta \delta < 1 + \varepsilon$. If this is the case, the optimal value of h would be zero and the rate of growth would be equal to ε . On the other hand, if d goes to infinity h^* would be greater than one. In this case h^* would be equal to one and the borrowing constraint would not be binding.

One can also consider this model as if it were describing the development of an economy and its financial market by considering D to be fixed, so the borrowing constraints would be falling as the economy grows, and hence, human capital accumulation and growth would also be increasing as the economy develops.

Intergenerational transfers

This section shows that although the existence of an operative bequest motive reduces the extent μ_{i} of borrowing constraints by inducing higher human capital accumulation, it does not completely μ_{i} overcome the credit market imperfections, and hence h does not reach the unconstrained optimal of h=1.

It is assumed that each individual cares about the well-being of his/her offsprings, as in Barro (1974). Individuals solve the following optimisation problem:

$$v_t(b_t) \equiv \frac{\max}{(c_t, t+i), h, b_t + 1} \log(c_t, t) + \beta \log(c_t, t+1) + \rho v_t + 1(b_t + 1)$$

subject to:

$$c_{t}, t + \frac{c_{t} t + 1 + b_{t} + 1}{1 + r} = w_{t} (1 - h) + \frac{w_{t} (1 + \varepsilon + \delta h)}{1 + r} + b_{t}, \qquad \text{for all the set of the s$$

and

$$0 \le h \le 1, b_{t+1} \ge 0$$
, and $[c_t, t+j] = 0 > 0 = 0$

where b_{t+1} is the transfer (bequest) from parents born in period t to children born in t+1. The non-negativity constraint on b_{t+1} defines whether the altruistic motive is operative. That is, when b_{t+1} equals zero, the intergenerational transfers become inoperative.

Solving the optimisation, we obtain the same conditions as in the economy without intergenerational links plus the following condition that links consumption across generations:

 $\rho c_{i}, t+1 = \beta c_{i} + 1, \tag{16}$

and is obtained after using the envelope theorem to show that $v'_t(b_t) = \frac{1}{c_{t,t}}$.

A simple way to obtain the expression for h in this economy is to combine equations (16) and (14) to show that:

 $\rho \, \delta \, c_t, t+1 = c_t+1, t+2$

(17)

which gives a condition for the rate of growth of consumption across generations. Note that if $\rho=\beta$, that is, if the children's utility is discounted with the same factor as own utility, the rate of growth of consumption across generations is the same as the rate of growth of individual consumption. Using the fact that consumption across generations must grow at the same rate as the rate of growth of the economy (γ) and that the rate of growth of the economy is equal to $1 + \varepsilon + \delta h$, we can rewrite (17) as:

 $1 + \varepsilon + \delta h = \rho \delta$

• .

which can be simplified to:

$$h = \frac{\delta \rho - (1 + \varepsilon)}{\delta} \tag{18}$$

Two interesting results are immediate from this equation:

Result 3

The equilibrium level of human-capital accumulation is independent of the tightness of borrowing constraints. Parents will insure that their offsprings will invest h in human capital by providing sufficient transfers.

Result 4

The level of h will in general be less than one¹¹, and hence, intergenerational transfers do not overcome the borrowing constraints. Furthermore, h is increasing in ρ , the strength of the altruistic motive.

To compute the actual level of intergenerational transfers, we can use the expressions for consumption in each period and the path of consumption given by (14) to show that:

$$b_{t} = \frac{1 + \varepsilon - (1 + d) \beta \delta - (1 + r) d + \delta (1 + \beta)h}{1 + \gamma + \beta \delta}$$

(19)

From this equation it can be seen that as d increases, that is borrowing constraints relax, the transfer from parents to children declines. Indeed, as Result 3 shows, it will decline enough to induce the same level of h.

Now it is interesting to compare this economy with the economy without intergenerational transfer. After some algebra the following result can be shown to hold:

Result 5

h is the same in the cases with and without intergenerational transfers when d is such that $b_t = 0$.

This result indicates that bequest becomes inoperative exactly when the level of h is the same as that in the economy without borrowing constraints. This implies that h as a function of d is constant up to the point where intersects the curve for the economy without altruism. A corollary of this result is that:

Result 6

The economy with intergenerational transfers will have a higher level of human-capital accumulation than the economy without altruism, while the altruistic motive is operative. However, this level will be below the unrestricted optimal of h=1.

Savings, human capital and growth

Although borrowing constraints may reduce human capital accumulation, they also have effects on physical capital accumulation. If individuals have limited access to the credit markets, they will have to save the resources to buy goods, especially the expensive items. For example, down payments in the housing market are a form of forced savings. This is the effect emphasised by Jappelli and Pagano (1994) in a model of endogenous growth and borrowing constraints.

Imperfections in credit markets have been used, for example, to explain the relatively high savings rates of Japan and Italy among OECD countries (Hayashi, 1986; and Guiso, Jappelli and Terlizzese, 1991). The case of Italy is very illustrative in this respect, since it has the second highest savings rate among G7 countries (after Japan), but a low degree of development of its capital market compared to other industrialised countries. In 1988 consumer credit in Italy was 4 per cent of consumption expenditure, while the average for G7 countries was 14 per cent. The largest percentage of consumption credit in 1988 was that of the United States, where it reached 23 per cent. The short maturity of consumer loans and the large spread between borrowing and lending rates emerge as the main explanations for the small fraction of consumer credit in Italy.

The mortgage market is also much smaller in Italy than in other major OECD countries. The minimum down payment is usually 50 per cent, and by law it cannot be less than 25 per cent. In contrast, average down payment is 25 per cent in the United States and Germany, 20 per cent in Canada, and 15 per cent in the United Kingdom. The only country with comparable down payment is Japan, where the average is 35-40 per cent. Maturity is also low in Italy, on average between 10 and 15 years. In contrast, in other G7 countries, such as Canada, United States and Germany, the average maturity is about 25 years. As a consequence, Italy's mortgage market is the smallest among G7 countries. Outstanding mortgage as a percentage of consumption expenditure is 4 per cent in Italy, while the average for the G7 countries is about 44 per cent. The insurance market in Italy is also relatively small compared to that in other developed countries. The ratio of insurance premiums to GNP in 1987 was 6.5 per cent in the G7 and 5.5 per cent in the OECD countries, but 2.4 per cent in Italy.

Italy provides a persuasive example of how the inability of households to borrow may increase savings rates. Jappelli and Pagano (1994) present cross-country evidence supporting the hypothesis that the tighter borrowing constraints are, the higher the savings rate. If, in addition, credit markets channel funds from savers to investors, an economy with borrowing constraints (at the household level) may have higher physical capital accumulation, and faster growth. Note, however, that in order for higher savings, caused by borrowing constraints, to result in higher growth two conditions are required. First, while the credit market is inefficient on the household side, it must be efficient on the firm side, otherwise the higher savings rate may be inefficiently allocated. Second, the higher savings rate should more than offset the lower human-capital accumulation discussed in the previous sections. To illustrate this trade-off between physical and human-capital accumulation we shall extend the framework presented above to consider both forms of capital as inputs in the production of goods and the increase of skills:

$$Y_t = (H_t l_t)^{\alpha} K_t^{1-\alpha}$$

and that the increase in skills also requires physical and human capital:

$$H_{t+1} = H_t + h H_t \Phi K_t^{1-\phi}$$

Finally, assume that savings are a constant fraction of income s, where s is a decreasing function of d(s' < 0), that is, that savings increases with borrowing constraints:

$$K_t - K_{t-1} \equiv \Delta K = s(d)Y_t$$

using the above equations and the fact that in steady state the rate of growth of H, K, and Y are the same, the following expression for the rate of growth is obtained:

$$1 + \gamma = h(d) \frac{\alpha}{1 + \alpha - \varphi} s(d) \frac{1 - \varphi}{1 + \alpha - \varphi}$$

(20)

where h is an increasing function of d.

Equation (20) shows the trade-off between human- and physical- capital accumulation stemming from borrowing constraints, and which obviously depends on the parameters. Note that if physical capital is not used in the production of skill $(1 - \varphi = 0)$ only the effects of d on h would be relevant for growth. Finally, one could also presume that borrowing constraints may also induce imperfections on the side of the allocation of credit. This could be formalised by assuming that only a fraction f(d)of savings is effectively intermediated (with f' > 0). Then, in equation (20), s(d) should be multiplied by f(d), and the net effect of d on f(d)s(d) would be ambiguous.

Evidence on human-capital accumulation and credit-market imperfections

An important implication from the previous discussion is that credit-market imperfections reduce human-capital accumulation¹².

Human-capital accumulation in this paper refers to formal education, and therefore, the most convenient measures of the time devoted to human-capital accumulation are enrolment rates. The analysis of this section uses secondary (SEC) and tertiary (TER) school enrolment ratios from UNESCO averaged for the period 1975-85.

To measure the extent of borrowing constraints we use two proxies constructed by Jappelli and Pagano (1994) for a sample of OECD countries. The first measure they construct is consumer credit (flow) as a fraction of national income in 1970 (CONSC) and 1980. Since the predictions discussed here are on the effects of borrowing constraints on human-capital accumulation, and not vice versa, it is useful to measure the extent of borrowing constraints before 1975 (the beginning for the measures of SEC and TER). In this form we can examine how much {\em initial} borrowing constraints affect subsequent enrollment ratios. For this reason, 1970 data when available (13 OECD countries) is used and the 1980 value when it is not (4 OECD countries). The second measure for the extent of borrowing constraints constructed by Jappelli and Pagano is the minimum down-payment as a percentage of house prices (DOWN). This variable is available for 17 countries in 1970, and most of them in early 1970s. For the remaining 3 countries, 1980 data is used¹³.

There is no data on borrowing constraints similar to those constructed by Jappelli and Pagano for a large cross-section of countries. However, in order to provide some evidence for developing countries, we use the share of total credit from the banking system to the non-financial private sector on GDP (ratio between lines 32d and 99b of the IFS), which will be denoted as CREDIT, as a proxy for the extent of borrowing constraints. As argued in De Gregorio and Guidotti (1994), this variable is a good proxy for the degree of development of capital markets.

Figures 1 and 2 show the relationship between SEC, TER and CREDIT, respectively. In both cases there is a clear positive relationship between the degree of financial market development and enrollment ratios. Although CREDIT may accurately proxy the degree of financial development, there are two caveats that need to be kept in mind when interpreting CREDIT as a proxy for the extent of borrowing constraints. First, CREDIT not only includes consumer credit, which is the relevant variable in this paper, but also, and perhaps more importantly, credit to firms. Second, consumer credit is not only intermediated through the banking system. For this reason it is important to explore this relationship among OECD countries where better measures for the extent of borrowing constraints are available.

Figures 3 and 4 show the relationship between DOWN and enrolment ratios, while figures 5 and 6 do the same for CONSC. The first two figures show that countries with relatively high down-payments have also relatively low enrolment ratios, which is consistent with the negative relationship between borrowing constraints and human-capital accumulation. Similarly, the last two figures show a positive relationship between CONSC and enrolment ratios. That is, the more developed the consumer credit market is, the higher the enrolment ratios.

Overall, the evidence presented here is consistent with the argument presented in this paper on the relationship between investment in human capital and the degree of development of financial markets. One could argue, however, that this relationship may arise from omitted factors affecting the accumulation of human capital. De Gregorio (1993) controls for additional factors, such as the degree of development of the country, measured by per capita income, and education expenditure. The evidence still shows a positive effect from the initial level of development of financial markets on enrolment ratios.

Conclusions

may be important.

Financial markets have important effects on the creation of jobs and in the quality of the labour force. As suggested by a large body of literature, well-developed financial markets are effective instruments for increasing the rate of growth of output and employment. Nonetheless, as we have emphasised, financial markets have important effects on human-capital accumulation, and hence on the level of skills of the labour force. The empirical evidence presented above suggests that this effect

The framework we have presented could be reinterpreted in several ways. The most relevant for developing countries is the choice between alternative technologies. In many developing countries, particularly in the agricultural sector, many production activities occur at the household level. Consider the decision to adopt a new technology and assume that there are two of these: one highly productive technology but which takes more time to yield benefits, and another less efficient, but with more immediate returns. In this case, we can interpret h as the fraction of resources devoted to the productive technology. If households have no access to credit for financing consumption, they will choose to invest more in the less productive technology.

Another area that has received attention in the life-cycle theory and credit-market imperfections is the role of uncertainty. Theory suggests that uncertainty increases savings. Therefore, in the absence of credit markets that allow individuals to insure against risk, one can conclude that savings will be higher. As in the case discussed in this paper, the fact that savings increase does not guarantee an increase in growth. Indeed, as discussed in section 2, Bencivenga and Smith (1991) have shown that the efficiency of investment is likely to decline as the result of a portfolio slip from productive and illiquid investment to unproductive liquid investment when uncertainty increases. Thus, although savings may increase as the result of credit-market imperfections, the effect on growth is negative.

Notes and References

1. See Modigliani (1986) for a review of life-cycle models and the effects of credit-markets imperfections.

- 2. See De Gregorio and Guidotti (1994). For other overviews of the empirical and theoretical literature see Fry (1993), Greenwood and Smith (1993), Pagano (1993), and King and Levine (1993).
- 3. To simplify the discussion we consider the economy to be closed, so investment equals savings. It could be assumed that the economy is open and there is in addition an upward-sloping supply of funds (Fry, 1993) or some other form of imperfect capital mobility such as the lack of collateral to obtain foreign financing for human-capital accumulation (Barro, Mankiw and Sala-i-Martin, 1994). In all of these cases more national saving would encourage capital accumulation, and the implications for growth would be qualitatively similar to those of the closed economy.
- 4. See also Greenwood and Smith (1993).
- 5. Normally, two-period overlapping generations models consider one young and one old generation. In this paper, however, it is more appropriate to think about young and middle-aged people, since both generations are able to work and there is no retirement.
- 6. Depreciation of individuals' human capital would imply a negative value of ε , but, without loss of generality, we assume that ε is non-negative.
- ^{7.} Formally, $\delta = (\frac{1}{H_t}) (\frac{\partial H^j}{t+1}/\partial h^j)$. For short, δ will be called marginal efficiency of education. Finally, for reasons that will be clear later, δ is also the marginal private return on education.
- 8. Note from equation (6) that education is provided free of charge. Therefore, when specifying borrowing constraints later in the paper, these refer to the inability to borrow to finance consumption, not education.
- 9. Middle-aged individuals can also face a borrowing constraint, but since it is the last period of life the constraint will not be binding.

10. A condition for optimisation is that λ and μ must be greater than, or equal to, zero. When $\delta \leq 1+r,\mu$ is equal to zero, f that is, liquidity constraints are not binding.

- 11. This is generally the case because $\rho < 1 < 1 + \varepsilon$ for all $\varepsilon > 0$.
- 12. A more detailed regression analysis can be found in De Gregorio (1993).
- 13. Four OECD countries are excluded from the analysis: Iceland, Luxembourg and Switzerland because of the lack of data and Sweden because it is clearly an outlier. Sweden's consumer credit is the highest, being twice that of the following country and more than four times the average.

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Introduction: employment policies

Unemployment dominates economic policy discussions in Germany and most other OECD countries. The majority of economic players agree that, at 11 per cent, the European Union's unemployment level is unacceptably high. Solutions to the problem are desperately sought, but as its level rises the prospects for successfully combating unemployment seem increasingly bleak. Most countries choose a wide range of policy instruments that need to be co-ordinated both at a national and international level.

However, supranational policy recommendations can only define a broad menu from which each country draws according to its hierarchy of objectives and instruments. This, as described in its 1993 White Paper on Growth, Competitiveness and Unemployment, is the preferred approach of the European Commission.

Taking this White Paper, or the recent OECD jobs study (OECD, 1994, p. 43), it becomes evident that measures to promote employment touch on nearly all economic policy areas: growth; infrastructure; industrial policy, including technology, human resources and education; and monetary, fiscal and labour-market policies. This paper aims to give a selective account of the German experience, first outlining recent labour-market trends.

Recent trends in employment and unemployment

1.5

A long period of economic growth in west Germany¹ was given further impetus by German unification in 1990. As shown in Figure 1, there has been a significant increase in the number of those in work, a rise of around 3 million from 1982 to 1992. Unemployment, however, remained at the 1983 level until 1988, indicating that a rise in employment was absorbed by the rise in labour supply. It appears that the "discouragement" effect of recession took several years to disappear. In spite of the inflow of labour from east Germany and Eastern Europe, the unification boom resulted in



a decisive fall in the unemployment level. However, recession in 1992-93 reversed this trend, and by the beginning of 1994 unemployment had reached a record high.

3

Unification presented east Germany with a fundamental transformation crisis. Gross domestic product (GDP) decreased rapidly as industry was exposed to more competitive conditions (see Figure 2). From mid-1991, there were signs that the economy was stabilising and that the basis for recovery was broadening as investment bolstered demand and output. Fixed capital formation in 1994 is, in per capita terms, considerably higher than in west Germany; in 1991 it stood at only 60 per cent



of the west German level. Transfers from west to east Germany helped this process and also boosted private consumption. While GDP per capita was at 28 per cent of the west German level in 1991, and about 45 per cent in 1994, per capita private consumption has been relatively high, at 51 per cent and 64 per cent respectively. Employment levels have dropped, but the fall is relatively small when compared to falls in GDP. As indicated in Figure 2, falls in the total hours worked have far outstripped reductions in employment levels.

The level of unemployment in east Germany only partly reflects labour-market imbalances. Administrative regulations such as dismissal protection, the personnel policy of the Treuhandanstalt, short-time work regulations, and the use of labour-market policy instruments have also played a significant role. After unemployment had risen from zero, "by definition", in December 1989 to about 143 000 in July 1990, the upward trend continued: 0.9 million in 1991, and 1.2 million in 1992 and 1993. The 1994 figure is expected to be about the same, representing an unemployment rate of around 16 per cent.

Macroeconomic policy

The confidence of the 1960s in the governability of the business cycle was formalised in a 1967 Act to promote stability and growth (Stabilitäts- und Wachstumsgesetz). This established price stability, equilibrium in the balance of payments accounts, high employment levels, and stable economic growth as the principle objectives of economic policy. These were to be achieved by co-ordinating fiscal and other economic policies, and through "concerted action" on the part of the government, the Federal Reserve Bank and the "social partners".

Monetary and fiscal policy

Monetary policy seeks to influence aggregate demand, and through it growth and price stability, by adjusting money stock and interest-rate structure. Fiscal policy seeks to do the same by varying the level and structure of government expenditure and income.

In practice, making these policies work proved difficult. While a description of their failings is beyond the scope of this paper, several important conclusions can be drawn. During, and shortly after recessions, monetary policy has regularly been excessively restrictive, reflecting fears over price stability and a rejection of responsibility for the business cycle. Fiscal policy was only occasionally procyclical, and more often moderately anticyclical. Although there was a slight fiscal surplus in 1979, the first since 1973, public deficits have risen dramatically since. If debts run up by the federal railway and the *Treuhandanstalt* are taken into account, the German government will spend around 15 per cent of its annual revenue on debt servicing. In the medium term, consolidation will require more than a reduction in that part of the deficit induced by the recession.

Wage policy

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Wage policy aims to set nominal wages, which avoid inflationary pressure by equating income rises with productivity increases, while at the same time maintaining the profitability of sales and investment. Moderate wage increases and a controlled monetary policy have led to comparatively stable prices in west Germany. Given that wage policy is a central issue in most OECD countries, it is interesting to note that unit labour costs, as measured in national currency, expanded more slowly in west Germany than in any other Member country of the OECD with the exception of Japan' (see Table 1). But because of high price competitiveness, external surpluses and the resulting revaluation of its currency, Japan's unit labour costs rose fastest during this period when measured in special' drawing rights. The German currency also appreciated, although to a lesser extent, while other members saw their currencies devalued. Except for brief periods at the beginning of the 1970s, Germany has suffered comparatively little upward pressure on wages.

Nevertheless, controversy over the wage levels always intensifies during recession. After unification, it was argued that (nominal) wages should increase at a rate 1 per cent slower than productivity. The justification of such a policy was that increasing profits in west Germany would help finance economic transformation in east Germany. However, it is generally accepted that investment is mainly a function of profits obtained through "normal" sales. It seems unlikely that wage agreements resulting in cuts in real wages can prevent a cyclical rise in unemployment. Equally doubtful is belief of the Commission of Economic Experts (SVR, 1993, p. 238) that cuts can contribute to more employment in the medium term by getting the economy back on its "old" growth path.

Besides addressing the wage level directly, many argue in favour of an indirect reduction in wage costs through, for example, cuts in **non-wage labour costs**. In Germany, these include three main elements: social security contributions; wage costs incurred by statutory regulations; and premiums agreed through collective bargaining at the industry or firm level. The last, while accounting for the largest part of non-wage costs, are the least controversial since the agreements are voluntary. An employer's legal obligation to pay sickness benefit is a particularly controversial example of the second category, representing a considerable burden for small businesses. New solutions in this area are urgently required.

However, current debate focuses on social-security contributions. The social-security system in Germany provides pensions, and health and unemployment insurance. Cover and contributions in each area are decided by a self-governing "corporation of public law", with unions, employers' federations and public corporations equally represented. The cost of these insurance schemes is financed by mandatory, wage-based insurance contributions borne equally by employers and employees. German employers argue that their share should be reduced in line with the norm in competitor countries. However, an international comparison cannot ignore comparative differences in tax burdens. The financing of social security in some countries, such as Denmark, is almost exclusively tax-based. But scope does exist for decreasing employers' and employees' contributions, and substituting them with increases in value added tax (VAT) or, preferably, with the introduction of an ecological tax. Of course, this would have implications for the tax burden, which would need to be carefully analysed. Although it is not the case that countries with the smallest tax share (as a percentage of GDP) have the lowest unemployment ratios, reducing contributions and making compensatory increases in indirect taxes might help increase employment.

While not ignoring the problems faced by low paid workers, there are strong economic arguments for having a labour-intensive low-wage sector. The idea behind this is to increase employment intensity in the non-trading sectors (construction, health, retailing, private services etc.), without affecting productivity and wages in the tradeable goods industries. While lower wages and reduced real-labour costs could increase labour demand, experiences with wage subsidies in Germany have not been very encouraging. In the public and the publicly dominated sectors, most of the (relative) wage cut was used to consolidate public budgets. In fact, the impact of minimum-wage-changes appears to be relatively small unless the downward correction is very high, which would in turn exacerbate the problem of low-income employees.

Structural policy

In Germany, structural policy consists of infrastructure, regional and sectoral policies. The rules concerning regional policy are well established. In 1965 a law was passed establishing a framework for political and financial co-ordination between the federal government and the *Länder* (States) in order to promote development in structurally disadvantaged or peripheral regions. Instruments include public expenditure on infrastructure such as roads, sewers and water supplies, as well as incentives for private investment. The sector-oriented policy rules were formulated in 1969.

When, in late 1982, federal political power passed from a socialist-liberal to a conservative-liberal coalition, there was a shift in economic policy towards deregulation, an increase in private initiative and competition, a reduction in fiscal deficits, and a cutting back of subsidies and welfare benefits. The government has stressed that state intervention in industry is only acceptable in the case of temporary subsidies to innovative and high-technology industries, in co-operation, for example, with European programmes to attain adequate production capacity in the aerospace and microchip sectors.

Since 1982, this structural policy switch has been only partially apparent at the operational level. The amount and make-up of subsidies, which are the single most important instrument in structural policy, changed little. A large proportion is still used to slow the decline of traditional industries such as coal mining and agriculture, although the latter is more a European than a specifically German policy. Besides agriculture and coal mining, housing and railroads get the largest share of subsidies. The small share allotted to firms for research and development purposes increased only slightly.

This lack of change can be attributed to the traditional discrepancy between programme objectives and political outcome. Conflicting interests expressed through strong lobby pressure have presented obstacles to a coherent structural policy and to its co-ordination with other policy areas. The current policy can perhaps best be described as "muddling through".

Unification brought sharp increases in subsidies to east Germany, which were only partly "financed" by cuts in west Germany. Besides establishing the *Treuhandanstalt*, there has been no explicit policy for economic restructuring in east Germany, and while subsidies will create a certain number of new jobs, expectations that employment can be kept at pre-unification levels are generally low.

In west Germany, subsidies have helped to reduce job losses in industries such as agriculture, coal mining and ship building, and have been instrumental in creating jobs in the aerospace industry. These achievements have been costly, especially in coal mining where money would have been better spent investing in new industries with brighter prospects. Indeed the overall effect of structural policies may have been negative.

Conclusion

Mistakes have been made in the conduct of macroeconomic policy in Germany, both in individual policy areas and in their co-ordination. Macroeconomic policy can significantly affect an economy's course: its importance was clearly shown by the effects of the various macroeconomic policy measures taken by countries after the oil price shock (Flassbeck, Horn, Zwiener 1992). There are striking differences in the timing and characteristics of their respective business cycles, as well as in their unemployment/growth configurations (Bruno, Sachs 1984, p. 273f).

However, macroeconomic policy was not able to prevent the increases in unemployment during the major recessions in west Germany. In the periods 1974-75, 1981-82 and 1992-93, unemployment was pushed up to 1 million, 2.2 million and 2.6 million respectively. The subsequent business upswings only partially restored employment levels. Figure 3 shows this phenomenon in terms of the rates of change of GDP and unemployment ratios. The unemployment ratio fell slightly from 5 per



cent in 1975 to 4 per cent in 1981; and then jumped to 9 per cent in 1983. It remained at that level until 1988, and then declined to about 6 per cent in 1992. The impact of recession on unemployment is even more pronounced, if the third of the work force on short time is included. Growth and well-managed stabilisation policies, while remaining necessary in periods of high unemployment, need to be backed up by other policies, which are outlined below.

Labour-market policy

The west German experience

The Work Promotion Act of 1969, which forms the legal basis of today's labour-market policy, marked a significant departure from the 1957 Act on Occupational Placement and Unemployment. There was a shift in favour of supporting occupational mobility and training and employment measures (work programmes, wage subsidies, etc.); and a corresponding move away from "passive" income support. This "active" labour-market policy is sustainable only at high employment levels. Labour-market policy, as conceived by the Work Promotion Act, is not, therefore, primarily directed at attaining full employment, but needs near full employment as a prerequisite.

Active labour-market policies aim to: attack frictional unemployment by reducing the turnover periods between jobs; cut structural unemployment by reducing the qualification-related mismatch of labour supply and demand; and, finally, deal with the problems of disadvantaged groups of unemployed. "Passive" labour-market policies provide income support to the unemployed and financial support in the case of short-time work or of a firm's bankruptcy. Short-time work payments can be applied for by firms that are in economic trouble due to temporary circumstances beyond their control. The employees affected receive short-time work payments according to the reduction in their working hours: the firm has only to pay the reduced number of hours. This instrument keeps idle labour at work with minimum income loss and reduces the firm's wage bill as well as the unemployment figures. The number of short-time workers is a good indicator of the business cycle. For example, in 1990 there were only 73 000; by 1993 this number had risen to 770 000. Because of its direct influence on employment, some classify short-time work as an "active" labour-market instrument.

The social unemployment insurance distributed by the Federal Employment Agency forms only part of the income support provided to the unemployed. Eligibility rules mean that only about half of the unemployed are entitled to these insurance receipts. Once these payments expire they receive unemployment benefits funded from the federal budget. This system of income support gives rise to the following problem. If the Federal Employment Agency pursues active labour-market policies, the Federal budget, while being relieved of (potential) unemployment-benefit payments, does not have to contribute an equivalent amount to the Federal Employment Agency's budget. Similarly, if the Federal government does not pursue a full employment strategy, local governments will eventually have to pay for rising social benefits. About one-third of these originate from unemployment. Discrepancies in the cost incidence of funding active labour-market policies and of paying for increased unemployment need to be addressed through a transparent and fair system of fiscal balances between the federal government, the States, local government and the social insurance system.

The budget of the Federal Employment Agency is based mainly on compulsory unemployment insurance contributions borne equally by employers and employees. In recessions its expenses, in terms of income-replacement payments and short-time work compensation, rise steeply. Since these outlays are statutory, the Federal Employment Agency has, quasi-automatically, to cut its expenditure on active labour-market policy. This problem is further aggravated by shrinking contributions during recessions. In principle, the Federal Employment Agency's deficit has to be balanced by transfers from the federal government's budget. However the federal government itself, experiencing a fiscal squeeze, is unwilling to approve the necessary increases in funding. This "automatism" is irrational: a rational employment policy would provide for a more active labour-market policy as unemployment rises.

Although there have been many amendments to the Work Promotion Act, there has not been a fundamental reform of the framework of labour-market policy to prevent these procyclical cuts in its active component. The financial share of programmes for occupational training, occupational rehabilitation, work procurement (ABM) and wage subsidies was cut from 38 per cent in 1989, to

26 per cent in 1993. Expenditure on income support rose from 46 to 60 per cent over the same period (Deutsche Bundesbank, 1994, p. 40).

Labour-market policy in east Germany

Against this background it might seem surprising that labour-market policy in east Germany has proved relatively successful in preventing unemployment from becoming an even greater obstacle to the viability of economic transformation. This was accomplished through large-scale financial backing from west Germany and the adoption of labour-market policy instruments specifically geared to east Germany's immediate needs.

Labour-market outlays in east Germany were DM 30 billion in 1991; by 1993 they had increased to DM 50 billion, more than 80 per cent of the total outlays in west Germany. Since contributions to the budget from east Germany are low — around 20 per cent — the rest had to be financed by transfers from west Germany. In 1991 most of it came from west German unemployment-insurance contributions which have risen nearly 50 per cent. This has been rightly criticised, since the unemployment caused by the transformation is not an "insurance risk" and should not therefore be covered by contributions. Accordingly, during 1992-93, transfers from the federal budget increasingly replaced these contributions funds, accounting for almost 50 per cent of the budget in 1993.

After unification the access of east German businesses to this form of funding was extended (Kuhl, 1994, p. 18f). At first, short-time payments could be applied for by virtually all east German industrial firms. They simply had to prove that there was a serious structural economic problem, or that dismissals were unavoidable because of the effects of currency union. By July 1990 there were already 700 000 short-time workers registered, many of them "zero short-time workers", who were not working at all. In 1991, short-time work reached its peak, with *Treuhand* businesses, in particular, making extensive use of this instrument. There were, on average, 1.6 million short-time workers in 1991; this number declined to 370 000 in 1992 and further still in 1993 (see Table 2). Some of this decline can be explained by changes in the regulations introduced on 31 December 1991. In 1991, the Federal Employment Agency's outlays for short-time work were higher than income-replacement payments; taken together, they accounted for 50 per cent of all outlays in 1991. This ratio was down to 28 per cent in 1993.

Correspondingly, expenditure on active labour-market policy in east Germany rose as a share of the budget from 23 per cent in 1991 to 42 per cent in 1993, a far higher share than in west Germany. Most spending was directed towards occupational training, further training and occupational rehabilitation. These programmes were also open to those in jobs, which was not the case in west Germany. Furthermore, it became possible to combine short-time work and work-creation programmes with further training. As a consequence, although the figures for participation in full time training are high (Table 2), they do not give a full overview of the extent of training in east Germany.

Work programmes in east Germany quickly expanded to a scale previously unknown in west Germany. Financial resources were provided by the Employment Agency and also the *Treuhandanstalt*, the federal government, the states and the EU. In the course of this expansion, a number of co-ordinating mechanisms had to be established, and consensus had to be reached on the sectors where work programmes were to be directed. Some progress was made in co-ordinating infrastructure and environmental policies with these programmes. Without doubt, in both east and west Germany, the co-ordination of an active labour-market policy with structural policy, including infrastructure and environment programmes, is vital. While this process might seem relatively simple given that most of these policies are executed at the same local level, the obstacles are, in practice, high.

Finally, the labour-market balance in east Germany has been improved by reforms in early retirement regulations, which had accounted for cuts of 851 000 in labour-market participation by

1993. This effect will fade out gradually as the affected persons grow older and move into regular retirement. When one considers that in 1993 about 10 per cent of the labour force (of 7.9 million) was working either short time or participating in work-creation programmes and full-time training, it becomes clear that without labour-market policy, registered unemployment might have been twice the actual rate of 16 per cent. Moreover, many people do not show up on the unemployment register due to migration or, because, discouraged, they have withdrawn from the labour-market.

Conclusion

Without doubt, labour-market policy has made a considerable contribution, particularly in east Germany, to increasing employment and reducing unemployment. It has also complemented structural and growth policies by allocating resources to training, infrastructure and environmental tasks. Nevertheless, numerous co-ordination problems remain. Its success has proved costly and financing levels will need to be maintained, especially in east Germany, where the unemployment situation remains critical.

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The labour-market faces a serious dilemma because it is not designed to handle rising levels of unemployment or the employment problems of transforming a socialist into a market economy. Its strategies and institutions become long-term oriented with the aim of modernising human capital, or at least preventing its deterioration in times of inactivity. A major problem is that acute unemployment makes it difficult for those on training and work programmes to find a permanent job in which to use their acquired skills and qualifications. The so called "second labour-market" tends to become a permanent institution as long as near-full employment, the prerequisite of labour-market policy, remains distant. Everything should be done to prevent the "second labour-market" from being isolated from the regular labour-market. The incentive structure for firms and employees has to be set so that transitional labour-markets can serve as "employment bridges" (Schmid, 1994, p. 9f).

Since full employment is a fundamental goal, an active labour-market policy should have access to funding in addition to contributions. A statutory, tax-financed transfer to the budget, which rises in tandem with the unemployment level, would release the federal government from its obligation to balance the budget deficit of the Federal Employment Agency. This would allow labour-market policy actively to fight (long-term) unemployment when the need to do so is at its greatest. Procyclical cuts in active labour-market policy would be a thing of the past. In relation to its European partners west Germany had, prior to unification, spent a more or less average 2.5 per cent of its GDP on labour-market policy. However, it concentrates an above average figure on active labour-market policy. This balance, which has been further improved since unification, should be sustained. Since long-term unemployment poses one of the foremost challenges to economic policy and to society, labour-market policy should concentrate its efforts on combatting its increase.

Increased flexibility and deregulation

As we have already observed, the conservative-liberal German government stands for less regulation and more private initiative. Proposals for deregulation, including some related to the labour-market, were put forward by a commission on deregulation in 1991 (Deregulierungskommission, 1991). The majority of economists take the view that the German labour-market is inflexible because of its institutional rigidities. The position of the Council of Economic Experts is comparatively moderate. It recently argued (Sachverständigenrat, 1993, p. 243f) for an improvement in institutional regulations, for a reduction in disincentives, and for an increase in the flexibility of working hours. The newly elected member of the Council, a renowned professor of labour economics, believes that the German labour-market is not as inflexible as is often argued. In his view there is enough flexibility with regard to wage settlements, an argument which he backs up

by pointing to region-, industry-, and qualification-related wage differentials, as well as to the difference between agreed and actual wages (wage drift).

More flexible working hours

Arguments for increasing the flexibility of working hours are usually based on the need to be competitive in the international market: Germany's position in world markets, and its very above-average export share in comparison to other countries, requires it to react quickly and flexibly to changes in technology and demand. Germany is introducing cuts in working-time more rapidly than its competitors and needs other measures to offset the effects of reducing individual working hours, as well as to cut unit capital costs. This is particularly true in the case of operating expensive machinery in industries where pay-off periods are short and where international competition is tough.

The most important regulation restricting operating hours in the industrial sector is the prevention of Sunday work. Until recently, Sunday work was permitted for social and technical reasons, but never for purely economic ones. The new law on working time rules (Arbeitszeitrechtsgesetz), which was passed in June 1994, now allows work on Sundays and holidays if a firm's international competitiveness depends on it; this possibility is open to firms which are already operating at full capacity, and whose competitors operate on Sundays. As before, plant operation is permitted on Sundays and holidays if the technology used requires a continuous production process. The law also cancels almost all the restrictions on employing women for night work. It extends regular working hours from 8 to 10 per day, and allows for overtime hours to be balanced out over 6-month periods, rather than the previous two-week limit.

These provisions follow lines already sketched out by collective agreements since 1984, the initiative for which came from the engineering industry. Time management potential has been increased through continuous upgrading of the following instruments:

- individual differentiation, where an individual's working hours can vary within certain limits as long as average weekly hours among the workforce are adhered to;
- balancing periods, where hours can be spread unevenly over days and weeks on condition that they do balance over a certain period to give the agreed weekly average;
- independence of individual firms in establishing the details of the collective agreements made at industry level (Bosch/Stille, 1991: 26f).

These agreements rarely restrict non-standard working hours directly, but rather via the "extra" wage costs that such arrangements involve. In the case of overtime, extra wage costs can frequently be avoided because of the extended balancing periods. This makes increased flexibility all the more desirable from an employer's point of view.

Overall, increased flexibility of, and reductions in, working time (see below) have positively influenced Germany's competitiveness during the 1980s. Collective agreements negotiated in the 1980s enabled companies to increase operating times in spite of decreasing individual working hours towards the end of the decade (Stille, 1991). This was also clearly shown during the unification boom. During recession, operating hours were easily reduced. The new flexible time schedules allow for procyclical variation, and daily and weekly fine tuning of operating hours.

Employment-promotion law

In 1994 the law on promoting employment (Beschäftigungsförderungsgesetz) was passed. It facilitates fixed-term contracts and permitted **job placement** by private agencies, thereby abolishing the Federal Employment Agency's monopoly of vocational counselling and job placement. It aims to

reduce frictional unemployment by matching labour demand and supply profiles more efficiently. Although the labour turnover rate (i.e. the sum of dismissals and hires in relation to total employment) has been comparatively high in west Germany, the efficiency of job placement can be improved in many respects. Whether the current changes will make a positive contribution remains to be seen. One possible outcome is that private employment agencies will reduce their exposure to risk by serving only the higher-skilled sector. Overall, the structure of unemployment, rather than its level, will be most affected: self-employment might rise while the number of employees might decline.

In 1985 companies with six or more employees were freed from the obligation of having to provide a reason for offering them **fixed-term contracts** (Beschäftigungsförderungsgesetz, 1985). Such contracts can now be offered with a duration of up to 18 months, a policy which has recently been extended to the year 2000. In addition, new firms are allowed to conclude fixed-term contracts of up to 24 months. These modifications have softened the impact of rules applying to the termination of permanent contracts. The Dismissal Protection Act (Kündigungsschutzgesetz) covers all workers who have been in their jobs for a minimum of six months in firms with at least six employees. In order to protect the worker against arbitrary or unfair dismissal, the firm has to argue its case for dismissal. Subsequently, certain social criteria such as age, health, marital status, and whether or not the employee is responsible for children, are taken into account in deciding which workers should be dismissed. Similar restrictions exist with regard to detrimental changes to individual contracts. In both cases a works council has to be convened before any final decision can be taken.

After ten years it is still hard to judge whether the easing of restrictions on fixed-term contracts has contributed to the creation of new jobs, particularly in the unskilled sector. It has been estimated that, from 1985 to 1987, the percentage of new hires linked to changes in the fixed contract laws ranged from 0.5 to 2 per cent. About 7 per cent of all hires on a fixed-term base were due to the law (Büchtemann, 1989, p. 187). Then one has to consider whether these hires are truly additional or just substitutes for otherwise permanent contracts. The fundamental question is whether this reform can serve as a bridge to permanent employment positions while not eroding protection rights. On balance, the law has probably led to marginally positive employment effects, and has not been used to circumvent dismissal protection (Büchtemann, 1989). This finding has been reaffirmed by a more recent study (Infratest, 1993). Finally there has not been any significant swing from permanent to fixed-term contracts. In 1991, 5.1 per cent of the west German wage and salary earners had a fixed term contract while in 1986 this ratio was 6 per cent — a comparable figure, having allowed for cyclical and seasonal differences. In east Germany the ratio was 10.3 per cent in 1993.

Collective agreements

The right of the social partners, unions and employers' federations independently to negotiate working conditions at the industry as well as at the firm level, is a cornerstone of industrial relations in Germany; its principles are laid down in the Collective Agreement Act (Tarifvertragsgesetz) of 1949. The collective agreements cover numerous topics such as wages, holidays and working time. The agreed standards are unconditional. Individual work contracts can only be more advantageous than the collective agreements, never less so (Günstigkeitsprinzip).

There is currently enormous pressure on this well-established system, particularly from politicians and the directors of small businesses. Their arguments are similar to those of the monopoly commission which, in a 1994 report, called for the abolition of collective agreements altogether. It considers them a bilateral monopoly protecting the employed against outsiders (the unemployed), and regards wage agreements as minimum-wage cartels. Pressure exists on the unemployed to accept jobs at lower than the going rate. These so-called "(re-)entry wages" are not only related to individual work contracts, but also to job-creation programmes in order that Federal Employment Agency expenditure might be cut. For their part, unions have stressed that a non-union member can work at any wage he chooses; equally, firms which are not members of an employers' federation are free to make their own wage arrangements. Should a firm be permitted to lower wages if it risks getting into serious economic difficulty by not doing so? While this can be allowed for in collective agreements, the Deregulation Commission (Deregulierungskommission, 1991, p. 253) called, in emergency cases, for the replacement of collective agreements by company-level agreements. The Council of Economic Experts (SVR, 1993, p. 238) is in favour of the rule that management and works councils can always agree on lower wage increases than those agreed at the industry level.

Arguments against these positions point to the voluntary nature of collective agreements. The displacement of these by firm-level agreements would probably lead to the fixing of less flexible rules. The carefully and gradually established balance of power could be disrupted as works councils lose their capacity to strike: they would have to co-operate with management. The continued flexibility of the established system of collective agreements in times of economic recession or transformation, is a good argument for its retention.

Furthermore the Volkswagen approach of cutting working hours instead of dismissing workers is also allowed for in other collective agreements. This policy involves cutting the total wage bill rather than the hourly wage rate. Lastly, by abandoning collective agreements altogether, the unions' commitment to refrain from strikes (Friedenspflicht) during arbitration would be lost. This feature has been one of the principle reasons for the comparatively low level of strike activity in Germany.

These discussions reveal a remarkable contradiction. While abroad the institutional background of the German economy is widely admired, at home there is a strong movement to deregulate the foundations of the "German model", taking little account of its positive contribution to economic and social stability.

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Working-time reduction

Since massive unemployment in Germany will be only partly reduced according to even the most optimistic of calculations (Görzig *et al.*, 1994), there is no question that, in addition to the macroeconomic policies mentioned above, a strategy of gradually reducing working hours should be pursued. Shorter daily working hours, longer holidays, sabbaticals, and part-time work can reconcile corporate and personal interests, and have positive effects on employment. Working time reduction will, of course, increase neither growth nor the total number of hours worked in an economy.

General reduction of working time

Empirical studies of working time reductions in the 1980s point to positive employment effects. It is estimated that between 1985 and 1992 around 1 million jobs were either created or preserved as a result of working-time reductions (Stille, Zwiener, 1993, p. 122). As Figure 4 shows, the decline in actual hours worked explains how development of employment is positively deviating from that of the total number of hours worked.

During this period of substantial reductions in regular individual working time, Germany managed to accumulate high current-account surpluses. Aggregate wage and productivity increases have resulted in a slower rise in unit labour costs than would have been possible without work-time reductions. Therefore, the international (price) competitiveness of the German economy has been positively influenced by the increased flexibility of, and reductions in, working time.

What is significant for the whole economy is not the length of individual working time, but rather the efficiency of the total volume of work invested. A gradual reduction in working hours with cost-neutral wage compensation does not lead to a rise in unit labour costs. If operating times can also be more easily optimised. working-time reduction will not have a negative effect on unit capital costs. Given this, arguments against working-time reductions would appear irrational.



Part-time employment

Part-time employment represents 15 per cent of total employment in Germany, a comparatively small figure by international standards. However, the figures become more significant when the share of part-time work in individual careers is examined. A panel study revealed that between January 1984 and December 1987 about one-third of working-age women had at least one part-time job, one-fifth had more than one (Quack, 1993, p. 171). This applied to married women and to young single women including single mothers. Nowadays, about 90 per cent of all part-time jobs are held by women.

The part-time work issue ranks high on the German political agenda. The 1994 Work Promotion Law (Arbeitsförderungsgesetz) contains a clause (§ 112 Abs. 4a) that guarantees the full amount of unemployment payments and unemployment benefits if a worker loses his/her job within two years of switching to part time. While this incentive is relatively weak, it is an indication of the political will to encourage part-time work.

One problem is that there are too few part-time jobs for the higher qualified. Moreover, a move towards part-time work requires changes in a social security system whose benefits are closely tied to full-time earnings over a lifetime. Part-time workers are completely excluded from health insurance and old-age pensions if they work less than 15 hours per week, and if their income is below a certain threshold (1994, DM 560 in west, and DM 440 in east Germany). They are excluded from unemployment insurance if they work less than half of the regular weekly hours. These regulations originally targeted women working part-time, and supported by husbands in full-time jobs. Even if part-timers contribute to social security, the benefits to which they are subsequently entitled are frequently not much above the social-benefit levels.

Optimism that more part-time jobs may contribute to closing the unemployment gap seems unfounded. Income from part-time work of less than 10 hours per week usually has to be supplemented by a second or even a third part-time job. Furthermore the increasing labour-force participation of women will absorb a considerable number of new part-time jobs.

The Volkswagen solution

Due to recession and management errors Volkswagen, one of Germany's largest industrial companies, introduced huge cuts in working time in order to avoid mass layoffs. The most important step was a 20 per cent reduction in the working hours of each employee from 36 hours to 28.8 hours, with a corresponding fall in income, i.e. there is no hourly wage compensation. The yearly premium and some of the holiday bonus are now paid on a monthly basis in order to minimise monthly income losses. The 28.8 hours per week are distributed over 5 working days.

Dismissals would have been socially unacceptable and would have led to major conflict; moreover, the company would have had to bear high social-plan costs. A further advantage of the Volkswagen approach is that human capital is retained, thereby avoiding future recruitment and training costs. Since the agreement is valid for two years, the process can, in principle, be reversed.

The If the company had applied for short-time work in accordance with the Labour Promotion Act, it would have been obliged to supplement short-time payments to bring them up to over 90 per cent of the wage level, under the terms of the company wage agreement. Moreover, from 1994 onwards, Volkswagen — and not the Federal Employment Agency, as was previously the case — would have been partially liable for the short-time workers' pension-insurance contributions.

The transferability of the Volkswagen approach depends crucially on the employee income level; probably the only sector where the circumstances are as "favourable" as those at Volkswagen is in the coal-mining industry. Another exceptional feature of the company is its internal wage agreement. Companies with no such agreement would, at present, have to follow the much more complicated route of "partial dismissal for economic reasons" (betriebsbedingte Änderungskündigungen), in accordance with the Dismissal Protection Act.

Meanwhile, the Volkswagen approach has been adopted in other industries. In coal mining, additional "work-free" shifts have been agreed for which wages and salaries are reduced by 6 per cent. Once again, some of the yearly premiums are paid on a monthly basis. The most recent agreement in the 3.6 million-worker west German engineering industry, allows for reducing the regular 36 hour working week to 30 hours, where firm-specific agreements can be reached. Two cases are distinguished: either income is cut and compensated by dismissal protection during the period under consideration; or, if there is (partial) wage compensation, the dismissal protection is forgone. In both cases one twelfth of yearly premiums is paid each month.

These examples show once again the inherent flexibility in German industrial relations. Under the present rules innovation for preventing an additional rise in unemployment has been possible. Workers have shown that they prefer working at a reduced income to being unemployed and receiving unemployment insurance and social plan payments.

Problems ahead

In an international comparison of 17 industrialised countries over the period 1980-93, Germany fared better than average in terms of employment, price stability and productivity growth. In a recent German study the country's comparatively high ranking with respect to tackling employment problems was reaffirmed (Huckemann, Suntum, 1994, p. 7). Together with Switzerland, Japan, Austria and, to a lesser extent, the United States, Germany can be characterised as a stability-orientated market economy. This strategy is optimal in pursuing the goal of high employment. The elements of this approach are: a high degree of price stability; social stability based on a well-developed social security system which does not overly hinder private initiative; co-operation between social partners; and a low level of distributional conflict. With the exception of Japan, these economies do not attain high growth rates, but all enjoy high and gradually increasing levels of income. Unemployment is below average, and there are fewer labour-market problem groups.

However all this should not detract from the unacceptably high level of unemployment in Germany. The true level is much greater than the number of registered unemployed: 1.7 million people already participate in labour-market policy programmes. Like many other countries, Germany has to find ways and means of substantially reducing unemployment. To date it has failed even to restrain further increases. Moreover a recent forecast from the Federal Ministry of Labour's Social Council warned that it was unemployment, rather than an "ageing" of the German population, which poses the principle obstacle to financing pensions at levels comparable to previous working incomes.

While the need for growth-stimulating policies in the fight against unemployment is becoming increasingly apparent, they are not sufficient in themselves. Discussions are now concentrating on how to finance employment policies and how to create employment opportunities, in particular for the lower-skilled segment of the labour force. Any strategy aimed at decreasing wages in the lower-skilled sector needs to be complemented by changes in the fiscal and social security system to prevent an increase in the numbers of "working poor". This could be achieved by decreasing taxes and contributions for lower wage groups, or by introducing a negative income tax (Scharpf, 1993, p. 15f). These solutions would all require closer co-ordination between wage, fiscal and social policies.

While some institutions need to be modernised, others are making useful contributions. A good example is the dual educational and vocational training system, where on-the-job training is alternated with part-time attendance at public vocational schools. This system has contributed significantly to comparatively low youth unemployment in Germany. Besides keeping the apprentice training system efficient and improving the sometimes dreadful situation in universities, continuous training to adapt worker skills to changing circumstances will contribute to re-employment opportunities and to reducing the risk of unemployment. This strategy of upgrading labour is superior to that of seeking competitiveness through reduced wages. It ties in neatly with the reduction and interval-flexibility of working time (short-work, part-time work, sabbaticals).

A successful path for the economy is one that pursues growth without compromising the social fabric. Cuts in social protection and increases in income inequality will only serve to undermine sustainable development.

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Note

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For the purposes of this article, west Germany refers to the boundaries of the Federal Republic of Germany before unification and east Germany to the territory of the former German Democratic Republic.

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Table 1. Unit labour costs1: compound annual average growth (per cent)

	National Currencies	Special Drawing Rights	
	1980-1993	1980-1992	
west Germany	2.2	3.8	
France	4.2	3.0	
ltaly	8.2	6.0	
UK	5.6	2.9	
EU	4.3	3.8	
USA	. 3.8	1.9	
lapan	1.6	6.2	
OECD'	3.9	4.0	

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2/ Weighting according to export shares (exc. USA). 3/

Without Australia, New Zealand, Turkey, Iceland,

Sources: Eurostat: National Accounts: Calculations of DIW (cf. Wochenbericht)

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Table 2. Labour-market balance: east Germany

(in thousand persons)

<u> </u>	1990	19 91	1992	1993	1994°
Pre-retirement regulations		543	812	851	638
Employment	8 820	7 219	6 344	6 128	6 145
Short-time work		1 616	370	181	117
Work-creation programmes	3	183	388	260	272
Full-time tráining		173	425	354	238
Unemployed (domestic)		913	1 170	1 149	1 212
Commuting (balance)	•	290	365	355	346

Note: p: preliminary.

National Accounts data provided by DIW. Source:

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INTER-AMERICAN DEVELOPMENT BANK OECD DEVELOPMENT CENTRE



International Forum on Latin American Perspectives Paris, 2, 3, & 4 November 1994 Social Tensions, Employment Generation and Economic Policy in Latin America





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The very title of this communication is directly related to the origin of the Development Centre's project on micro-enterprises and the institutional framework, begun in 1990¹.

Moreover, it was natural for the Development Centre to participate in this form of study of employment in Latin America for two reasons: on the one hand, under that project surveys had been carried out on micro-enterprises in two countries, Ecuador and Jamaica, which produced some original findings; and on the other, we all should recognise our debt to the Peruvian Hernando de Soto, whose stimulating, even provocative, study revived debate on this subject.

The idea behind the research undertaken by the Development Centre in 1990 was related to the employment problem in developing countries. It was actually believed in the 1960s and 1970s that this problem would be solved by the development of a modern sector dominated by large enterprises, whose growth would be favoured by protectionism and public intervention. In the wake of the financial and political crises marking the 1980s, which dispelled these hopes of rapid employment growth in the modern sector, however, the authorities reversed their views on the socalled informal sector. Instead of considering these occupations as marginal and gradually destined to disappear, they were suddenly considered a sort of *deus ex machina*, a miraculous solution, in the hope that the informal sector would create many jobs in place of the modern sector.

As these financial crises coincided with the triumph of neoliberal views in the United States and Britain at the beginning of the 1980s, the state was considered as primarily responsible for the relative stagnation of these traditional activities. It was alleged that administrative regulations and practices blocked the development of micro-enterprises and thereby prevented job creation. This is the argument that de Soto so brilliantly defended, even though the empirical basis of his study was rather limited.

In fact, the purpose of the Development Centre's project was to determine whether the institutional framework actually was the main obstacle to the development of micro-enterprises. For this purpose, seven surveys were carried out in two countries of Central and South America, two in North Africa, two in sub-Saharan Africa, and one in Thailand, each involving a representative sample of 300 independent workers and micro-enterprises. While giving greater place to the studies of Ecuador and Jamaica, we will refer to the results of the five other studies to support our remarks.

In order to prevent any misunderstanding, it should be understood that our study's subject was not the informal sector, defined as micro-enterprises and independent workers functioning outside any legal framework, but micro-enterprises or independent workers characterised by a small capital/labour ratio. This choice is justified by the fact that reality does not correspond with the legal definition of the informal sector. The seven surveys carried out under the project showed that everywhere the majority of enterprises known as informal comply with some, or even all, regulations. In Ecuador, for example, 58 per cent respect some regulations, and 14 per cent all of them, so that only 28 per cent operate informally in a legal sense. Moreover, a survey of the same sort of enterprises in Mexico produced almost the same percentages. Thus it can be concluded that a majority of these microenterprises operate in a "twilight zone" between legality and illegality.

Thus we used two criteria for compiling our samples: size (one to 20 workers) and the capital/labour ratio. As this ratio is difficult to calculate in many micro-enterprises, approximations were made by choosing sectors in which labour-intensive, traditional techniques predominated. In Ecuador, this involved garment making, preparing plates of food, bakeries and mechanical repairs. Besides these occupations, furniture making was also included in Jamaica. In these two countries, as

in the other five, half of the sample was from the capital and half from smaller towns or villages. Each sample was selected randomly from lists drawn up for the occasion or from census lists, so that the results are significant for large populations of micro-enterprises and independent workers in the sectors chosen. It should be added that these occupations had to have premises so that none of the samples included any peddlers. This point is important because the proportion of peddlers who work completely outside of the legal framework is much greater.

In order to determine the contribution of micro-enterprises to employment in traditional, that is, labour-intensive occupations (obviously sectors which are as capital-intensive as in industrialised countries have to be excluded), we will examine how micro-enterprises can grow and thus create jobs, after which the nature of the jobs offered by these micro-enterprises will be analysed.

The development of micro-enterprises

It is very important to know what the obstacles to the development of micro-enterprises are, in order to be able to reduce or eliminate them so that these enterprises can grow and create jobs.

The results of the surveys of entrepreneurs in Jamaica and Ecuador agree with those from the five other countries: contrary to what might be expected, regulations, including those involving taxes, are considered only a secondary, even negligible, obstacle to the development of micro-enterprises. In all the countries the persons questioned considered that two or three other obstacles were much more important.

In Jamaica, the primary obstacle to starting up is a lack of capital, and the next two others are insufficient demand and problems of location or premises. In contrast, few persons complained about regulations. The number of complaints, however, were greater in one occupation, preparation of dishes of food, for which regulations (in particular concerning health and hygiene) are more important than in other occupations. On the other hand, this is an obstacle for the smallest micro-enterprises only (two to five workers).

There were similar answers to the questions dealing with the real obstacles to the enterprise's growth and, in turn, to an increase in workers. In Jamaica, for example, insufficient demand, lack of capital, and the high cost of inputs and public services were cited. It is not surprising that the regulations do not bother micro-enterprises much in Jamaica and Ecuador.

Actually the survey showed that in Jamaica a majority of the micro-enterprises, in particular the smallest (two to five workers), do not comply with the regulations, and a majority also do not pay any taxes, the most costly legal obligation.

In Ecuador, much higher percentages, often exceeding 70 per cent, of micro-enterprises comply with regulations. However, this country's craft industries are granted a special status which provides many benefits to micro-enterprises. For example, the percentages of registered enterprises having access to credit or receiving technical assistance is double that for unregistered enterprises. Still some regulations in Ecuador are really bothersome. Registration requires about 180 days, as compared with 30 to 45 days in Bolivia and Brazil, and it requires 39 applications. It was calculated that the cost of registering an industrial enterprise was the equivalent of about 25 per cent of its annual profit. Despite these high costs, 69 per cent of the units in the sample were registered and, in general, the regulations were not criticised as an obstacle to the enterprise's functioning. This is explained by the fact that an

entrepreneur does not react to a single regulation's costs but to the balance of costs and benefits of complying with all regulations (a registered enterprise must comply with the other legal obligations). The entrepreneur is willing to register and work within the legal framework because the benefits exceed the costs. Among these benefits are reserved credits on very favourable terms, tax exemptions, special provisions for wage-earning workers, and an access to markets in priority over the largest enterprises.

Do these results, which are contrary to de Soto's views, mean that the state can do nothing to encourage the creation and then the growth of micro-enterprises? This is not the case for several reasons. First, it is evident that the number of micro-enterprises in Ecuador would increase if the time and cost of registration were greatly reduced, which would be quite feasible, while maintaining the benefits reserved to registered enterprises. Moreover, an overly narrow view of the institutional framework should be avoided: it is not limited to regulations and there are other areas in which the state can adopt measures favouring micro-enterprises. In Jamaica, for example, the prices of public services, which are considered excessive, depend on the state. Likewise, it could encourage creation of micro-enterprises and self-employment by establishing industrial zones with buildings and all the necessary infrastructure, putting this at the disposition of persons who create enterprises, since the survey indicated that a lack of premises was a serious obstacle to these persons. Above all, the State can contribute to resolving the problem of financing, which was cited as an obstacle in the seven countries studied. This problem is less acute in Ecuador because many craftsmen belong to cooperative savings banks, which provide facilities for borrowing. However, this was not true for Jamaica, and the problem is certainly a real obstacle in other Latin American countries. Its importance is not surprising since a lack of capital, as indicated by a low capital/labour ratio, characterises what is known as the informal sector. To be sure, micro-enterprises use much less capital per worker than other enterprises, but the capital available to them is still less than their needs. The primary reason why a craftsman does not hire a worker and create a job is because he lacks even the small amount of capital for buying this worker's tools and advancing his wages. Thus it is indispensable for the state to establish specialised banking institutions which would make loans only to micro-enterprises on very favourable terms. The state could create a new legal framework so that craftsmen's associations could borrow — the association would then divide the loan among its members — or by further simplifying bank procedures and reducing the security they demand by serving as guarantor in return. These examples show that an effective means of encouraging micro-enterprises to create jobs would be to "capitalise" them via well-targeted public policies.

Employment provided by micro-enterprises

First, the specificity of micro-enterprises with respect to labour should be recalled: in the seven countries studied an average of half of the workers were waged, while in the larger enterprises this category represented nearly all the labour force. In Ecuador, the percentage of wage earners was precisely 50 per cent, while 20 per cent were apprentices and family helpers, and 30 per cent were independent workers and heads of enterprises. On the other hand, the percentage of wage earners was higher than average (65 per cent) in Jamaica because of the small number of family helpers. If the enterprises are compared by size, it is found that workers who did not receive wages predominated in the smallest micro-enterprises (two to five workers), while wage earners represented two-thirds of the labour force of those with six to ten workers. This shows the pivotal role of micro-enterprises with two to five workers between self-employment and small enterprises (20 to 50 persons), in which more than 90 per cent of the labour force are wage earners.

The predominance of unsalaried workers in micro-enterprises with two to five workers reflects to some extent this inability to comply completely with labour regulations. In particular, minimum legal wages and contributions for social benefits are most constraining for this category of microenterprises, which have the least resources. They often use apprentices, family helpers, and sometimes pieceworkers for two reasons:

- they lack capital,
- their income is limited and variable.

To the extent possible, these two reasons lead them to avoid the fixed costs of a wage earner paid the minimum legal wage (if there is one as in Ecuador and Jamaica) and for whom they would have to remit contributions for social benefits. On the one hand, the least salaried labour possible is employed; on the other, if it is used, the minimum wage and contributions for social benefits often are not paid, and sometimes there is no pay for days when there is no work because of insufficient demand.

Proportionately to the increase in size of micro-enterprises, more wage earners are employed and there is greater compliance with labour laws. This shows that micro-enterprises with two to five workers do not deliberately violate labour laws, but do so out of necessity, for they cannot bear such medium-term fixed costs. Thus they create jobs which correspond to variable costs and income.

Second, the labour force of micro-enterprises has specific characteristics. In Ecuador, half of the workers in micro-enterprises are less than 25 years old, an age group which represents only one-fourth of the country's working-age population. Moreover, one-third of them have family ties with the owner. The smaller the enterprise, the greater the likelihood of family ties: when there is a single worker, in 50 per cent of the cases this worker is a relative of the owner. These figures show that employment in a micro-enterprise enables a young person to enter the labour market before finding employment with a larger enterprise. Such a transition is possible because he acquires on-the-job training in the micro-enterprise. Thus micro-enterprises make a strategic contribution to employment because they often employ young school drop-outs who could not find a job with a medium-sized or large enterprise, or with the public services. The contribution of micro-enterprises should not only be estimated quantitatively (in the number of jobs created), but also qualitatively: they create jobs for young persons who, without this opportunity, would be condemned to a lifetime of unemployment.

The authorities do not make a serious effort to make micro-enterprises comply with labour laws precisely because of their contribution to employment. The seven surveys all revealed that the public authorities everywhere tolerated many infractions. On average, only half of the micro-enterprises comply with the minimum legal wage and with laws on working hours or payment of overtime. The enterprise's size plays a determining role in the payment of contributions for social benefits: these are remitted by about one-third of the enterprises with two to five workers, by two-thirds of those with six to ten workers, and by a greater percentage of the larger enterprises, those with 11 to 20 workers. The employers who do not comply said that these payments are a fixed cost that is too high and that they themselves reimburse their workers' medical fees in case of an accident or illness. These figures clearly show that, because of the authorities' laxity, the obligation to pay for social benefits, like other obligations, does not greatly hamper micro-enterprises.

Ecuador and Jamaica represented two opposing cases in our sample. In Ecuador, the percentage of enterprises that complied with the various labour regulations was much higher than the average for the seven countries, while the percentage was less than the average in Jamaica. The

difference in Ecuador was the special status for craftsmen mentioned above. To qualify for it, craftsmen have to comply with labour laws. Moreover, it is very easy to pay the minimum legal wage as it is much less than the wages observed.

We will use two sorts of information from our surveys to estimate the contribution to employment by micro-enterprises: first, employment trends in these enterprises and second, profiles of the owners of the enterprises.

While Ecuador and Jamaica experienced a moderate GDP growth from 1988 to 1992 of 3.2 per cent, the micro-enterprises of these two countries were distinguished by more favourable employment trends than in the five other countries. In Ecuador, 44 per cent of the enterprises surveyed increased their number of workers between 1989 and 1991, while only 7 per cent reduced their number. Jamaica's record was even more positive between 1989 and 1992, with 61 per cent and 11 per cent respectively. Jamaica's figures are consistent with the answers to the question, "Do micro-enterprises have a future in Jamaica?" Three-fourths answered, "yes". The highest percentage of such responses was 87 per cent in the garment sector. Only 9 per cent of the answers were negative. Furthermore, two-thirds of the respondents said that they were satisfied or very satisfied with their level of business. In light of those responses, it is not surprising that many enterprises had recently increased their number of workers. In Ecuador, the number of positive responses to that question was significantly related to the enterprise's size: it was nearly double for those with a larger number of workers (11 to 20) than for those with two to five. Moreover, employment had increased most rapidly in garment making and food preparation. In the qualitative survey, the 30 owners of enterprises interviewed were in general optimistic about the future: a majority of them thought they should have more workers. However, some of them felt they could not hire because they lacked equipment. That proves that lack of capital slows the growth in the number of workers.

We should be cautious with figures. As already noted, the figures used here come from two samples of 300 representative micro-enterprises of the sectors concerned in the zones selected. They are not derived from national surveys of micro-enterprises. However, they do indicate that the employment trend in these sectors has probably been favourable since 1989. Perhaps this dynamism was helped by the fact that the authorities were very lax with respect to labour laws in Jamaica, and by the special advantageous status available in Ecuador. While not having a national scope, these results nonetheless show that micro-enterprises can create jobs.

The information on owners of enterprises suggests the same thing. For Ecuador, we know the first occupations of independent workers and entrepreneurs, and their occupation before the survey was made. Initially, 44 per cent were unskilled workers more or less regularly employed, 13 per cent were apprentices, 2 per cent were unremunerated family helpers, 3 per cent were civil servants, 10 per cent were independent workers, and 24 per cent had the same occupation as during the survey. If the first three occupations are added, it appears that 60 per cent had no stable employment before becoming an independent worker or owner of a micro-enterprise. As the percentage of apprentices was much greater in the occupation preceding the one when the survey was made than in the first job, we deduced that this profile depicted a process of upward mobility: several persons began as piece- workers, and then were hired as apprentices before setting up in business for themselves. Thus the micro-enterprise leads to occupational social advancement by providing more stable employment. This pattern of mobility applies more to micro-enterprises of two to five workers than to the others: in the former the percentage of persons having the same occupation initially and during the survey was only 19 per cent but it was 45 per cent in the others. This shows that heading a larger micro-enterprise often requires having a minimum amount of capital and qualifications from the start. Persons having

some capital and skill began as owners of small enterprises with more than five workers. In contrast, the poorest persons began as piece-workers or apprentices, and were only able to establish a microenterprise with two to five workers much later. Thus one can distinguish between two profiles, of which only the second corresponds to social advancement and the creation of relatively stable employment for the enterprise's owner.

On the other hand, the first profile concerns persons who often have a relatively high level of human capital from the start: 40 per cent of them have attended secondary school as compared with 12 per cent for owners of enterprises with two to five workers.

This pattern of upward mobility with respect to income and stability was found in the other countries surveyed. In Thailand, for example, 45 per cent of the persons questioned came from peasant families.

Whether it is a question of persons who were originally from peasant families, piece-workers, or apprentices, they were all initially very poor and for whom a micro-enterprise represented attainment of permanent employment and a previously inaccessible level of income. In this sense, micro-enterprises often lead from under-employment or pseudo-employment to real employment as small entrepreneurs. Furthermore, it is evident that micro-enterprises play a key role in employment of the poorest persons in a society, since they give jobs to young school drop-outs who were rejected by other enterprises.

Preliminary conclusions

First, an optimistic observation. Among the seven countries studied, Ecuador and Jamaica were distinguished by significant recent job creation, and this dynamism had not been hindered by labour regulations. In Jamaica, these regulations appeared to be quite constraining on paper but they were enforced so laxly that they are not *in fine* an obstacle to hiring by micro-enterprises. In Ecuador, the status of craftsman constrains the employer but has compensating advantages so that he does not hesitate to develop his enterprise and hire workers.

These two examples show that it would be an error to compel micro-enterprises to comply with the same obligations with respect to labour laws as other enterprises. In Ecuador, these obligations have been limited to a large extent for micro-enterprises, making them bearable, and in Jamaica these obligations fortunately have been neglected. This is an important point, for one can easily defend the protection of wage earners for social reasons, but by discouraging hiring by microenterprises these policies have perverse effects, contrary to the interests of wage earners.

Secondly, although the obstacles raised by regulations are not as great as might be thought, nonetheless there are certainly some Latin American countries, for example, Ecuador and Peru, in which there is room for making these regulations more flexible to stimulate the creation and development of micro-enterprises.

Finally, it is indispensable for states to encourage the accumulation of capital equipment and human capital (working skills), for our seven surveys showed that everywhere the main obstacle was this lack of capital, especially of capital equipment. If micro-enterprises are helped in this way, they will certainly be able to create jobs in middle-income countries, which is the case for most Latin American countries (but insufficient for the least advanced sub-Saharan African countries). This aid raises many technical problems and would require highly skilled personnel but not much capital. Actually the capital per worker in micro-enterprises is quite small compared to that required by other enterprises.

It will be objected that in this way jobs are created which are sometimes precarious and often poorly remunerated. However, it is necessary to take a qualitative and dynamic view of the subject. It makes no sense to compare the average wages in these micro-enterprises with other enterprises of the same sector, for it is not a question of the same labour. Despite appearances, the employment of wage earners in micro-enterprises, like that of small entrepreneurs, often represents social advancement. One should not make a comparison with larger enterprises but recall that without these micro-enterprises, the lot of these wage earners and small entrepreneurs would be much less favourable. Furthermore, these jobs should be seen in the perspective of a person's working-life cycle. When the wage earners and apprentices of micro-enterprises are older they often obtain jobs in other enterprises, jobs that are more stable, better remunerated, and which they could obtain because of the time spent in micro-enterprises. As long as there are many young persons who lack any qualifications, micro-enterprises play an irreplaceable role in the transition from unemployment to a job in the modern sector.

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- 1. Thus far, the project has produced the following Technical Papers:
 - . Informal Sector and Regulations in Ecuador and Jamaica, by Emilio Klein and Victor E. Tokman (No. 86).
 - . Micro-entreprises et cadre institutionnel en Algérie, by Hocine Benissad (No. 85).
 - . Small-Scale Industries and Institutional Framework in Thailand, by Naruemol Bunjongjit and Xavier Oudin (No. 81a/b).
 - . Le Secteur informel en Tunisie : cadre réglementaire et pratique courante, by Abderrahman Ben Zakour et Farouk Kria (No. 80).
 - . The Impact of Laws and Regulations on Micro and Small Enterprises in Niger and Swaziland, by Isabelle Journard, Carl Liedholm and Donald Mead (No. 77).

A synthesis volume, *Micro-Enterprises and the Institutional Framework in Developing Countries*, by Christian Morrisson, Henri-Bernard Solignac Lecomte and Xavier Oudin, was published in August 1994.

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The wheel has once again turned from an almost exclusive emphasis on economic growth to a more comprehensive set of economic and social objectives, including poverty reduction. It remains a source of amazement to observe this continuous swinging of the pendulum with so little's being learned from experience. Indeed, experience should have taught us long ago that high rates of economic growth are a necessary but insufficient condition for achieving social objectives such as the creation of higher rates of productive employment, poverty reduction, the provision of high-quality education and health services, the maintenance of the quality of life in urban centres, and so on.

Careful observation of the world economy should also have taught us that the sustained high rates of growth in East Asia did not bring about the full employment reached in the early 1970s, for example in South Korea. On the contrary, focus on the full utilisation of the factors of production — and in the first place of labour — was the key to the high rates of growth observed in the East Asian development model. Without the employment orientation of development policies, sustained rates of economic growth of 8 to 10 per cent would not have been possible. The same phenomenon can now be observed in China. In short, the lesson to be drawn from experience is that the pattern of growth matters at least as much as the rate of growth.

The pattern of growth is determined by emphasising certain economic sectors, certain population groups, certain income groups, over others; it is furthermore affected by the role assigned to the quality of the human resources of the country, by assuring a regional balance leading to regional equity, and by giving the people a say in their economic destiny.

All this has already been learned once since the end of the Second World War, as reflected, for example, in the ILO World Employment Programme of the 1970s, in the World Bank's endeavours under McNamara and Hollis Chenery, as summed up in the World Development Report of 1980. This lesson can be stated in a very concise manner. If faster economic growth is indeed essential to reduce absolute poverty and to achieve social progress, it is insufficient on its own if the length of the transition period matters. No one would deny that economic growth in the long run is effective in achieving social objectives and in tackling poverty, but it might take three to five generations. In other words the transition period would be humanly unacceptable and politically irresponsible.

During the 1980s this lesson was all but forgotten. The world economic depression of the early 1980s and the international debt crisis that began in 1982 resulted in the return to an economic paradigm of another age: "First Obtain Economic Growth and Everything Else will Follow". Gone was the lesson that a **balanced and integrated** set of economic, financial and social policies is essential for obtaining not only growth, but also employment, a decent income, access to education, health, and clean drinking water for all — in short that essential needs are satisfied for everyone. Gone was also the conviction that an "economic growth first" policy would, as a matter of course result in the first instance in a more uneven income distribution and hence unavoidably in social unrest that could endanger the sustainability of economic growth.

In a sense it is understandable that each generation, when confronted with an economic crisis, resorts to the old reflex of getting back to growth at "any price". "Any price", now as in earlier times, means growing income disparities, fewer income-earning opportunities, and less emphasis on the "soft" social sectors such as education and health.

What is less understandable is that during the 1980s the basic lesson of the previous two decades was forgotten, namely that the economic and the social were one, that they were complementary and mutually supporting, and that one without the other leads to disaster. Too much

"social" without sufficient "economic" leads to bankruptcy and an end to growth; too much "economic" without sufficient "social" leads to social unrest and also to an end to growth. How could informed decision makers still talk about "soft sectors" more than 20 years after the renaissance of the economics of education and health which showed convincingly that education and health are **investments** in human capital and hence a prerequisite for economic growth rather than a consumption good to be afforded only after a given level of economic achievement has been reached.

True, these lessons from experience were put forward, but their influence was not far reaching¹. Basically, the 1980s brought the return of the old sequence that had proven wrong again and again: growth first, distribution later; stop inflation first, create employment later; free trade now, industrialise later.

The results of this decade are now everywhere to be seen; the employment problem has become **universal** (more than 11 per cent open unemployment in the EEC); the "maldevelopment" of the city has led to unacceptably low levels of quality of life practically everywhere; educational quality is endangered and health services everywhere direly need restructuring; social security and pension funds, where they exist, have become endangered species; political and economic refugees are coming in increasing numbers to a Europe which is still seen by people from the East and South as a haven of luxury despite economic stagnation and rising unemployment. In short, never has it been more true to say that "poverty anywhere is a threat to prosperity everywhere".

This is the general picture. Turning now to Latin America, there, as well as elsewhere, the economic and financial reforms of the 1980s were not accompanied by analogous social reform. On the contrary, in a way the social sectors paid the bill in order for the economic reforms to be implemented. Ever since, there has been a lot of discussion about the "social cost" of reform and the resulting "social debt", and this in spite of the fact that many social indicators (life expectancy, enrolment rates) continued to increase in most of Latin America and the Caribbean.

The perception of social cost was corroborated by the increased poverty and by the appearance of the "new poor", i.e. people who were not poor before, but whose income deteriorated to poverty levels. In a sense, being traditionally poor is bad even if you are used to it, but falling into poverty for the first time is worse. There are also signs that the employment situation has deteriorated, the quality of education has declined, and the quality of life in the urban centres is menaced in a region that is now 75 per cent urbanised.

The result has been a rise in open social unrest and a reappearance of the social question on the agenda of Latin American countries.

Of course, Latin America is not a novice when it comes to social policies, as witnessed by its past achievements and by its social indicators. In order to face up to the social question, it is social **reform** that is required rather than more-of-the-same. The region is therefore faced with something new: also because economic recovery is under way, all the regional decision makers feel that something must be done in the social sphere, but cannot put their finger on exactly what.

In view of these facts, the IDB started a new programme in early 1993, called the Social Agenda Policy Group. Its objectives are twofold: first, to define at the level of the borrowing countries what constitutes social reform beyond simply expanding existing policies and programmes or doing more of the same; second, to give guidelines as to how the Bank can introduce more social content into the \$7 billion it plans to lend annually in the region.

Social reform — What is it²?

First of all, social reform must be seen as complementary to the economic and financial reforms of the 1980s. An **integrated** economic, financial and social strategy is required. It is no longer acceptable that the main thrust of development strategies be defined by economic considerations alone and that only as an after-thought are a certain number of social policies erected. The trend must be towards an integrated set of economic and social policies.

Second, social reform should be seen as a **productive** investment. Improving the quality of urban life, creating productive employment opportunities, spending money on high-quality education and health are not only consumption goods to be afforded once a certain level of income has been achieved. Rather, they are productive investments that are prerequisites for attaining a certain level of income.

Third, as we have already noted, social reform does not necessarily amount to doing more of the same in such fields as education and health.

The renewed interest in the social question and in poverty is largely the result of the growing recognition that there is a "social time bomb" ticking under the financial and economic policies of the 1980s, which in quite a few cases have led to economic recovery. The social price being paid for these policies and recovery is leading to social unrest, which can only be dealt with through social reform. Such unrest is caused by lack of remunerative employment opportunities, bad living conditions in the cities and the rural areas, and lack of perspective and hope.

Social reform means in the first instance defining the four or five top priorities where qualitatively different policy action is required.

In the case of Latin America the top priorities that any social reform must contain appear to be the following:

Urban policy

Few countries have an urban policy on any comprehensive scale. Social unrest is in no small measure due to the very poor living conditions in the cities. The city is often the more extreme illustration of the "maldevelopment" of countries and regions. Such "urban bias", however, should not lead to an unbalanced rural-urban situation. Hence, an urban decentralisation policy into the rural areas is essential and a new look at rural development via this "urban bias" will be required. Through this urban component, the social reform becomes related to the environmental question and the issue of sustainable development in the environmental sense.

Employment policies

These must be economy-wide in scope. The full and productive utilisation of the entire labour force is a precondition for achieving high and sustained rates of economic growth. Economy-wide employment maximising efforts are not, and should not, be quick-fix solutions to poverty and social problems, but rather should be analysed so that they provide the underlying economic basis for productivity improvement, income growth and asset accumulation. Land reform must be put on the agenda again because it will enhance the income of small farmers; productivity within the rural traditional and urban informal sectors must be increased in order to avoid the generalisation of low-
productivity and low-wage employment. This will require an emphasis on appropriate technology within the sectors, and on linkages between these sectors and the modern sector through such devices as sub-contracting. The functioning of labour markets must be improved and youth employment in the transitional adolescent years should be given special attention.

Particular attention must also be given to the fact that we are concerned with productive employment creation. Employment-oriented policies cannot be instigated at the cost of economic efficiency, nor at the expense of tomorrow's income.

Investment in human resources

Special attention must be given to the quality of education. This means, among other things, that the quality and motivation of teaching staff must be improved. This in turn implies looking at monetary and non-monetary incentives and disincentives. Vocational, technical and science education at all levels, as well as training and retraining — particularly whenever people are between school and work or between jobs — must also be given pride of place. In the health sector a good balance must be maintained between hospitals and preventive health care and the allocation of resources must switch to the latter.

Changing the implementation structure

A social reform policy along the above lines would remain an empty gesture as long as the implementation structures — administrative, budgetary and institutional — remain in place. How to introduce policy changes to achieve top priorities is at least as important as the question of what these policy objectives and top priorities must be. Careful attention must therefore be given to the question of centralisation versus decentralisation; to questions such as the responsibilities of the state versus the private sector and individual responsibilities; and to the role of actors such as non-governmental organisations and the church.

Social security

A modern society needs to have mechanisms and safety nets in place to deal with the old, the sick, the disabled, the unemployed and the victims of natural disasters. Latin America has social security systems that often look good on paper, but closer inspection shows serious inequities due to changing levels of inflation, severe financial problems, and benefits that are not always enforced. Another objective of social-policy reform must, therefore, be to reform social security systems in order to increase their coverage and make them more equitable and efficient, both in terms of their administration and enforcement.

The complementarities between economic and social reforms will now be clear and in fact the distinction between the economic and social policies practically disappears given the intimate relationship between the two. Productive-employment creation is both an economic and a social objective. In any social reform, employment creation must be high on the list of priorities. At the same time, it is a top economic priority because the full utilisation of the country's labour force will boost economic growth and development.

The same is true for policy action to increase output and productivity in the urban informal and rural traditional sectors. The complementarity between the social objective of creating more and better income opportunities, and the economic objective of achieving more balanced and widespread economic growth is obvious.

Moreover, in the global markets that dominate the world economy of the 1990s, all countries must put more emphasis on innovation, science and technology. This implies by definition more emphasis on human capital, i.e. on education and on the quality of the human factor in general, but it also implies that priority must not only go to basic education. Indeed, if innovation, science and technology are to be put at the heart of economic growth ("the goose that lays the golden egg"), then the creation of centres of excellence in education and research becomes equally important.

Finally, the way people live in the urban and rural centres — i.e. the quality of life — has very important implications for the productivity of the labour force. Here again, the relationship between quantity and quality, between economic and social reforms stands out.

An integrated set of economic and social policies, as illustrated by the above examples, will produce both more equity and efficiency, will improve the competitive edge of countries, and will therefore provide the necessary balance to the financial and economic reforms of the 1980s.

The Pilot Missions on Socio-Economic Reform: first results

A certain number of countries of the region have asked the Bank to assist them in defining what social reform means and to construct policy programmes to achieve these desired reforms. The main instrument the Bank has conceived for this is the Pilot Mission on Socio-Economic Reform. These missions are composed of an independent group of experts headed by an independent Chief of Mission. This Chief of Mission must obviously be a highly respected person in the country that receives the mission and must be agreed upon both by the government and by the Bank. However, once the Chief of Mission is agreed upon that person will select his or her team. The report is the report of the Chief of Mission and not of the Bank. The pilot missions, therefore, can call a spade a spade. The President of the Bank will submit the final report on behalf of the Chief of Mission to the government authorities of the country under consideration.

In 1993, we have undertaken three pilot missions, one each to Trinidad and Tobago, Venezuela and Chile. In 1994 missions have gone to Costa Rica, the Co-operative Republic of Guyana, Peru and Bolivia. A few words on the first four.

Trinidad and Tobago³

In this country, the overriding priority is employment creation. Indeed, the country has an open unemployment rate of almost 20 per cent and a 40 per cent youth unemployment rate. The report has as its centrepiece an immediate-action programme that indicates in some detail the sectors in which productive employment can be created. It also spells out the institutional changes that must be achieved to implement the immediate-action programme and the subsequent medium-term policy programmes.

The Report makes it clear that the aims of the Action Plan are not merely to increase economic growth, but also to change the pattern of growth towards one that will mean greater employment, putting people at the centre of the process, consistent with the macroeconomic constraints. It also aims to open up the system of government to wider participation by diverse groups and interests in the

country.

The Action Plan is based on the perception that the attainment of sustained development depends upon the outcome of a multiplicity of initiatives taking place at the different levels and sectors of the society. There are no grand projects that can solve the development problems of Trinidad and Tobago. Thus, a principal task of development policy is to increase awareness among the population of the wide range of opportunities for economic and social advancement that are open to them, and to enable and facilitate their taking the fullest possible advantage of these opportunities.

Changes in governance lie at the heart of the Action Plan. Rightly or wrongly the image of heavy bureaucracy, which continues to cloud the investment climate, must give way to a new environment characterised by speed in decision making and predictability, as well as confidence and consensus building. The mission felt that a responsive mood prevails now within the government and within the country as a whole, foreseeing a sharp break with the past and setting the economy and society on a new course.

On the demand side, i.e. creating employment opportunities, the Action Plan proposes in the first place the creation of a Community Development and Enterprise Fund (CDEF). This Fund will be a major integrating instrument for the employment-stimulus package. The purpose of the Fund will be to provide concessional funding and technical support to assist with the development of projects in order to upgrade social conditions in communities and neighbourhoods that can be directly connected to the income-earning capabilities of its participants, for example, water, drainage, house improvement, small access roads, land development.

The success of the Fund will be critically dependent on the organisational image that it presents to the public. It should be explicitly non-partian in character, with a calibre of management that would readily attract public confidence.

Secondly, the Action Plan looks into the sectoral possibilities for employment creation. It comes up with imaginative and feasible proposals in the fields of tourism, exports of services other than tourism, export manufacturing, agriculture, and physical infrastructure.

On the supply side, the Action Plan looks at the possibilities for improving the employability of the population. It makes proposals to upgrade basic science and foreign-language training starting at the primary level; to link skilled-training schemes to business apprenticeships, establish a reemployment-insurance scheme as a variance of unemployment insurance, etc.

On the subject of institutional strengthening, the Report's principal recommendation is to place the implementation of the immediate Action Plan under the direct responsibility of the Prime Minister, who should be assisted in this task by a high-level co-ordinator, supported by a small but very highquality team of professionals with a mix of private, public-sector and NGO experience. The coordinator would function very much in the manner of a Chief of Staff in the United States presidential system. He or she will have privileged access to the Prime Minister and to all relevant Cabinet Ministers.

The Report also contains a compilation of the financial requirements of the immediate Action Plan.

Venezuela^₄

Venezuela is an extreme case to illustrate that money alone does not solve problems. On the contrary, generous resources unaccompanied by adequate fiscal control and distorted by partisan concerns can create distortions or "time-bombs", which become evident when those resources diminish. Expenditure on the traditional social areas has been relatively high in regional, indeed international perspective, but the results have been poor and are rapidly becoming worse. The problem, as is increasingly evident in the current adverse fiscal situation, lies principally in the inappropriate and highly inefficient institutions that historically have channelled that money. Much of that problem, in turn, lies in the vested interests that lie behind those structures. Challenging such vested interests can at first seem difficult, if not well nigh impossible.

That is why the Venezuelan Report concentrates on how reform might happen. On the question of what needs to be done, there is an important degree of consensus in the country as to goals: a new dynamic growth path needs to be found, one which uses oil as a motor for generating resources, but uses these more comprehensively than in the past to build non-oil activities that generate employment and new export possibilities. Secondly, the role and structure of institutions of the state, the pattern of state-society relations, and institutions in the wider society have to be radically reformulated to enable renewed growth and the delivery of the benefits of that growth.

However, those elements of consensus stop short when one enters into means rather than goals. There is no agreement on, for example, the nature and degree of state support required to build up a non-oil tradable-goods sector. There is not even adequate information to evaluate how far different strategies for growth will generate employment.

State institutions appear frequently so inefficient and distorted that they cannot be trusted to execute policy decisions. That is why an important contribution of the Report is in reflecting on the instances of positive change, of which there are many, not least of all at the local level away from the heavy hand of the central state ministries. The Report suggests that their analysis and successful communication can provide a basis for a strategy for change with careful learning from the mistakes that of course occur. Social policy, however, is also about administrative efficiency. Unless institutions can translate preferences into effective delivery of social services — and this is really not the case at present in Venezuela — then aspirations will remain unfilled, even distorted.

Social policy as traditionally conceived in Venezuela, as elsewhere in Latin America, has had a rather specific focus. It has comprised the following four elements; first, the centralised public provision of health and education and to some extent also the public provision of low-income housing; second, the use of labour legislation to achieve social goals; third, the use of prices to redistribute income; and fourth, social-security systems usually dating from the 1930s. In the case of Venezuela, the state has failed to provide adequate access to health and education, let alone provide reasonable access to housing; labour legislation has been undermined by partisan political practices, and by a huge growth in the work force not covered by any labour code; the price mechanism has proved inadequate to redistribute income; and the social-security system is not only totally inadequate in its coverage but almost bankrupt in practice.

The Report argues, therefore, that social policy not only needs to be reformed, but reformulated. That is, as an integral part of that reform, concepts of its meaning and role need to be broadened. In synthesis, the whole institutional structure designed to redistribute oil wealth needs to be changed, both because it is failing in its original redistributive goal and because it needs to reflect

the harsh reality of the need for economic austerity.

The main conclusion from the Report is that it does not consider the responsibility for social reform to lie exclusively with any single group or agent. The responsibility for a new and more productive relation between state and civil society lies in good part with employer's associations, NGOs, neighbourhood groups, and many more, as well as with the state. This emphasis is important in order to give counter-weight to the power of particular vested interests in the implementation or the blocking of institutional reform.

While the re-thinking of models can be precipitated from below, as indeed had been the case in some notable examples in Venezuela, ultimately the whole process of reform has to involve relaying and relating of these instances to the core, and the willingness of the centre to respond to these reforms at the micro level. Within each sector — be it education, health or housing — the strong definition of norms from the centre is the first priority. However, it is the main contention of the Report that an incrementalist approach of building on small examples of success is a way, and possibly the only way, to make the large themes manageable. Small examples can animate other local initiatives, which can learn from experience, both good and bad. The point is that such strategies need to be rooted in systematic investment in "institutional learning". This requires investments in resources to do the learning, record the case histories, evaluate and then diffuse them.

Solid progress along these lines is central to the process of social reform. The position of the trade unions has been weakened to some extent by the relative decline of the traditional parties. Examples are given in the Report of instances of local communities challenging and overcoming the power of unions in the provision of basic services. There is reason to believe that there will be public support for determined government action which, with the correct inducements, could reform the way that the public sector unions operate.

It is vital for the success of the decentralisation process — an absolute requirement — that labour relations at the state and municipal level should not be accompanied by the same pattern of central government-labour relations that exist at present. Indeed, now with few exceptions, union reactions are purely negative and defensive with no positive strategy for reform. A democratic and involved union movement participating in the reform process would strengthen the whole reform process.

Chile⁵

Chile has travelled a long road during the past 20 years. In both the economic and social domains it has taken early positions in favour of liberalisation, privatisation and deregulation. In terms of decision-making structures the trend has been towards deconcentration, regionalisation and municipalisation. While other Latin American countries have followed the model in the economic and financial domain, this has been much less the case in the social sector where there is still heavy state domination. Chile has, for instance, revolutionised its higher-educational policy by throwing the door wide open for private universities, by imposing tuition fees everywhere, and reducing drastically the involvement, including financial, of the state.

Obviously, big problems remain in the economic and social fields. Chile has a productivity problem; it has important pockets of poverty, including extreme poverty; educational quality and the relation with the labour market are areas of preoccupation; urban deconcentration and regional planning in general are yet to start, etc. If Chile can maintain its economic dynamism, which is not

unrelated to further progress in the social domain, then many of the problems that Chile still faces in the socio-economic realm can be settled in the foreseeable future.

What does social reform in these circumstances mean and what would the major priorities be. Social reform means introducing qualitative change moving away from the obsession of numbers and rates; it means looking afresh at the implementation structure both vertically (decentralising the decision-making structure to the communities) and horizontally (role of state, of private sector, of NGOs, etc.). It therefore does not mean more-of-the-same. Chile, once again, has already travelled part of this road and the challenge here is to determine what must be continued, what must be changed and adapted and what must be accelerated.

In these circumstances the Report believes that the Social Reform that Chile needs today can be defined according to five overriding priorities:

- It is time to move away from the concentration on enrolment rates in order to focus on the **quality of education**. Any money spent on this priority is money well invested that will yield a high rate of return. Furthermore, the relation between the world of the school and the world of work must be improved by giving higher priority to vocational and technical education, to training and the content of education. Finally, in order for Chile to maintain and improve further its place in the global economy and to improve its competitive position, the country must give more attention to graduate studies, to the creation of R&D centres together with the private sector, in short to the setting up of centres of excellence.
- There is a consensus in Chile today that extreme poverty must be eradicated as soon as possible and that poverty in general must be tackled forcefully. The most effective and productive way of achieving these objectives is through the creation of productive employment, particularly in the low-productivity sectors of the economy. This means pursuing a high economic growth strategy, but also paying explicit attention to the pattern of development. This in turn means stimulating small-scale, including micro, enterprises, looking at appropriate technologies in order to increase productivity and enhance incomes across the board.
- The quality and management structure of the health services is the third overriding priority of social reform in Chile over the next government period. Here we are faced both with a quantitative and qualitative problem. There must be more health care, particularly of the cost-effective primary health care type. The quality of health services must be increased and generalised and this is mainly a question of salary levels. Quality does not come on the cheap. Although the relationship between the public and private contributions must be reviewed, the solution cannot be expected to come from miracle remedies such as privatisation. The way forward, rather, lies in a combination of better management, decentralisation, different balance between public and private, and between preventive and curative care, and a remuneration structure that attracts and keeps quality personnel.
 - The fourth priority is to achieve a more harmonious distribution of the people throughout the country. This amounts to the **deconcentration of the Santiago area** and to a **policy of regional planning**. Again, there is widespread agreement that there is too much of a concentration of people in Santiago, that this is not conducive to

achieving a high quality of life in this urban concentration, and that, on the contrary, it enhances the probability of social unrest. This is a typical example of agreement on what to do, but disagreement and complications around how to do it. This is so because practically the entire political decision- making structure and the whole surface of economic and social issues are involved. The central government must introduce economic and financial incentives and disincentives; schooling and training facilities must be differently distributed across the country; local authorities must obtain more power to implement policies initiated at the centre and to initiate others that affect their communities directly. All this requires a redistribution of competencies such that only a **Presidential Task Force** will be able to come up with recommendations that stand a chance to be implemented.

The question of how to do it and of competencies lead naturally to the last but not least priority, namely the necessity to **improve further the implementation structure** of the country in the face of the complex issues in the socio-economic field that must now be tackled. Chile comes from a strong central-government tradition and culture and, viewed in this light, it has taken courageous steps during the past period in the direction of decentralising the political decision-making structure with encouraging results. This trend must be continued, strengthened, and made more effective. So often, problems that look terribly complex and complicated when viewed from the centre become manageable when seen from the community level.

These five priorities combining what to do and how to do it provide the Chilean authorities with a social reform proposal that is realistic, doable, timely and stands on the shoulders of what has been going on hitherto. The proposal is an integral part of Chilean development policy and will thus lead to a more balanced economic and social development approach.

The social reform proposed here is basically of an investment nature and must, therefore, be seen as a prerequisite for high and sustained economic growth and development in the future. This will be quickly illustrated below.

The poverty reduction targets and policies have been set squarely within an economic framework such as not to endanger the essential macroeconomic balances within which Chile must live. At the same time, poverty reduction through employment creation will increase economic growth, lead to a better spread of development and, thus, make the margins of manoeuvre of the macro balances wider.

In this sense poverty reduction is an investment as well as being a desirable social policy.

Economic growth in Chile has been extensive rather than intensive. In other words, most of the economic growth recorded has come through the incorporation of more labour rather than through increases in productivity. This is not necessarily a bad thing, because employment creation is important both as an economic and social target, but obviously this is a finite policy, if it is a deliberate policy indeed. Sooner or later productivity must become the engine of growth. This is particularly important in the case of a small, open economy like that of Chile which must compete on the global market to a larger extent than countries that have a bigger internal market. Innovation, technology, productivity become of the essence. This in turn means giving even higher priority to investment in human resources in general and to research and development (R&D) in particular.

Creating an innovative, high-productivity economy and society implies more than a quantitative approach to investment in people. The quality of education must be improved across the board, from primary school straight to graduate work with a high research content. Hence the emphasis on improving the education and health services in Chile and securing a better distribution of these services across the country. These are not only desirable objectives *per se*, but are indispensable investments if Chile wants to continue to hold its own in the competitive global economy of the 21st Century.

 Even if the quantity, quality and spatial distribution of education were to be perfect, there is still the link to the labour market and employment to be taken care of, which is another key aspect of the Report.

The above are illustrations — and more could be given — of how the social reform proposed here is deeply embedded and integrated in the economic and financial policies of the country, and *vice versa*.

The social reform proposed here will lead to a more balanced strategy, and hence to a more sustainable trajectory, for a variety of reasons. In the first place because it gives more emphasis to productivity increases and hence to income-enhancing employment opportunities. Second, because it deals explicitly with the quality of life, particularly in urban areas. Third, because of the priority given to effective participation and to "empowerment" of the people in decisions that affect their lives and livelihood directly. Fourth, because of the wider access to quality education and health services.

People will gradually get the impression that development is also for them, that they really participate in it, and benefit from it. This is the best definition of a balanced set of economic, financial and social policies.

Costa Rica⁶

Costa Rica is situated in the midst of a highly unstable and volatile region. In spite of this it has known an average annual rate of economic growth of 5 per cent — 2.5 per cent on a per capita basis — during the last half century. There can be little doubt that this exceptional performance is due to a very large extent to the foresight of the political and entrepreneurial class of the first part of this century.

This class introduced a first social reform that had the following characteristics:

- -- wide access to land, which made for "initial conditions" that assured a fairly equitable income distribution before and during the economic growth process; Costa Rica, therefore, is an illustration of the "redistribution before growth" thesis;
- universal and free access to primary education leading to a sound human-resources base early on;

— wide access to high quality health services, which multiplied the quality of the human resources base of the country.

These three factors combined made up the first social reform which was unique in its comprehensiveness and its early timing. These social investments made for political and social stability in a highly unstable region; for a healthy and productive labour force; in short, for an excellent and long-term basis for a period of sustained economic growth, first based on coffee and bananas, later on a more diversified production and export pattern.

Just as the production and export pattern must be further diversified, so the social basis, must be updated. The first social reform has served the country well, but has now run its course. It must be followed, now, by a second social reform.

This second reform must be conceived in such a manner as to be able to be the basis for the next stage of economic growth. That next stage will be orientated toward regional (NAFTA) and global markets of increasing sophistication. The weight of the traditional engine of growth (coffee and bananas) will diminish quickly. The new engine of growth will be based on the export of services (tourism, writing of computer programs, medical services, etc.) in the first place, and only secondarily on new agro-industrial products like concentrated orange juice, flowers and plants. This will not be possible without sustained interest of foreign investors. They are interested first because of the political and social stability of the country; second, because of the equitable nature of the society; and third, because of the sound human resources base.

The challenge Costa Rica is facing, therefore, is how these basic characteristics of the country can be maintained, deepened and updated. The second social reform must have, as a minimum, the following components:

- San José and its surroundings risk becoming a huge, unplanned, traffic, crime and drug-ridden urban centre of more than 3 million people over the next 25 years.
 Already the quality of life is diminishing. Urban planning and a deconcentration policy is urgently needed if social peace is to be maintained.
 - Educational, training and retraining policies must be reformulated. The quality of primary education must be improved; the coverage of secondary education extended; training and retraining programmes for the new production base sharpened; and centres of excellence at the higher educational level introduced. Financing of higher education must be reviewed.
 - The emphasis of health services must shift more to preventive care in line with a general trend to be observed elsewhere.
- Just as economic and geographic deconcentration is needed, so is the desirability of decentralisation of the decision-making and implementation structures.

This second social reform will enable the country to maintain social and political peace and maintain and improve the quality of its human resources base.

Implications for joint country-IDB actions

The Bank is in a position to take intellectual leadership in the definition of social reform and in the elaboration of a "Hemispheric Consensus" with regard to a balanced set of economic and social policies that will take the region into sustained economic growth. The Bank must steer this evolving "Hemispheric Consensus" by appropriate lending mechanisms and by putting a considerable proportion of its lending capacity into loans that stimulate governments and other actors to move in this direction.

One possibility might be for the IDB to open a new lending window, the Socio-Economic Development Fund, to those countries actively interested in a major systemic approach to carrying out socio-economic reforms over a period of three to five years.

Initially, at least 10 per cent of the IDB's resources should be set aside for this purpose. As the new modality proves itself, that proportion could rapidly reach 25 per cent. The initiative would reside largely with the countries in the region, with the IDB declaring itself ready to respond. Meanwhile, and realistically, "business as usual", on a country-by-country basis, would continue, thus minimising disruption from too sharp a departure from past practice.

Joint missions by the countries and the IDB will come up with country-specific assessments of where the key problems impeding socio-economic reform reside and what can be done about them. This is, of course, the main task of the Pilot Missions on Socio-Economic Reform, described above.

Socio-economic action programmes, based on this work, would subsequently be negotiated at the initiative of each country, and supported by IDB resources, as well as those of other donors. The socio-economic action programmes would include agreed policy packages, as well as resource flows, appropriately phased over time. The instruments available would include a mix of socio-economic programme loans, time-slice loans, project loans, and hybrids, as appropriate to the particular situation.

While there is no intention to be doctrinaire, given the importance of an integrated approach to growth and poverty reduction, each socio-economic action programme is likely to contain a socioeconomic programme loan at its core. The distinguishing characteristic of such loans, however, would not primarily be their fast disbursing nature or balance of payments impact but their focus on required policy changes affecting both disposable and social income flows and poverty levels. An important ingredient of the Action Program would be that the appraisal of what needs to be done is developed jointly with the government of the country and fully accepted by it, and that the agreement on actions and resource flows over time essentially constitute self-imposed conditionality.

Despite the reduced priority for fast-flowing balance-of-payments support to the region, the social-programme loans are likely to constitute an important ingredient for rendering the Action Programs effective. It can be expected that as the New Window proves successful, the extension of such lending beyond the existing 25 per cent limit will be justified. At the same time, it is necessary that the Bank be willing to refrain from lending as long as no real consensus has emerged within the recipient countries.

Programme loans, time-slice loans, project loans and hybrids all carrying elements of selfimposed conditionality would make up the total resource package of the Action Program. The exact country-by-country mix would of course vary according to the joint diagnosis of the country situation, its major problems and the time phasing of policies and resource requirements. It would also depend on the extent to which the IDB, as catalyst, can interest other donors to join in.

The advantages and disadvantages of the several loan instruments available are well understood. Where the macro and meso policy mix to ensure adequate growth with social reform and poverty reduction is already in place, the appropriate financing may contain a greater weight of investment and time-slice projects. When growth is too slow or insufficiently employment-intensive, government expenditure decisions are deficient and/or political or institutional resistance by some local constituencies or ministries needs to be overcome, programme lending is likely to have a greater weight than project lending. Beyond such general remarks it would be both foolhardy and pretentious to comment on the optimal mix of instruments in any particular country context.

It follows that the countries in the region should not only be encouraged to introduce additional changes in substantive policies, but that important organisational and institutional adaptations are a pre-requisite for success. This is the main rationale for the suggestion that the Bank open a New Window that would undertake lending specifically in support of a new breed of pointed socio-economic reform programmes.

Such an initiative would require taking a more passive stance in the sense that countries would, only when ready, apply for help with implementing a socio-economic reform package designed along the lines previously outlined. The Bank would then extend policy loans that would create the institutional and organisational setting for the socio-economic reform package to be implemented successfully. There would subsequently exist the likelihood for substantial loan "ballooning" over a given period of time, once a country is committed to approach the Bank with a socio-economic reform package.

The New Window would, in other words, have a policy-lending arm that would help countries prepare a socio-economic reform package on request. Once such a programme is successfully negotiated, the Bank and other donors would then be ready to play their parts in supporting the agreed programme. An illustration of the functioning of the policy-lending side can be given in promoting housing finance. At the start, policy lending resources can be used to continue restructuring domestic financial intermediaries and contractual savings institutions to develop a viable institutional setting for term lending and mortgage finance. Moderate- and low-income housing finance can be made available by helping governments structure transparent subsidy schemes that lower borrowing costs without compromising the financial soundness of participating intermediaries. Once the appropriate reforms are in place, the Bank can continue funding long-term credit demands via its traditional multi-sector credit programme.

The label "Hemispheric Consensus" implies that the economic and social reforms in South and North America — taking into account the different levels of development — show definite analogies. If this is accepted as such, a truly co-ordinated and hemispheric effort could be conceivable.

Notes

- 1. CORNIA, JOLLY and STEWART (1987), Adjustment with a Human Face, Two Volumes, Clarendon Press, Oxford.
- 2. For more details see:

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- 3. Social Agenda Policy Group (1993), Building National Consensus on Social Policy — Trinidad and Tobago, IDB, Washington, D.C.
- 4. Social Agenda Policy Group (1993), Towards Effective Social Policy in Venezuela: Communication, Consensus Building and Change, IDB, Washington, D.C.
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In March 1990, Patricio Aylwin initiated a four-year presidential term, the first democratic government after almost seventeen years of military rule.

Chile's rather flexible labour legislation at the time of transition lacked the social legitimacy that could make it a set of stable rules for the future. This potential instability would increase "country risk" and affect the investment process. Moreover, unfair rules would tend to damage social peace.

There were two crucial questions for the democratic government: was it possible to introduce reforms in the direction of "fairness" without increasing structural unemployment? and was it possible to induce more "fairness" without losing the necessary flexibility of the economy for growth¹?

The governing coalition had promised to pursue a development strategy of "growth with equity". The neoconservative policies of the dictatorship had only stressed growth and stability. The task for democracy was to pursue three types of objectives simultaneously: growth with stability; equity with social participation; and the consolidation of democracy.

When the issue of "fairness" is raised, the question of a possible trade-off between equity and growth is often mentioned to argue that no improvement can be obtained in this matter. An equitable approach to labour policy could be perceived as necessarily creating disequilibrium, a loss of flexibility and, hence, slower growth. This paper will use the Chilean experience to demonstrate that this is not necessarily so.

First, efficient functioning of the labour market requires at least minimum standards of fairness (though they may vary between countries and through time). Productivity growth needs creativity, the capacity to adapt to change, and co-operation within the firm, all of which depend on voluntary participation by workers. This participatory contribution will not take place if the rules of the game are considered unfair. Second, standards of fairness are also necessary, in an open polity, for reforms to labour market institutions to be politically feasible and durable. Recent experience in several Latin American and Eastern European countries highlight the fact that it is not only necessary to introduce deep economic reforms, but to provide those reforms with social and political legitimacy for them to be durable.

It is therefore clear that labour market institutions and policies that guarantee "fairness" (or "protection") in labour relations are needed; the question is to define "what" is to be protected and "how". This question is crucial for the potential trade-off between equity and growth. It is not "fairness" *per se* which reduces growth (there is relatively flat distribution of income in many rapidly growing countries), but protection of the wrong elements or the use of inadequate instruments. Both the "what" and the "how" need to be reassessed as a consequence of the new technological and economic scenario.

Main results of Chile's 1990-1993 Drive for Equity with Social Participation, growth with stability and the consolidation of democracy

Equity with social participation

This is a goal in itself which also contributes to the attainment of the other two.

Some pertinent results are listed in Table 1. Among them we can see that:

- employment grew at 3 per cent a year, and the rate of unemployment fell below 5 per cent;
- real wages grew by an average of 4 per cent, very close to the 3.7 per cent average labour productivity growth. Minimum wages grew at 5.6 per cent a year. Even though this was above labour productivity growth for the four-year period, one must consider that wages had lagged behind for most of the 1980s;

- government social expenditure grew more than 30 per cent;
- the number of families below the poverty line dropped by 25 per cent;
- the rate of unionisation increased by 40 per cent, to almost 25 per cent of salaried workers; and
- the number of workers under collective agreements grew by over 30 per cent. Tripartite agreements were signed all four years with the main National Confederations of workers and business. These agreements referred to the general orientations of labour policy, the adjustments of minimum wages, family allowances and pensions. Not until 1990 had the national representatives of business and labour negotiated and signed an agreement together.

Growth with stability

These advances in equity and social participation were compatible with the objective of growth and stability.

Table 2 reveals the following results:

- GDP grew at an average of 6.8 per cent. In 1993 investment reached over 26 per cent of output;
- inflation dropped from an annual rate of almost 30 per cent to about 12 per cent;
- there was a fiscal surplus throughout the period, averaging almost 2 per cent of GDP;
- the external account showed a strong growth in exports and a balance of payments surplus.
 To increase competition tariffs were reduced from 15 per cent to 11 per cent, and non tariff restrictions on imports (except for a few agriculture products) were lifted.

Consolidation of democracy

The third goal of these policies was to help reconstruct and consolidate democracy. In the context of labour policy, this meant favouring consensus building and co-operation between labour and business.

When labour policy permits more equity with social participation, or more growth with stability, it adds a necessary, although not alone sufficient, ingredient to the recipe for consensus building and co-operation. The tripartite social agreements signed all four years contributed specifically to the recipe. The first agreement had a section on a "shared view of the future". It had an impact on both the National Confederations that signed it and on the community as a whole.

The pursuit of consensus building and co-operation as an explicit objective of policy was also reflected by the fact that most labour reforms were approved in Congress by an almost unanimous vote, after a political consensus had been reached.

This approach contributed to the political success of the governing coalition. The second democratic government was elected by 58 per cent of the vote in December 1993². This is an unusual result for a coalition which has been responsible for overseeing the transition from authoritarianism to democracy.

The five tasks of labour policy

Labour policy was structured around five main tasks: the reform of labour legislation to open the way for a new Labour Code; improved enforcement of labour legislation; the development of a youth-training programme; an increase in pensions and improvements of the social security system; and the development of social concertation and tripartite agreements.

First task: the enactment of a new Labour Code

At the beginning of the Aylwin government, unions and most political parties agreed on the need for labour reform that would increase the fairness of the existing legislation without increasing structural unemployment or threatening flexibility.

Several aspects of what protection to seek were considered in the labour reform: the elimination of discrimination between different types of workers, and more protection for the right to unionise and the right to bargain.

Examples of the type of action taken are:

i) Elimination of discriminations. Several regulations that were discriminatory with respect to the maximum hours of work per day and the length of holidays of specific sectors of workers (i.e. commerce, fishery, construction) were eliminated. Regulations that contributed to a bias against hiring women were also suppressed³.

- *ii*) Enhancement of the right to unionise. The previous legislation prohibited the creation of unions of temporary workers in agriculture, of public sector workers, and the right to legal existence for national workers confederations. These rights were fully guaranteed under the new labour legislation.
- *iii)* Improvement of bargaining rights. The legal prohibitions for unions of temporary workers and for federations to bargain were suppressed.

To make new labour laws, favouring equity and social participation compatible with growth and stability, flexibility and the capacity of firms to adapt to change were guaranteed. The elimination of discrimination and the full respect of the rights of association and of collective bargaining need not interfere with growth and stability. It was recognised that in a country that was highly integrated into the world economy, wages could only increase if they were tightly linked to productivity⁴. This suggested, among other things, the need to maintain the very decentralised collective bargaining structure that was traditional in Chile. There would be freedom to bargain at any level, but the "duty to bargain" would only exist at the firm level. For wages to grow together with productivity it was better to avoid government intervention in collective bargaining⁵.

Flexible legislation which permits firms to adapt to change is not only a requirement from the point of view of employment and productivity growth, but is also necessary to avoid expansion of the informal sector. There is a widespread legalist tradition in most of Latin America which assumes that legal protection is always effective. This, however, will be contingent on "what" we protect and "how" we do it. Strong and inadequate legal protection in areas where control is difficult (i.e. agriculture, personal services at households) leads to the lowest degree of protection: informality.

These reforms gave rise to a new Labour Code.

Second task: improved enforcement of labour legislation

The need to improve the enforcement of labour legislation required an increase in government resources for this purpose. These resources grew during the four-year period by 50 per cent. This improved enforcement of labour rules was necessary for equity but also for an adequate level of formalisation of labour relations and for fair competition between firms. Tripartite efforts to increase compliance with labour legislation, through campaigns via the mass media, were implemented.

Third task: development of a training programme for young people

Youth unemployment was about three times average unemployment. Even during periods of economic expansion, youth from poor neighbourhoods had great difficulty in finding a job. The programme was to benefit unemployed and underemployed youth from low-income families. The goal was to benefit 100 000 people in four years. Training was to be funded by the government, and provided by private- or public-sector institutions. The programme combined instruction at training institutes with three months as trainees in firms (a "dual" system).

This training effort, which contributed to equity also favoured growth. It increased the productivity of workers and linked the qualifications of job-seekers more closely to the structure of demand.

The beneficiaries received a subsidy of about 50 per cent of the minimum wage, paid by the programme.

The results were very positive in terms of:

- focalisation 75 per cent of the beneficiaries come from the 40 per cent poorest families;
- access to a job the rate of occupation is more than 30 per cent higher among beneficiaries, when compared to a control group;
- quality of jobs young people who participated in the programme received higher increases in wages and had a higher degree of formalisation of their labour relations, than the control group.

The elements of the programme that contribute to this positive result are the following:

 decentralisation — training is offered by hundreds of private or public institutions which compete for government funds. Only at the local level is it possible to discover the type of training that firms require. This information can not be generated at a centralised level;

- strong participation of the private sector in the supply of training courses;

- close connection of the contents of training and the needs of firms — before resources were allocated to training institutions they had to prove that firms were willing to receive their students as trainees. The assumption is that firms, in general, do not accept trainees in areas in which they have no intention of hiring in the future. This is then a practical manner of linking the expected demand for labour with the content and design of courses⁶.

Fourth task: an increase in pensions and improvements to the social security system

Chile reformed its pension system in 1981 from a pay as you go to a capitalisation system. "What" to protect did not change that much, but "how" to do it varied dramatically. A reduction in the social security contribution for pensions amounted to 10 per cent of wages. These resources are deposited in accounts for each worker managed by private institutions in competition for their clients. Around 90 per cent of non-active workers are under the old social security system, and pensions were considered too low. During the four-year period, the government maintained the indexation clauses and introduced an increase of over 10 per cent in the real pensions of the old system. It also corrected some discriminations of the old system against workers in the public sector.

Better regulations for private pension funds, amounting to over 40 per cent of GDP, were imposed. New investment alternatives for the funds were incorporated, including the possibility to invest abroad. Inasmuch as these new investment alternatives contribute to an increase in the amount or quality of investment they increase the rate of return of the pension funds and, hence, generate higher pensions in the future. At the same time they induce more growth for the economy. This is another area were we observe a complementarity between equity and growth.

Fifth task: social concertation and tripartite agreements

Tripartite agreements with the main National Confederations of workers and employers were signed all four years. As a result of these agreements, minimum wages increased at 5.6 per cent per year and family allowances for low-income workers at twice that rate. To make minimum-wage growth compatible with lower inflation and unemployment, after a two-year (1990, 1991) recovery, minimum-wages⁷ were increased according to expected inflation plus the rate of labour productivity growth. Agreements were also reached all four years with the associations of public-sector workers, with respect to wage adjustments and other related issues.

Probably one of the most distinctive traits of Chile, a traditionally polarised society, has been the high degree of consensus attained in recent years. Social concertation was certainly a substantive contribution to this goal. As stated above, this strong consensus contributed both to social peace and to an adequate entrepreneurial climate.

Two transmission mechanisms: investment and social peace

We have argued that the advances in equity and social participation, far from being a drawback to growth and stability, actually contributed to these goals. Two of the transmission mechanisms that appear as most relevant in this respect are investment and social peace. Investment is highly responsive to "country risk" which increases with the expected variance of change in development and macroeconomic policy rules and institutions. This variance can only be reduced, in an open polity, by consensus building among political and social actors. Consensus building requires that the main actors both benefit from development (equity) and view themselves as part of the process (social participation).

The other transmission mechanism relates to social peace. This depends upon social equity and participation. According to the 1992 Annual Report of the International Labour Organization (ILO): "In Chile, to a great extent because of the agreements reached by the new government in April 1990, the restoration of democracy was not accompanied by social unrest, as was the case in other countries, such as Argentina, Brazil and Uruguay" (ILO, World Labour Report). During 1990-1993 less than one hour a year per worker was lost as a consequence of strikes or other social conflicts. That is fewer than in many developed nations.

After recent events, both in Latin America and Eastern Europe, it is evident that the task is not only to realise deep structural reforms but also to make them permanent. Equity and social participation are essential elements if this objective is to be met. New tasks

There are numerous areas which still require reforms of labour policy in Chile. The four major domains are:

 social agreements — the new steps undertaken in consensus building and co-operation are insufficient. The agenda for achieving social concertation may vary, but the need for this process persists;

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- active labour policies there is the need to develop effective placement services and training for the unemployed, especially when major restructuring of specific sectors takes place (i.e. coal mines);
- labour relations in the public sector labour legislation for workers in the public sector, especially in education and health, is still very rigid, and does not contribute to the necessary increase in productivity in those areas.
- protecting social mobility this is an area in which it is necessary to discuss not only "how" to protect but "what" is to be protected. Traditional answers in terms of severance payments and unemployment insurance seem to be, in the new economic scenario, creating more unemployment, inadequate levels of flexibility and of capacity to adapt to change, as well as an increase in informality.

Protecting labour mobility: reforming severance payments and unemployment insurance

Traditional unemployment insurance schemes and severance payments have been signalled as possible causes of the increase in structural unemployment of several OECD countries (OECD, 1994).

Unemployment insurance systems that guarantee a significant proportion of wages make it more likely that workers will become unemployed, remain so for a longer period and even seek dismissal to collect these benefits. These systems also induce informality (people who declare themselves as unemployed but work without a contract so as to collect the unemployment insurance income). Since these benefits are normally financed by the government they may also induce, at certain periods of the cycle, significant fiscal deficits.

Severance payments, which in the case of Chile are of one month per year of work to a maximum of eleven months, are normally payable only in case of dismissal because of the economic needs of the firm. These severance payments contribute to the creation of job security, something that workers value. Unfortunately, they also imply several difficulties that are more important today than they were several decades ago when the system was created.

First, these payments are uncertain, since they are received only in cases of dismissal on economic grounds. It is the employer who unilaterally determines the reasons for dismissal, leaving the worker to go to the legal system if he or she does not agree. This uncertainty of severance payments may create a gap between the wage as valued by the worker and the cost of hiring (productivity) for the firm.

Second, severance payments make it difficult for firms to adapt to change, especially in moments of crisis. Firms normally "discover" that they are liable for severance payments when they are in their worst financial shape.

Third, they create potential conflicts between workers and their firms. When a worker with several years at a company receives a better wage offer elsewhere, he or she has an incentive to try to "induce" a dismissal, whereas if the firm needs to discharge a worker with many years of service, it

has a strong incentive to "induce" his or her retirement. In both cases there is a deterioration of productivity and labour relations.

Fourth, there are many workers who prefer to remain frustrated, at a firm where they have lower productivity and receive a lower wage, than to move to an alternative job, so as not to lose their seniority and possible future severance payments.

These difficulties are more important than in the past because of the use of so-called "flexible technologies". The greater integration of firms into a world economy that is more dynamic implies firms with a greater capacity to adapt and requires a more mobile labour force than in the past. A system created in a very different technological and economic setting is not necessarily the best solution for the present reality.

The proposal

The Chilean Labour ministry's proposal for reform of the severance payments would imply:

- one month's wages per year of work, in case of economic redundancies for workers with up to three years in a job, thus maintaining the current system for this category of worker. This responds to the need to maintain some job security, by imposing an economic cost on firms who fire workers for these reasons. As such, the rule responds to the requirement for fairness and is necessary for the new proposal to be politically viable and durable.
- half of a month's wages per year of work for each year after the first three. The contributions to meet these payments would be deposited in a workers savings account by the firm during the worker's employment⁸. The employee has access to this balance not only in the case of dismissal but also in the case of retirement or resignation. Hence, this is not an uncertain benefit, does not impede the capacity of firms to adapt to change, does not induce the conflictive behaviour described above, and permits the mobility of workers between jobs.

In Table 3 we compare the situation prior to the reform with that if it were enacted (Cortázar, Echeverría and González, 1994).

Again, the question is not *if* labour systems should protect workers but *what* should be protected and *how* it should be done.

The proposal aims at protecting mobility (and not only job security). The method of protection is the creation of worker accounts.

The ministry's proposal included a modified version of unemployment insurance to replace the existing system with its very limited coverage and low benefits. The new system would guarantee 50 per cent of income (plus health insurance) for up to four months⁹. Protection is thus increased by guaranteeing an adequate income for several months after dismissal. The main innovation of the proposal, however, is related to the means of providing this guarantee.

The proposal imposes mandatory savings by the employer and the employee. Each side would contribute 2 per cent of the worker's salary during the first three years of a labour contract. These funds would be deposited in a worker's personal savings account¹⁰ where the balance would be used to finance the benefits on unemployment. In case the amount saved is not enough to insure these benefits, the worker will automatically receive a credit to cover the difference¹¹.

This "savings-credit" scheme guarantees the benefits described above but is not subject to the moral hazard of traditional unemployment insurance. It is that moral hazard that induces more and longer unemployment, informality and fiscal deficits.

In Table 4 we present the number of months of protection in case of dismissal of the present scheme and compare it to the proposal, taking together the reform to severance payments and the new

protection for the unemployed. Table 4 shows that the degree of protection is similar or higher than that currently available but with a structure of incentives that is more adequate than that preceding the proposal.

What is the cost of this proposal? As shown in Cortázar *et al.* (1994) the cost, all things being equal, would be in the order of 1 per cent of the wage bill. The economic cost depends on the elasticity of the demand and supply of labour and the value that workers assign to the money deposited in their own savings account. If they value that money in an amount that is similar to the full value of the deposit then the economic cost of the proposal tends to be nil. The social cost-benefit analysis would have to take into account the increase in mobility, the better allocation of resources and the greater social legitimacy of mobility.

Final remarks

Labour policy and, more broadly, public policies, in Chile, explicitly pursue the triple objective of equity with social participation, growth with stability, and the consolidation of democracy. These policies are the result of a new balance between the roles of the state, the market and civil society.

The state played an active role in generating a new labour legislation, in enforcing it, in contributing to the implementation of new training programmes for the poor, in improving the purchasing power of pensions and in promoting social concertation and consensus building.

There was an acknowledgement of a very significant role for the market, with its requirements in terms of flexibility, the capacity of firms to adjust to change, the necessary labour mobility, and the tighter link of wages to productivity.

There was also the recognition of the need for a more important role for civil society, and for its greater autonomy from the state.

This contrasts with traditional Latin American labour policies prevailing in many countries for several decades. They privileged equity, especially within the modern sector, with insufficient consideration of the other goals. They also accorded much importance to the role of state intervention, with an insufficient consideration of the market and of the autonomous participation of social actors.

It also contrasts with more recent Latin American neoconservative policies that privileged the goal of stability and the role of market forces, often without an adequate consideration of the other objectives and instruments. Several societies accepted this goal as a necessity, when inflation was out of control. Solving the economic crisis was perceived as the main, or almost sole, goal of economic and social policies. As soon as inflation was under control, and the crisis was over, equity and social participation re-emerged as important objectives, and neoconservative policies were shown to be incapable of addressing them adequately. The contributions of government, and especially of civil society, reappeared as necessary ingredients of labour and, more broadly, of public policies.

This new balance, on the one hand between the objectives of growth with stability, equity with social participation, and the consolidation of democracy; and between the roles of the state, the market and civil society, on the other, seems to be a necessity for a new consensus to emerge, to make social and political co-operation possible and, hence, for the stability of the new economic reforms.

Notes

- 1. A third question at the beginning of the transition process: was there going to be, as part of this process, an explosion of social demands after seventeen years of right wing dictatorship?
- 2. Inauguration took place in March 1994.
- 3. For example, before the reform labour legislation only "protected" women, but not men, who left their jobs to take care of a sick child.
- 4. Wages are not the only factor affecting competitiveness. Moreover, it is not only firms, but the whole economy, with its institutions, the effectiveness of its infrastructure, the efficiency of its public servants, that competes in the world economy. Competing in a global environment, however, creates a new and tighter link between wages and productivity.
- 5. The reform of labour legislation increased the maximum that a worker could receive as severance payments in case of dismissal for economic reasons, from five to eleven months worth of wages. At the same time it authorized workers and employers, under certain conditions and when they agreed to do so, to exchange a month of payments solely associated to dismissals for half of a month, but also payable in the case the worker quits or retires. That half of a month each year would be deposited in a workers savings account.
- 6. Since firms in general try not to hire trainees from low-quality institutions, they also give valuable information in this respect for the programme.
- 7. They had lagged behind productivity for most of the 1980s.
- 8. The contributions are deposited in a special account at the same institution that administers the worker's pension fund.
- 9. The access to this unemployment protection takes place after the worker has exhausted his or her severance payments.
- 10. Again, the contributions are deposited in a special account at the same institution administering the worker's pension fund.
- 11. The credit fund is created with the first six monthly contributions on entry into the labour market for the first time. On retirement, the capital is returned to the worker with interest.

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	Unemployment rate	Labour force growth	Employment growth	Labour productivity growth	Growth in real wages	
	(1)	(2)	(3)	(4)	average (5)	minimum (6)
1990	6.0	1.7	2.0	1.2	1.8	3.4
1991	6.5	1.3	0.7	6.5	4.9	9.6
1992	4.9	2.4	4.2	6.6	4.5	4.6
1993	4.6	5.2	5.2	0.7	5.0	4.9

Table 1. Employment and wages

Source: National Statistics Institute (NSI)

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	Growth in GDP	Inflation	Investment rate (a) (as % of GDP)	Fiscal surptus (as % of GDP)	Balance of	Balance of payments surplus		
	(1)	(2)	(3)	(4)	(billion US\$) (5)	(as % of GDP) (6)		
1990	3.3	27.3	23.1	0.9	2.4	8.0		
1 991	7.3	18.7	21.1	1.6	1.2	3.5		
1 992	11.0	12.7	23.9	2.3	2.5	6.1		
1993	6.3	12.2	26.5	2.0	0.6	1.4		

Table 2. Growth and inflation

(a) Investment in fixed capital

(1), (3), (5) and (6) Central Bank of Chile
(2) National Statistics Institute (NSI)
(4) Ministry of Finance Sources:

Number of years in the job									
	1	2	3	5	7	9.	11	15	31
Present scheme	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proposal (Quit)	0.0	0.0	0.0	1.0	2.2	3.5	5.0	8.5	34.7
(Retire)	0.2	0.8	1.3	2.5	3.8	5.4	7.1	11.1-	41.3

Table 3. Quit or Retire (Number of monthly wages that the worker receives)

· Source: Cortázar, Echeverría and González (1994)

		(1	Number of n	ionthly wage	s that the wor	rker receives)				
				Number of ye	ears in the job					
	1	2	3	5	7	9	11	15	31	
Present.scheme	1.0	2.0	3.0	5.0	7.0	9.0	11.0	11.0	11.0	
Proposal	2.8	3.8	4.5	5.9	7.0	8.4	10.1	14.1	44.3	

Table 4. Dismissal

Source: Cortázar, Echeverría and González (1994)

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Introduction

Since the Employment Mission contracted towards the end of President Betancur's administration presented its report in 1986, the problem of employment in Colombia has taken a back seat in public discussions.

The Employment Mission, known as the "Chenery Mission" after its head, made its analysis of the labour market at a difficult time — between August 1985 and June 1986. The report was submitted to the Barco administration, which governed the country from 1986 to 1990, but this administration took over an economy that was beginning to grow rapidly again, with macroeconomic equilibrium in its public finances and external accounts, so it did not perceive the employment problem as different from the problem of achieving a higher rate of economic growth.

In 1990 the incoming government of President Gaviria took over an economy growing at 4.2 per cent a year, with inflation running at 32.4 per cent, a rate of urban unemployment of around 10.5 per cent and a very low fiscal deficit. Between August 1990 and August 1991 there was an institutional upheaval as a result of the implementation of the new model of development, based on openness, the competitiveness and modernisation of the productive system, and the streamlining of the public sector. Amongst the most important measures taken were:

- i) the elimination of the system of import licenses in 1990-91, which applied to more than 60 per cent of customs items in 1989;
- *ii)* a reduction in the level of protectionism, with import duties cut from an average of 65 per cent to levels of between 15 per cent and 18 per cent today;
- iii) the elimination of foreign exchange controls (1990), with the subsequent shift to a floating exchange-rate;
- *iv)* the independence granted to the Banco de la República (Colombia's central bank) in the management of monetary and exchange-rate policy under a 1991 constitutional amendment;
- v) the reform of the labour market (1990) and the social security system (1993);
- vi) the restructuring of the public sector (1991-92).

The new development model stressed two things: firstly, the efficient operation of the markets for goods, services and factors of production, reducing the effective level of protectionism, eliminating subsidies and restrictions, and opening up the economy to international competition; secondly, altering the state's role in the economy by limiting the size of the public sector, enhancing its efficiency, improving regulatory and control mechanisms, and confining its intervention to its basic constitutional functions — namely, maintaining security, administering justice, and directing public expenditure towards developing the infrastructure and satisfying the basic needs of lower income groups.

The administration of President Gaviria, which ended in August 1994, sought to bring about a fundamental change of direction with its strategy of internationalisation and a more open economy. In that context the solution to the employment problem was seen as flowing from the improvement in international competitiveness brought about by the new development model, which was supposed to boost the demand for manpower, since that was the country's relatively most abundant resource.

The first part is devoted to an examination of what has really happened in the labour market over the past eight years, comparing the outcome with the analysis made by the Chenery Mission. The second part assesses the labour market outlook and its main problems up to the year 2000. The last part attempts to identify what will be the most likely important labour market problems over the next five years and to formulate some policy recommendations for coping with them.

Development of the economy and the labour market over the 1986-1994 period

Background

The report produced by the Chenery Mission in 1986 drew attention to the close relationship between the main maladjustments of the labour market and the level of economic activity. The most visible symptom of those imbalances — the increase in the rate of urban unemployment from 10 per cent in 1980 to 14 per cent in 1985 — was directly related to the slowdown in economic growth during the first half of the decade. As a result, the Mission recommended the adoption of a macroeconomic strategy aimed at raising the growth rate by means of three crucial elements:

- 1) an increase in foreign exchange earnings;
- 2) higher savings and investment rates;
- 3) a shift in public expenditure towards investment projects entailing a greater input of national manpower, and towards spending with a greater redistributive effect.

According to the Mission's analysis, the first two elements of the strategy for boosting the rate of new job creation would not have an immediate effect and would only bear fruit in the 1990s. The only device that would be effective in the short-term would be an active and targeted fiscal policy, including an increase in taxation, a reduction in outlays on capital-intensive energy sectors, increased spending on the development of the rural infrastructure and on basic social services, which are more labour-intensive.

Although macroeconomic policy remained the cornerstone of strategy, the Mission accepted the need for some "specific employment policies", such as programmes for the promotion of small business, or measures directed at dealing with the acute unemployment problems of certain regions and social groups. It also accepted much of the criticism towards existing labour legislation.

Lastly, the Mission recognised that the labour market has also been affected by more long-term factors, three of which are particulary important:

- 1) the enormous weight of the informal urban sector;
- demographic developments, which have shifted the age structure of the population towards more productive age groups, encouraged female participation and resulted in substantial increases in worker participation rates;
- 3) the education revolution, which has brought a very rapid rise in the educational levels of new entrants to the labour market.

Development of the Colombian economy over the 1980-94 period

1980-1985

The employment Mission's analysis was largely based on the behaviour of the economy in the first half of the 1980s, a period when the economy effectively entered a recessionary growth cycle, falling to a trough in 1982 and then gradually recovering to a high rate of growth in 1986, following the fiscal and exchange rate adjustments of 1984-85.

From the point of view that concerns us, two aspects of the macroeconomic adjustment process during that period had an offsetting effect on the labour market, which led some analysts in the region (Prealc, 1990) to assert that, in the case of Colombia, the social costs of adjustment were far less than those incurred by workers in the rest of Latin America:

- The labour market's response to reduced economic growth was a sharp fall in labour and multi-factor productivity, but employment continued to rise at an accelerating rate until 1983 and only in 1984-85 was its growth temporarily halted;
- 2) Real urban wages, including the legal minimum wage, continued increasing until 1987-88, when the upward cycle of economic growth was well underway (see Table 1).

What is the cause of this atypical pattern of adjustment in Colombia? There are at least two factors at work here:

- 1) The government, faced with the fall in external demand in 1980-82, pursued an expansionary fiscal policy by means of an ambitious public works programme, financed by external credit, and it spent part of the country's international reserves to offset the decline in exports, which had a positive impact on employment;
- 2) The continued setting of nominal wages on the basis of past inflation, at a time when the rate of inflation was falling, resulted in very big increases in real urban wages, including minimum wages. The combination of a fall in output with increases in employment and in labour costs resulted in a profitability crisis for the national productive system, in which business firms paid a high proportion of the social adjustment costs. This was reflected in the very substantial declines in labour and multi-sectoral productivity observed between 1980 and 1985.

1986-94

In 1986 the economy recovered to a high rate of output growth of 5.8 per cent, while employment increased by 3.5 per cent. Paradoxically, that year the urban labour market displayed its greatest imbalance of the whole decade, with unemployment rates of around 14 per cent. Between 1985 and 1990 the economy grew at an average annual rate of 4.5 per cent, while employment rose by 3.4 per cent a year, leaving a margin of 1 per cent a year on average for mean labour productivity growth. As a result of that growth process, urban unemployment rates fell back to levels of around 10 per cent between 1989 and 1992.

This expansion was basically financed by private domestic savings. Net external savings, which were very important in sustaining levels of activity in the 1981-85 period, started receding from 1988 onwards, with the gradual reduction of the external debt and the build up of international reserves. This process acquired higher proportions in the 1991-93 period, to offset the massive inflows of short-term speculative capital. On the other hand, the fiscal deficit, which had reached 7.5 per cent of GDP in 1983, fell to 0.3 per cent in 1986 and then rose to a second peak of 2.5 per cent in 1988, remaining since then at very low levels.

The economy really started opening up in 1989-90, during the final year of President Barco's government. Along with the first cuts in customs duties and a reduction in the scope of the import-licensing regime, which the new administration followed up with far more radical reforms, the real exchange rate deteriorated substantially, going from 97.7 in 1988 to 116.9 in 1990, in an attempt to compensate for the lowered effective level of protection.

To counter the inflationary effects that this rapid devaluation produced in the economy, the government of President Gaviria slowed the pace of devaluation and pursued a restrictive monetary policy through 1991 by means of open market operations. This had the effect of increasing real interest rates and attracting a huge inflow of speculative, short-term capital, which reduced the effectiveness of the policy in bringing down the inflation rate. In mid-1992 the new board of the Banco de la República altered its monetary and exchange rate policy. It put a halt to open market operations, which resulted in a rapid fall in interest rates, and it abandoned the policy of trying to support the exchange rate in an attempt to control the growth in the money supply.

At the same time, between 1990 and 1991 the new government completed the trade liberalisation process. The import-licensing regime, which by 1989 was applied to more than 60 per

cent of customs items, was completely abolished in 1990-91, and the effective level of protectionism was reduced, with import duties cut from an average of 65 per cent in 1989 to levels ranging from 15 per cent to 18 per cent in 1994.

As a result of these trade liberalisation measures, the 1990 devaluation and the macroeconomic policy pursued through 1991 to counter its inflationary effects, the economy grew by only 2.1 per cent in 1991, indicating a reduction in the economic growth rate relative to the 1985-90 period. From 1992 onwards, however, the growth rate started to rise again: the economy grew by 3.6 per cent in 1992 and by 5.3 per cent in 1993, and forecasts for 1994, taking into account the new coffee bonanza, were for a continued growth rate of over 5 per cent.

What factors explain the behaviour of the Colombian economy? On the one hand, the decline in the inflation rate, the fall in interest rates, the reduction in import duties and the appreciation of the peso relative to the level the real exchange rate had reached in 1990, have meant that the real cost of capital has been cut from around 30 per cent a year in the 1980s to only 13 per cent a year in the early 1990s. This has established a solid base for the economy's sustained growth, since the return on investment is rising. Furthermore, these same factors have produced an improvement in the terms of trade and renewed growth in aggregate domestic demand, which has been apparent mainly in the consumption of durable goods (housing, automobiles).

The medium-term effects that these trends in Colombia's economic growth will have on production and employment will essentially be determined by the behaviour of labour and factor productivity in the future and, based on this and on the development of the real exchange rate, by the level of competitiveness attained by domestic industry in both the internal and external markets.

Development of the labour market since 1986

The development of the labour market since 1986, the year when the Chenery Mission presented its report and recommendations, has been more favourable than foreseen. As indicated in Table 2, in the seven metropolitan areas surveyed on a quarterly basis by the DANE¹, which account for about 36 per cent of total employment in the economy, unemployment rates show a clear downward trend up to December 1993. In the first half of 1994, however, there was a renewed increase in urban unemployment. From a high of 14.7 per cent in June 1986, unemployment rates had fallen sharply with the swifter pace of economic growth, dropping below 10 per cent in September 1989. They continued to fluctuate around this level, except in the second half of 1993 when they sank to 7.9 per cent.

Employment

Table 3 shows the recent performance of the Colombian economy in terms of job creation. It demonstrates that between 1990 and 1993 some 973 000 new jobs were created in addition to the 12 188 000 that the economy provided in 1990. Adding to this the 236 000 or so additional jobs that the economy will generate in 1994, a total of 1 209 000 new jobs will have been created in the four years from 1990 to 1994. Of these new jobs, 57 per cent will have been created in the seven largest metropolitan areas, 31 per cent in "other urban areas", and the remaining 12 per cent in "rural areas". As a result of this increase, by 1994 the economy will be providing employment for about 13 400 000 people, of whom 36 per cent live in the seven metropolitan areas surveyed quarterly by DANE, 23 per cent live in "other urban areas" and 40 per cent live in "rural areas", (which as defined in household surveys, include a large number of small administrative towns).

Employment in the seven largest metropolitan areas, which increased by 238 000 in 1991, is now growing less rapidly. Employment in "other urban areas", which rose little in 1991, expanded sharply in 1992, but has also been losing momentum since then.

For the agricultural sector, 1991 was a good year, but some 117 000 jobs were lost between 1992 and 1993. There were hopes of a slight recovery for 1994, in line with projections for the area under cultivation. There was a fall of only 73 000 in rural employment, however, because the loss of jobs in agriculture led to a greater diversification of rural employment towards non-agricultural activities, partly in livestock and partly in other sectors, such as commerce and services. This is reflected in the proportion of the rural workforce employed in agriculture, which has been falling since 1988.

The situation of agricultural employment by type of crop is clearly reflected in CEBA's figures. Employment in seasonal crops, which grew between 1988 and 1989, has been declining since then, to the point where employment in 1993 was barely 81.2 per cent of the level attained in 1989. Employment in year-round crops other than coffee, on the other hand, has been rising since 1988, and in 1993 was 11.1 per cent higher than five years earlier. Employment in coffee-growing, which increased by around 21.5 per cent between 1989 and 1991 as a result of the rise in production spurred by the suspension of the international coffee agreement, fell by about 10 per cent between 1991 and 1993. The overall result was a growth of about 8.3 per cent in agricultural employment between 1988 and 1990, followed by a drop of 8.9 per cent between 1990 and 1993. For seasonal crops in particular, the greatest job losses recorded between 1990 and 1993 were in cotton, rice and vegetables and, to a lesser extent, maize, sorghum, soya beans and wheat. For year-round crops, there were job losses in yucca, cane sugar and cocoa, which were offset by substantial increases in bananas, African palm, sugar cane and plantain.

Labour supply

Labour supply is the result of the growth in the working-age population, which basically depends on demographic factors and propensities to participate in economic activities, as reflected in participation rates measured through household surveys. Table 4 presents the figures for the growth in the urban labour market in the seven metropolitan areas surveyed quarterly by DANE between 1986 and 1994. It shows growth rates for the total population (TP), the working-age population (WAP), the economically active population (EAP) and the employed population (EP) for that eight-year period.

As indicated, the total population of these seven metropolitan areas, on the basis of the DANE forecasts and without taking account of the 1993 Census, has grown by around 2 per cent a year, and is now slowing down. Moreover, the proportion of the working-age population (aged 12 and over) — the WAP — is rising as a result of falling birth rates and the consequent changes in the age structure of the population. Whereas in March 1986, 73.5 per cent of the total population of the seven metropolitan areas were aged 12 or over, in March 1994 the proportion had risen to over 76 per cent. This means that WAP is still growing at a higher rate than the total population, although its growth rate is also slowing: between 1986 and 1990 it grew at a 2.64 per cent annual rate, whereas between 1990 and 1994 the rate was 2.33 per cent.

Overall participation rates are also rising, partly because of the growing concentration of the population in age groups that are more productive and more inclined to participate, and partly because of the increase in female participation rates in certain age groups. This means that labour supply (EAP) is growing at a higher rate than WAP: it grew at an annual rate of 3.9 per cent between 1986 and 1990 and at 3.36 per cent a year between 1990 and 1994.

This rate of labour supply growth in the seven metropolitan areas between 1986 and 1994 indicates that the demographic pressure on urban labour markets, which was very great in previous decades, has eased considerably. Moreover, participation rates tend to fluctuate in a pro-cyclical fashion, rising when employment is going up and falling when it declines, which tends to stabilise unemployment at around its medium-term trend rate. Hence, if one makes quarterly comparisons between one year and the next, participation rates rose in 1987 and 1988, when employment expanded in each quarter relative to the same quarter of the previous year; they declined or were stable in 1989 and 1990, when the employment growth rate slowed; they then rose again in 1991 and 1992, when

the growth in employment picked up; and they fell or were stable in 1993, when the employment growth rate declined.

The increase in urban participation rates between 1986 and 1992 was not the same for all age groups or for both sexes. While male participation continued to grow slowly as a result of the concentration of the male population in the more productive age ranges (30 to 59), female participation, which had increased moderately between 1986 and 1989, shot up between 1989 and 1992 as a result of the growth in the specific participation rates of both the 12-29 and the 30-59 age groups (see Table 5). In 1993 overall participation rates were stable.

The overall result was a lower growth rate in urban labour supply than that foreseen by the Chenery Mission, which contributed to reducing the pressure on the labour market and generating lower unemployment rates for the same rate of employment growth. On the basis of these forecasts, with urban GDP (excluding the agricultural and mining sectors) growing at 4 per cent a year, unemployment rates would have been around 14 per cent in 1990, and in order for them to have amounted to no more than the 10 per cent rates observed, the growth rate would have had to rise to more than 5.5 per cent. In reality, unemployment rates were brought down to 10 per cent with GDP growing by 4.5 per cent a year, which was less than the rate considered necessary by the Chenery Mission.

Unemployment

One of the clearest illustrations of the imbalance between labour supply and demand is the rate of open unemployment. Other indications are under-employment and the behaviour of real wages. As observed earlier, urban unemployment rates, which reached a high of 14.7 per cent in June 1986, subsequently declined to less than 10 per cent by September 1989. They then fluctuated around this level, except for the second half of 1993, when they dropped to 7.9 per cent (see Table 2). Furthermore, rural unemployment rates, as measured by DANE in 1988, 1991 and 1992, fluctuated at around the 4.5 per cent mark during those four years.

Table 6 shows the incidence of unemployment by age group and sex in urban and rural areas. As indicated, female unemployment is almost double the male rate in urban areas and is more than three times greater in rural areas, and the gap has widened since 1986. In 1992, while the male unemployment rate was 6.5 per cent in urban areas and 2.5 per cent in rural areas, female unemployment amounted to 12.5 per cent in urban areas and 9.2 per cent in rural areas.

In addition, unemployment mainly affects the young of both sexes. In 1992 the unemployment rate of men aged 12 to 29 was 11.3 per cent in urban areas and 3.6 per cent in rural areas, while unemployment rates of women in the same age range was 18.7 per cent in urban areas and 16 per cent in rural areas. The unemployment rates of young women in rural areas are particularly striking, especially as they include, as mentioned earlier, not only all areas outside municipal administrative towns but also around 850 municipal administrative towns that have less than 10 000 inhabitants or that account for less than 50 per cent of the population of the municipality. A large part of the problem is due to the lack of wage-earning opportunities for women in those areas, which explains the exodus of young women to the big cities that has taken place in recent decades, an exodus whose reasons persist.

The incidence of unemployment also varies with level of education. The highest rates of unemployment are seen amongst people of both sexes with some degree of secondary education, about 60 per cent of whom have not passed the examinations necessary for entering higher education. The differentials relative to other groups of the population are greater for women than for men (see Table 7). The lower unemployment rates of people with lower educational levels is possibly due to their lower value in the labour market and their greater willingness to accept any job; the lower unemployment rates of people with some higher education is due to their comparative advantage relative to people who have had some secondary education but have no specific qualifications.

The fall in open unemployment rates has taken the form of a reduction in the period of unemployment much more than of a lower incidence. This means that the size of the group of different people affected by unemployment in a given period has remained relatively constant, but those concerned have been jobless for ever shorter periods of time.

These trends show that the average duration of unemployment, which peaked at 38 weeks in 1986, progressively declined until it was no more than 28 weeks in 1993, while the incidence of unemployment, which had diminished between 1984 and 1987, started to rise, reducing the pace at which the unemployment rate declined as a result of the fall in its average duration.

To the extent that these trends will continue in the future, unemployment will tend to be concentrated in those groups most exposed to that risk. They happen to be women and the young without much previous experience or any specific training, the majority of whom have not completed their secondary education and belong to the lower socio-economic groups.

This means that the greatest imbalance in the labour market in the future will reside not in the relationship between the total demand for labour and the available supply but rather in the relationship between the structure of supply, in terms of the training and experience of workers, and the demands of employers.

This is consistent with available information from the Recruitment Service run by the SENA² since 1990 in cities such as Bogotá and Medellín, which clearly indicates that, although there is not a very great disparity between the total number of registered jobless and the total number of vacancies, the registered unemployed tend to be increasingly concentrated at lower skill levels and the vacancies at higher skill levels, so that a high proportion of vacancies cannot be filled and a high percentage of the unemployed cannot find jobs. In Medellín, for instance, only 36 per cent of the registered unemployed found jobs in 1993, while 61 per cent of the vacancies could not be filled.

The changing structure of urban employment

There are three important features in the way the structure of urban employment is evolving: i) The distribution of employment by occupation, which highlights the proportion of salaried employees relative to other forms of employment; ii) the distribution by branch of economic activity, which highlights the effect on employment of structural change in the economy; and iii) the distribution between the formal and informal sectors, which highlights the share of the small business sector (firms employing less than 10 people) and own-account activities in total employment.

Table 8 shows the change in the distribution of the economically active population in the seven metropolitan areas between 1986 and 1993 according to occupation. The change has been very gradual. The proportion of salaried employees (both white collar and blue collar), which is far greater than that of any other occupational category, amounting to 63.2 per cent of total urban employment in 1993, increased between 1986 and 1990 but then fell back in 1991-92, when the first steps were taken to open up the economy. There is a similar pattern in the proportion of owner-managers and employers, which is indicative of the total number of businesses in the economy and which increased between 1986 and 1989 but fell back in 1990 and 1991. In 1993 there was a recovery in the proportions of both forms of participation in the labour market. On the other hand, the proportion of own-account workers followed an opposite trend, falling between 1986 and 1990 when the level of economic activity was picking up, and then rising in 1991 and 1992 with the moves towards the liberalisation of trade. Lastly, the shares of the most vulnerable categories of participation in the labour market, domestic service and unpaid work by family members, show a clearly declining trend over the whole period.

Table 9 shows the changing structure of urban employment by sector of economic activity between 1986 and 1993. Urban employment is strongly concentrated in industry, commerce, hotels and catering, and services, relegating the construction, transport and communications, and banking and finance sectors to a secondary place. The industrial sector's share of total employment, which remained relatively static between 1986 and 1990, has been increasing over the past three years. This
consists partly of manufacturing companies with more than ten employees and partly of artisans and family businesses. The share of the commerce, hotels and catering sector has remained relatively stable throughout. As for the service sector, its share remained relatively static up to 1991, but then started to decline in 1992 and 1993. The upsurge in construction activity since 1992 does not seem to have had an impact on urban employment, which has followed a very similar trend to that observed between 1986 and 1990. The same can be said of the transport and communications and banking and finance sectors.

It can be concluded from these figures that, despite the recovery in economic activity since 1986 and the opening up of the economy since 1991, there has been no change in the structure of employment by sector of economic activity and that the growth of the urban economy has benefited everybody more or less equally.

Table 10 shows the development of informal employment in different urban areas, according to the findings of the household surveys carried out by DANE in 1984, 1988 and 1992. As indicated, about 50 per cent of urban employment can be regarded as informal, encompassing all own-account workers that are not independent professionals or technicians, and all owner-managers and employees of enterprises employing less than ten people. For the ten metropolitan areas studied as a whole, the extent of informal employment increased between 1984 and 1988, then contracted between 1988 and 1992. This pattern of informal employment was observed in Bogotá, Cali and Barranquilla, where there were substantial decreases between 1988 and 1992, but it was not true of Medellín, or of the five medium-sized towns surveyed, where informal employment continued to increase.

An examination of these figures seems to lead to the conclusion that the development of urban employment since 1986 has passed through two distinct phases: i) from 1986 to 1990 there was a balanced increase in employment in all sectors of economic activity, but it was of greater benefit to salaried employment in enterprises with less than ten employees, which increased the degree of informal employment in the economy although there was a reduction in the share of the less secure forms of informal employment comprising independent, domestic and own-account workers; ii) from 1990 to 1993, growth in urban employment was accompanied by something of a change in the productive structure, characterised by an increase in the share of industrial employment and a reduction in services. However, that change was accompanied by an increase in the share of own-account workers, a reduction in the share of salaried workers and a reduction in the degree of informal employment, indicating that there was a relative contraction in the small business sector employing salaried staff, which was partially offset by an increase in the proportion of own-account workers. These trends were very apparent in 1991 and 1992, but seemed to be reversed in 1993.

Real wages

With the exception of the construction sector, increased employment was accompanied by a standstill in the growth of real wages for unskilled workers during the 1986-1993 period. As Table 11 indicates, real industrial wages (blue collar workers), which basically stagnated between 1986 and 1990, fell by 2.6 per cent on average in 1991 and recovered only marginally in 1992 and 1993. Real wages in 1993 were thus only 2 per cent higher than the level attained in 1986. In construction, real earnings, which increased significantly (by around 18 per cent) between 1986 and 1990, fell in 1991 and 1992. In agriculture, wages for day labourers, after rising by about 7 per cent between 1986 and 1989, started to decline in 1990 and fell by as much as 9.2 per cent in 1992, when real agricultural wages were 3.3 per cent below the 1986 level. Finally, the minimum legal wage, which is what unskilled workers in other sectors of the economy earn, tended to decline during most of the period under consideration, and that trend was not reversed until 1993.

The development of real wages over the 1986-93 period reveals differences in the adjustment of labour markets for industry and agriculture. In the industrial sector wages are somewhat more rigid, which results in greater variations in employment in the face of fluctuations in sectoral demand. In recent years that has been reflected in a growing share of temporary jobs in total industrial employment. In the agricultural sector, where the market is more dispersed and competitive and work

contracts tend to be seasonal, real wages are much more flexible. They increased between 1986 and 1989, when agricultural output was expanding, and then started falling in 1989 as a reaction to the financial crisis experienced in this sector of the economy.

Furthermore, government policy regarding the setting of the legal minimum wage has shifted in recent years towards a model of nominal adjustments based on expected inflation rather than the previous year's inflation, with a further increment factored in to allow for increased productivity. Since inflation was slightly higher than expected, only the allowance for productivity-growth enabled the minimum wage to be increased in real terms in 1993.

Temporary employment and under-employment

Table 12 shows the development of temporary employment and under-employment in the seven largest metropolitan areas between 1990 and 1992. Temporary employment, as a proportion of total employment, increased from 1990 onwards. This is one of the salient features of the adjustment of the labour market in recent years. Although temporary jobs have been associated with a deterioration in the quality of employment, in view of the lack of guaranteed earnings and basic social benefits, this mode of employment may prove convenient not only for employers in sectors like construction, where employment is essentially temporary, and in other sectors of a highly seasonal nature, but also for certain segments of the labour force, such as married women, students, occasional workers employed at certain times of the year, and so on. This is borne out by the proportion of the unemployed looking for temporary work, as indicated in the table, where it is evident that the supply of labour has moved in the same direction. The 1990 labour reforms may also have contributed to this trend. The more temporary nature of urban employment thus seems to reconcile certain requirements on the demand side with certain preferences on the supply side of the labour market.

As regards under-employment, which is defined as the proportion of economically active people working less than 32 hours a week and wanting to work more, or who have a work week of over 32 hours but consider that their earnings or their job do not match their skills, there is a clear upward trend in the first quarter of the year between 1990 and 1992. In the other nine months of the year the rate of under-employment tended to be stable.

The evolution of employment was positive: there was no appreciable change in the proportion of those who regarded themselves as under-employed on the grounds of low earnings or of an inappropriate utilisation of their skills, while there was a decline in the proportion of those who perceived the temporary nature of their activity as under-employment and there was an increase in the number of employees who wanted to work more hours. The fall in real wages during this period and the increase in temporary work, insofar as they were phenomena affecting virtually all urban sectors, might have contributed to that perception.

Outlook for the labour market over the 1995-2000 period

Introduction

The medium-term outlook for the labour market depends on the expected development of the markets for goods and services that in turn depends on the international environment in which the Colombian economy operates and the economic policy framework within which it has to evolve.

At the end of his administration in August 1994, President Gaviria handed over an economy that was generally satisfactory. For 1994 an economic growth rate of the order of 5 per cent is expected, and it could be still higher as a result of the coffee bonanza, resulting from the unforeseen price increases brought about by the growing scarcity of coffee on the international market. Public finance will have completed four years of equilibrium in 1994; the balance of payments situation is very

sound; the inflation rate, which caused some concern in the first half of the year due to the rise in agricultural prices, has slowed since June, warranting a certain optimism that the target of 22 per cent for the year may be attained; employment is continuing to grow at satisfactory rates; the rate of urban unemployment, which rose again last March following the decrease recorded in 1993, should drop to levels of under 10 per cent in the second half of the year; and the agricultural sector, which experienced a protracted financial crisis in the 1991-93 period, is showing some signs of recovery in 1994.

The major economic-policy challenge for President Samper, who has placed employment high on his government's list of priorities, is to attain three goals simultaneously:

- *i*) achieve higher rates of growth;
- *ii)* reduce the rate of inflation;
- iii) bring about a significant increase in the economy's manpower absorption capacity.

As international experience has shown, a high investment ratio in a context of macroeconomic stability and low inflation rates is the most propitious scenario for achieving high rates of economic growth. In Latin America, the investment rate averaged 18 per cent of GDP in the 1980s, while in the Asian Tigers it amounted to nearly 29 per cent. Colombia has maintained a rate close to the Latin American average. This is undoubtedly one of the reasons that Latin America has had a lower growth rate than the Asian economies. Furthermore, the difference does not lie in the level of public investment, which amounts to around 7 per cent of GDP in both regions. The entire investment gap is due to the rate of private investment, which amounts to about 11 per cent in Latin America as against 22 per cent in the Asian countries.

Private investment in Colombia has been limited by financial restrictions and by the high cost of capital. In the 1990s, however, the cost of capital has fallen dramatically with the reduction in customs tariffs and the fall in real interest rates; and the availability of funds for investment has increased with the inflow of foreign capital and the rise in public savings, despite the fact that the rate of private savings has remained relatively low. These trends should continue in the future.

In a context of economic liberalisation and internationalisation, such as that which has been created in Colombia, the return on new investment will depend on the level of competitiveness of domestic industry relative to external producers, which implies that a large share of investment should be directed at eliminating the bottlenecks that limit productivity growth. This means, in particular, investing in the national infrastructure, which is very backward in Colombia, as well as in the education and training of the labour force and in technology.

The exploitation of new oilfields discovered in Cusiana and Cupiagua offers Colombia a unique opportunity to accelerate the investment rate of the economy which, as all studies of international economic development have shown, continues to be the main driving force behind economic growth. However, the surpluses generated by the oil sector will not be sufficient to guarantee a permanent increase in the economy's overall investment rate. At least two other elements are needed:

- a prudent fiscal policy that gradually distributes the new available resources in line with the economy's real absorption capacity for new investment projects and that does not result in a fall in the private sector's savings rates;
- *ii)* a framework of monetary stability that prevents any increase in the inflation rate, which would be a disincentive to private investment.

Moreover, to ensure that higher rates of growth are reflected in a higher absorption of manpower in the labour market, the increase in real investment needs to be spread across all sectors of the economy, and especially in the most labour-intensive sectors.

To assess the prospects for employment in the coming years, it is necessary to examine the possible scenarios for Colombia's economic development, in the light of forecasts that can be made at the present time on the basis of available information.

Economic outlook for the 1995-2000 period

Positive aspects

The exploitation of the new oilfields discovered in Cusiana and Cupiagua, together with the coffee bonanza that appears to have been caused by the severe frosts in Brazil, are the two most important exogenous factors affecting the development of the Colombian economy over the medium term.

The coffee bonanza has meant an increase in the external price of Colombian coffee from US\$1.30 a pound to US\$2.50 a pound, and it could remain at that level for at least a year. The increased foreign-exchange earnings will mean a fresh injection of capital into the National Coffee Fund and a boost in the revenues of coffee growers over the 1994-95 period. This has many important implications for the country's coffee-producing regions in particular and for the rural sector in general.

The proven reserves of the newly discovered oilfields are estimated at between 2 000 and 2 200 million barrels, which is slightly more than the total proven crude oil reserves of Colombia's remaining oilfields under production. Assuming the crude oil export price remains at its current level, DNP estimates that the increase in the country's oil production resulting from the exploitation of the new fields will generate future net income for the state of US\$13.7 billion, with annual revenues reaching a peak of some US\$3.5 billion in the year 2000. This calculation underestimates the true increase in national wealth, since it does not take into account the possibility of further oil discoveries. Of these revenues, slightly under 60 per cent will be for the nation and a little more than 40 per cent for regional entities in the form of royalties and transfers.

Future risks

Both the coffee and the oil bonanzas carry the risk that Colombia might develop the so-called "Dutch disease": a massive inflow of foreign exchange that is in principle temporary but is regarded as permanent, engendering a euphoria that may result in levels of consumer spending and investment that exceed the production capacity of the economy. This leads to an increase in the prices of non-tradable goods and services relative to tradable ones, which is tantamount to a real appreciation of the exchange rate and a reallocation of resources to the oil sector and non-tradable sectors. The result is a reduction in the output of tradable goods (meaning basically the industrial and agricultural sectors, which are the ones most closely linked to the rest of the economy and the labour market).

In the case of the coffee bonanza, the existence of the National Coffee Fund has a cushioning effect, which permits the impact to be spread over time, as has happened with earlier bonanzas. Because the oil bonanza is a totally public-sector activity, there is the risk of political pressures for converting the higher revenues into an increase in public expenditure that may be difficult to understand and that would be exacerbated by the transfer of high proportions of such resources to regional entities, which have built up huge investment needs.

The macroeconomic policy of the new administration of President Samper is faced with the enormous challenge of preventing this reallocation of resources, which could limit the growth possibilities of sectors that do not benefit directly from the bonanzas and jeopardise his chances of attaining his goal of creating new jobs.

Fiscal policy has to be directed at limiting public expenditure at both the national and regional levels. This entails generating a fiscal surplus as well as repaying external debt and creating an Oil Reserve Fund abroad to ensure that all the additional revenue is not monetised; it also implies putting a halt to other funding options such as external indebtedness.

Monetary policy has to be restrictive to avoid a resurgence of inflation, which would discourage productive investment. Given the fluidity of international capital flows, attempts to counter pressures for a real appreciation of the exchange rate by devaluing Colombia's currency could have uncontrollable inflationary effects. Devaluation initially reduces liquidity, which is reflected in higher domestic interest rates, that attract capital into the country until a new equilibrium is reached where prices will have increased proportionally to the currency devaluation. Such a policy, if continued by monetary authorities, could lead to runaway inflation funded by the international capital flows it attracts.

Hence, in order to avoid a sharp reappreciation of the real exchange rate, a policy must be designed to have a direct effect on keeping the supply of foreign currency to Colombia in line with market demand.

Production outlook

If a reasonable level of macroeconomic stability is achieved that does not generate a substantial rise in the exchange rate or uncontrollable inflationary pressures, the production outlook is very positive. This is good news for Colombia's employment prospects in the short and medium term.

According to current macroeconomic projections, the economy will grow at an average annual rate of 5 per cent between 1994 and 2000 taking account of Cusiana, or 0.6 percentage points more than it would grow without the oil boom. In this scenario, external trade will grow at higher rates than those that would obtain without Cusiana. The same applies to the output of the mining and oil industry and the non-tradable sectors (construction, commerce). The agricultural sector will grow at a 3.1 per cent annual rate on average, or 0.6 percentage points less than would be the case without Cusiana. Similarly, the output of capital goods and the agrofood industry will increase by one percentage point less than it would without Cusiana, and the output of intermediate goods and basic consumer goods will also rise slightly less.

These forecasts, produced by a simulation study, show that, unless there is increased investment in sectors other than oil, the impact of Cusiana on the rest of the economy will be to boost the rate of GDP growth in non-tradable sectors and reduce it in non-oil tradable sectors (agriculture and industry), as a result of the appreciation of the peso and the consequent increase in the relative price of non-tradable goods.

However, the rise in the real income of the population associated with the greater oil wealth and with the effect of the improvement in the terms of trade resulting from the appreciation of the exchange rate will stimulate an expansion of the domestic market. This could enable the tradable sectors to compete successfully with imports, if productivity increases are achieved that compensate for the comparative cost disadvantage associated with currency appreciation.

An open economy such as that taking shape in Colombia is a two-way street. On the one hand, it is a risk in the sense that imports displace domestic production in the home market. On the other hand, however, it is an incentive to modernise and increase productivity by importing capital equipment and technology, as well as to strive for increased specialisation and greater economies of scale, which in the case of the manufacturing industry are very important factors in becoming more competitive, something not achieved with the earlier protectionist model.

In the case of the agricultural sector, however, improved competitiveness is not just a function of higher productivity, given the high level of subsidies that the sector receives in developed countries. Hence, there is a need for active policies to protect the sector from unfair competition and from the dumping associated with these subsidies. With such distortions in international trade eliminated, Colombia should demonstrate the comparative advantages it has in many crops.

Labour market outlook

Employment

The employment impact of an average annual rate of GDP growth of 5 per cent over a six-year period will depend on the labour intensiveness of the sectors that gain and lose from the structural

adjustment of domestic industry and the way in which real wages evolve in the period. In particular, given that the oil sector itself absorbs very little manpower, the employment impact will depend on the relative growth of other tradable sectors and their average manpower absorption capacity per unit of production.

An excessive appreciation of the exchange rate will discourage exports of industrial and agricultural goods, which tend to be relatively labour intensive, as well as the production of import substitutes, which tend to be less labour intensive. The net outcome of those two effects may possibly be negative from the employment viewpoint.

Within the overall category of non-tradable goods and services, however, there are some, such as construction, personal services, social services (education, health, etc.) and a high proportion of the activities of the informal urban sector, which are very labour intensive. Hence, growth in those sectors of the economy could result in significant employment absorption, which would partly compensate for the lower absorption rate of the tradable sectors.

The net result might possibly be a lower overall rate of job creation than would exist if the sources of economic growth were less concentrated in a single sector and the economy grew in a more balanced fashion.

Earnings

The growth of the domestic market associated with the increase in oil wealth and the improvement in the terms of trade might nevertheless generate a better pattern of employment within the framework of an open economy than growth in the external market. The need to compete both in the domestic market and in external markets generates very powerful incentives to improve productivity. This will be reflected in labour markets where, alongside pressures to reduce employment, there will be upward pressure on real wages for workers that remain employed following the restructuring of the work force induced by the change in relative prices in the economy.

To the extent that the rise in real wages is a response to increases in the marginal productivity of workers, it should not lead to cost pressures and hence should not be inflationary. The rise in wages will in its turn generate a secondary expansion of the market for the output of informal urban sectors and of peasant farmers producing foodstuffs, which will tend to have positive effects on employment and on earnings in those sectors.

Adjustment

The growth of real wages will be limited by the behaviour of unemployment rates. If unemployment rates rise because the demand for labour grows less rapidly than labour supply, real wages will tend to moderate; if unemployment rates decline, real wages will rise that much more.

It is very hard to make predictions about the behaviour of unemployment rates over the short term. One pattern that has become increasingly evident is that in the short term, labour supply responds positively to growth in employment opportunities which has a stabilising effect on the unemployment rate, maintaining it at around its medium-term level. In this time frame, participation rates have a tendency to increase less and less, partly because the demographic transition responsible for the upward trends of previous decades has ended. This means that demographic pressures on the labour market are steadily diminishing and hence that a given increase in employment results in an increasingly large reduction in unemployment rates. In particular, the pressure of young people entering the labour market for the first time continues to decrease, and unemployed adults account for an expanding share of total unemployment. The only pressure that remains is from the growing female participation in economic activities.

The future prospects for labour market adjustment will be closely connected with the development of the educational and training levels of the labour force. Pressures for increases in productivity and for greater industrial specialisation are going to produce bottlenecks of skilled

workers and personnel in the most dynamic sectors, which can only be overcome by an increased supply of skilled workers generated by the educational system and technical and professional training schemes. Only to the extent that these systems respond in a flexible manner to the needs of the productive sector will the required increases in productivity be achieved.

Future labour issues

One of the most striking features of the adjustment of Colombia's labour markets since 1986 has undoubtedly been the fall in open unemployment rates in urban areas. Analysis clearly shows, however, that the fall in those rates has basically been due to a reduction in the duration of unemployment resulting from an increase of openings, while the proportion of particular groups in the labour force affected by unemployment (the rate of incidence) has been growing since 1987. Furthermore, the reason a large proportion of the unemployed is not finding work is not because there are no job openings but because job-seekers do not meet the requirements laid down by employers, mainly regarding skills and previous experience, to fill the positions available.

These trends are intimately related. Job openings have grown very rapidly, which has had the effect of reducing the employment search-time for people fulfilling the requirements for a job. This explains the fall in unemployment rates. The low levels of skill and previous experience of many unemployed people looking for work prevent them from filling job openings that exist. This explains the increase in unemployment rates in those population groups that are most vulnerable. The net balance of those two forces resulted in the fall recorded in unemployment rates in 1986 and 1993, and may also explain the increase observed in urban unemployment rates in 1994, a year when the increase in the incidence of unemployment may have exceeded the effect of the reduction in its duration. That reversal of the net effect of those two components of unemployment may be related to the pressures for increased labour productivity that have been apparent since 1993, which gave rise to more stringent skill and experience requirements for new vacancies created.

This means that, in order to continue bringing down urban unemployment rates in the future, it is necessary to act on the more structural factors that are responsible for a high proportion of the unemployed failing to find jobs despite the existence of a large number of job openings in the economy. Judging from the high proportion of unemployed people that have completed their basic education, the problem does not seem to be very low investment in that level of education but rather the very low proportion of people with a medium-level and post-secondary school education, and more particularly, low investment in professional training and employment-oriented skills programmes. In addition, employers do not generally take account of the number of years of formal education that a job applicant has had, so much as of his specific skills and his ability to learn. The first can be acquired through work, which facilitates the placing of people that have had some previous experience, or through special vocational education and professional training, which facilitates the placing of people who have benefited from those courses. The second attribute, the ability to learn, depends primarily on the quality of formal education the person has received, which facilitates the placing of people who have had a high-quality formal education.

These trends seem to suggest that the main labour market problem in the future will not be the creation of new jobs so much as a better matching of labour supply with skill requirements and the quality of formal education demanded by the new jobs being created.

A second problem that will affect the labour market in the future is related to the labour restructuring processes underway in both the private and the public sectors. The new model of economic liberalisation and internationalisation, together with expectations of a short-term coffee bonanza and a medium-term oil bonanza, should have a profound effect on domestic output patterns, which will engender a substantial change in labour demand patterns.

On the one hand, the demand dynamics of the market for goods and services is going to produce a shift from exports of minor goods towards exports of major items like coffee and oil as well as towards consumption, investment and public expenditure in the domestic market. There will be a decline in minor exports because they will be adversely affected by the tendency towards an appreciation of the exchange rate. Expansion of the domestic market will be rooted in the improvement in the terms of trade associated with these bonanzas.

On the other hand, the output of tradable goods for the domestic market, including both consumer goods and capital goods, will be affected by competition from imports as a result of the openness of the economy. This means that the agricultural and industrial sectors, the main producers of tradable goods, must redouble their efforts to maintain their competitiveness: they must not only increase total factor productivity, and in particular the marginal rate of labour productivity, but also seek greater specialisation, especially in industry, to take advantage of economies of scale and to reduce costs. At the same time, the government must make a great effort to improve the transport infrastructure, communications and land use, among other things, and invest heavily in the education, skills and maintenance (health) of available human resources.

The result of these pressures will be a new pattern of sectoral and regional demand for labour in which sectors producing non-tradable goods and services will display greater dynamism in the creation of jobs than sectors producing tradable goods and services. Some sectors and regions are going to reduce employment, and that will produce a need for relocating displaced workers into more dynamic sectors and regions. To that end, it will be necessary for the government to devise schemes for retraining workers, help them find new jobs and facilitate their relocation, in addition to the efforts already being made to train and find employment for young jobseekers entering the labour market for the first time. This is where a state employment agency could be more effective in reducing employment search time.

The expansion of the domestic market and the rise in real wages in the modern sectors that can be expected with the new environment in which the Colombian economy will have to operate in the coming years is shifting attention from the sector of big urban companies that flourished in the era of protectionism towards the traditional agricultural sector of small farmers producing foodstuffs, demand for which will increase, as well as towards the urban sector of more competitive and flexible small businesses that can enjoy cost advantages and are more labour intensive. Neither peasant farmers producing foodstuffs nor this urban sector of small business faces serious problems in the labour market, where they are confronted with a very abundant supply of manpower and highly competitive market conditions. Nor do they seem to face demand problems in the future, if the expected growth in the domestic market takes place. Their main problem is access to the market for land, as regards the peasant economy, and both sectors' access to capital markets. The challenge the economy faces in expanding employment possibilities in these sectors can only be successfully solved if the market for land becomes more flexible and small producers gain greater access to capital.

Lastly, while attaining conditions verging on full employment in a reasonable time frame is seen as a desirable objective of economic policy, the mechanisms governing the operation of labour markets can be too slow on their own to bring about a readaptation and reallocation of the work factor to the new occupational, sectoral and regional conditions of the demand for labour in the short to medium term. Over and above all the efforts currently in progress to speed up the economic growth rate, invest in human resources and big infrastructure, support the small business sector in both urban and rural areas, and improve worker-placement programmes, the only solution that remains in this period of transition to mitigate the adverse impact on the groups most vulnerable to unemployment and low earnings, and for minimising the social costs of adjustment to the new conditions that these groups must cope with, is to use public funds to finance special employment programmes targeted at the groups, sectors and regions most exposed to unemployment. Notes

1. DANE: National Administrative Department of Statistics (Departamento Administrativo Nacional de Estadística).

2. SENA: National Training Service (Servicio Nacional de Aprendizaje).

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					Prod	activity		Wages		RER	Def.	Debt service
Year	GDP	IRP	Emplt.	ັບບ	Lab.	Multi-Fac.	Ind.	Agr.	Min.			
1980	4:1	24.5	3 .1	10.00	1	0	100	İ00	100	73.1	2.3	1.8
1981	2.3	25.7	3.4	8:57	-1.1	-2.5	104.7	100.5	101	70.7	5.5	1.6
1982	0.9	24.4	3.9	9.50	-4:6	5	112.7	97.3 ⁻	104.8	65.6	6	1.9
1983	1.6	16:5	3.9	11.30	-4.6	-4.5	122.2	102.1	114.2	67.3	7.5	2.4
1984	3:4	18.2	3.5	13.38	1.2	-0.4	130.3	100.1	118.4	71.9	5.9	3
1985	3:1	21.8	0.4	13.83	0.7	-0.5	131.5	98.2	117.4	92.4	4.4	3.7
1986 [.]	5.8	21.5	4.8	13.46	2.2	1. Š	129.1	101.7	119.6	100	0.3	4.8
1987	5:4	22.6	6.6	11.80	-0.6	-0.1	134.6	105:4	119	99.7	1.9	6.2
1988	4.1	27.6	4.6	11.33	0: 9	-0.1	134	110.2	116.5	97.7	2.5	6.4
1989	3.2	26:1	3.7	9.98	-0.5 [°]	-0.9	132.5	109.8	117.3	105	2.3	6.5
1990	4.2	32.4	2.3	10.49	3:6	-1.7	131.4	103.4	111.6	116.9	0.8	7.3
1991	2.1	26.8	5.4	10.18	-1.7	-1.7	128	100	110.9	106.2	1	7.6
1992	3.6	25.1	4.6	10.23	-0.9	-0:9	124.3	97.2	109.1	103.9	-0.1	, 9.1
1993	5.3 ¹	22.6	2.7	8.65	Ž.5	1.2	1 35.6		112.1	103.3	1.4	

Table 1. Colombian economic indicators, 1980-1993

DANE, Banco de la República Source:

GDP'= Gross domestic product (% annual growth)

IRP = Index of retail prices

Émplt. = Adjusted urban employment in seven cities (% annual growth)

Emplit = Adjusted undariempionient in seven cities (% annual) UU = Urban unemployment in seven areas, annual average (%) Min. = Legal minimum wage (1990 = 100) RER = Real exchange rate (1986 = 100)

def. = Consolidated public-sector deficit as a percentage of GDP

Debt serv. = External debt service as a percentage of GDP.

Table 2. Unemployment rates in seven metropolitan areas, 1986-1992

(%)

Year	March	June	September	December	Annual average
1986	13.92	14.67	13.03	12.22	13.46
1987	13.45	12.21	11.25	10.27	11.80
1988	12.77	11.94	10.21	10.40	11.33
1989 [.]	11.01	10.39	9.04	9:46	9.98
1990	10.2	10.96	10.21	10.60	10.49
1991	10.70	10.72	9.86	9:45	10.18
1992	10.76	11.25	9.13	9.78	10.23
1993	9:65	9.19	7.89	7.87	8.65
1994	10.30	10.90			<u> </u>

Source: DANE, ENH.

Year	DANE Seven MAs (1)	Urban other (2)	Urban total (3)	Rurai DANE (4)	Agric. CEBA (5)	(%) (6)	National TOTAL (7)
1988	3 942			4 906	2 154	(43.9)	
1989	4 087			5 027*	2 197	(43.7*)	
1990	4 181	2 752*	6 933	5 255*	2 286	(43.5*)	12 188
1991	4 419	2 758*	7 177	5 437*	2 349	(43.2*)	12 614
1992	4 624	2 924	7 548	5 383	2 316	(43.2)	12 931
1993	4 750	3 047	7 797	5 364	2 232	(41.6)	13 161
1994	4 871	3 125	7 996	5 401	_		13 397
(%) 1994	(36%)	(23%)	(60%)	(40%)			(100%)
		ING	CREMENTAL EM	PLOYMENT (thousand	ds)		
1991/90	238	6	244	182%			426
1992/91	205	166	371	-54%*			317
1993/92	126	123	249	-19			230
1994/93*	121	78	199	37			236
1993/90	569	295	864	109			973
1994/90	690	373	1 063	146			1 209
(%) 94/90	(57%)	(31%)	(88%)	(12%)			(100%)

Table 3. Employment creation at national level, 1990-94 (thousands)

DANE, ENH, survey of seven metropolitan areas, with rounding of % of working-age population. (1)

(2)

Other (urban areas and provincial towns, not considered rural) — growth of 0.2%. DANE, ENH, survey of urban areas in 1992-93, with rounding of % of working-age population in 1993 (1) + (2) in 1990-91. (3) (4)

DANE, ENH, survey of rural areas, 1988, 1992, 1993, interpolated for 1989-91, as % of agriculture, CEBA.

(5) Direct manpower requirements year-round and seasonal farming activities, according to CEBA estimates.

Farmworkers as % of rural employment (5)/(4), interpolated for 1989-91. (6) (7)

(3) + (4) in 1990, 1991 and 1994; ENH National (urban + rural) for 1992 and 1993.

Forecasts for 1994 based on trends.

DANE, "urban":

Sources:

Dispersed population, plus administrative towns with less than 10 000 inhabitants or less than 50% of the total population of the municipality (=850).

DANE, "rural":

Dispersed population, plus administrative towns with less than 10 000 inhabitants or less than 50% of the total population of the municipality (=850).

Period	ТР	WAP	EAP	ÉP	
1 9 87	2.2	2.6	5.9	6.5	
1988	2.2	2.6	3.6	. 4.4	• 2.
1989	2.2	2.6	1.8	3.8	
19 9 0	2.2	2.7	4.3	5.3	
1991	2.0	2.4	5.0	4.5	
1992	1.9	2.3	3.5	3.4	
1993	1.9	2.3	2.0	3.8	
1994	1.9	2.3	2.9	2.1	
			· · · ·		
1986/90	2.2	2.6	3.9	5.0	• •
1990/94	1.9	2.3	3:4	3.3	
1986/94	2.1	2.5	3.6	4:2	•

Table 4. Labour market growth rates in seven metropolitan areas, 1986-1994 (% per annum)

. . .

Source: DANE.

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Table 5. Age- and sex- specific participation rates in seven metropolitan districts (in September of each year)

· .				
Groups by	age and sex	1986	1989 ²	1992'
Total		55.28	56.78	59:52
	12-29	49.28	50.51	51.74
	30-59	69:12	70.89	74.68
	60 and over	28.17	27.34	27.83
Men		72.02	73.33	74.21
	12-29	59:35	60.12	59:81
	30-59	93.71	94:85	95.08
	60 and over	49:91	46:65	47.55
Women		41.17	42:80	47.31 [.]
	12-29	40:8¥	42 .40 ⁺	45.07
	30-59)	48:22	50:25	57.48
	60 and over	10.65	12:21	11.94

Source: DANE, ENH:

A: URBAN AREAS (SEVEN METROPOLITAN AREAS - September of each year)	1986	1989	1992	
Groups by age and sex				
TOTAL	13.0	9.0	9.1	
12-29	20.3	14.4	14.8	
30-59	6.8	4.9	5.3	
60 and over	4.4	3.3	3.7	
MEN	10.2	6.9	6.5	
12-29	16.7	11.4	11.3	
30-59	5.3	3.9	3.6	
60 and over	4.8	3.7	4.5	
WOMEN	17.3	12.1	12.5	
12-29	24.7	17.9	18.7	
30-59	9.3	6.5	7.8	,
60 and over	3.0	2.1	1.2	•
B: RURAL AREAS (September-December of each year) 1988	1991	1992	********
Groups by age and sex			, c	
TOTAL	4.6	4.3	4.4	
12-29	7.9	7.6	7.2	
30-59	2.1	1.8	2.4	
60 and over	1.0	0.3	1.1	
MEN	2.9	2.5	2.5	
12-29 _Č	4.8	4.3	3.6	· *
30-59	1.3	1.2	1.8	1
60 and over	1.0	0.3	1.3	•
WOMEN	9.5	8.6	9.2	
12-29	16.1	15.5	16.0	
30-59	4.1	3.3	3.9	
60 and over	1.0	0.3	0.5	

Table 6. Age- and sex- specific unemployment rates (%)

Sources: DANE, ENH.

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Group	· 4.	1986	1989	1992
TOTAL	a na sana kata sa K	13.03	9.04	9.13
	None	9.15	6.22	6.89
	Primary	10.72	7.33	7.61
	Secondary	16.05	11.21	11.33
	Higher	9.83	6.78	6.66
MEN	•	10.17	6.95	6.51
	None	8.46	9.53	6.35
	Primary	9.33	6.12	5.92
	Secondary	11.88	8.27	7.63
	Higher	7.46	4.84	4.91
WOME	N	17.27	12.08	12.54
	None	9.90	2.75	7.55
	Primary	12.94	9.20	10.06
	Secondary	21.90	15.38	16.07
	Higher	13.54	9.51	8.72

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Table 7. Unemployment rates by educational level in seven metropolitan areas (September of each year)

Source: DANE, ENH.

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Table 8. Economically active population, by occupation in the seven metropolitan areas, 1986-93 (% in March of each year)

· · · · · · · · · · · · · · · · · · ·	1986	1987	1988:	1989	1990	1991	1992	1993 ·
TOTAL	100 <u>()</u>	100°	100 [:]	100	100:	100 6	100 ⁻ .	100
Employees and workers	61.52	61.81	61.54	62.29	63.73	62.63	62.71	63.23
Domestic service	6:85	6:57	6:00	6.17	5.65	5.60	5:37	5.00
Owner-managers or employers	4.21	4:74	4.90	5.27	4.61	4.60	4.99 °	5.07
Own-account	25:41	24:95 ⁻	25:71	24:52	24.61	25.65	25.45	25.22
Unpaid family members	2.01	1 [!] .92 [!]	1.85	1.74	1.40	1.52	1.47	1.47

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Source: DANE; adjusted figures as a % of WAP.

	1986	1987	1988	1989	1990	1991	1992	1993
TOTAL	100	100	100	100	100	100	100	100
1. Farming and livestock	1.67	1.58	1.47	1.39	1.61	1.47	1.19	1.22
2. Mining and quarries	0.45	0.42	0.36	0.43	0.43	0.43	0.32	0.39
3. Industry	22.93	22.89	23.12	22.64	22.39	23.23	23.45	24.26
4. Electricity, gas and water	0.66	0.65	0.71	0.70	0.71	0.84	0.72	0.66
5. Construction	6.40	6.29	6.42	6.07	6.41	5.46	6.25	6.32
6. Commerce, hotels and catering	24.95	25.79	25.77	25.73	24.83	24.85	25.65	24.81
7. Transport and communications	6.46	5.99	6.16	6.28	6.35	5.99	6.05	6.40
8. Banking and finance	6.79	7.14	7.29	7.21	7.45	7.81	7.70	7.53
9. Services	29.66	29.23	28.68	29.55	29.79	29.84	28.58	28.22
Miscellaneous	0.03	0.02	0.03	0.02	0.04	0.08	0.08	0.19

Table 9. Economically active population by sector, 1986-93 (% in March of each year)

DANE, adjusted figures as a % of WAP. Source:

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> > Table 10. Development of informal employment in urban areas (%)

Metropolitan areas	1984	1988	1992
Bogotá	48.5	49.6	45.4
Medellín	45.6	46.3	47.3
Cali	52.6	51.0	48.8
Barranquilla	55.1	57.2	56.9
Other urban areas (1)	57.3	56.9	57.9
Total urban areas	50.6	51.1	49.4

Source:

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DANE, EHN (June figures). Bucaramanga, Pasto, Cúcuta, Pereira and Villavicencio. (1)

Table 11. Index of real wages

Year	Industry (A)	Construction ;(B)	Agriculture	'Legal minimum (D)	
1986	(101.2	.99.1	:97.8	104.4	
:1987	100.6	:98:8	102:6	102.9	
:1988	99.2	97 /8	104.4	99:8	
1989	100.3	101:7	405.1	100:8	
1990	100:0	100:0	100:0	100.0	
1991	97.4	98.2	97.7	196:6	
1992	-98.4	98.7	494:8	95:0	
1993	103.2	106.0		97.6	

(annual averages, 1990 = 100)

Sources: :(A)

DANE -- (monthly ; manufacturing sample (workers). CAMACOL, Bogotá. :(B)

:(C)

DANE - agricultural day labourers, thot climate, no board, national weighted average.

(D) ¿Legal minimum wage.

Table 12. Changes in temporary employment and under-employment in seven metropolitan areas

(%)

	Temporary	employment			(Under-employment				
Year	March	June	Sept.	Dec.	March	June	:Sept.	Dec.	
1990	13:9	15.2	16	;18	13	a15:5	114/1	:16:2	
1991	17.3	16.4	M6.3	18.2	415.4	14:6	.15:8	14.2	
i1992	19.2	18.8	18.2	<i>.</i> 19 .2	17.4	16.8)13.7	.14.5	

Source: DANE, ENH.

"Temporary employment: "%-of-economically active people who work in a sporadic or, non-continous manner and those with work contracts; for periods of sup to a year.

*% of economically active people who have a work week of under 32 hours and want to work more, and of those who have a Under-employment: work-week of 32 hours or more but consider that their earnings or their type of employment do not match their skills.

-	Percentage	of unemployed looking f	or temporary work		
Year	March	June	Sept.	tDec.	
4990	:12.4	(13)6	16.0	19.7	
4 1991	13.6	416.8	:15.0	2211	
3 1992	15:6	:19:5	16.0	2211	

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DANE, ENH. "Source:

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Introduction

This paper is concerned with the formulation of macroeconomic policy objectives in circumstances, not seen for a long while in Latin America until the 1990s, where inflation has already been brought down to or close to the single-digit level. The detrimental effects of inflation on both growth and equity are in no doubt: indeed, most of Latin America has learned about them the hard way during the last, often dubbed "lost", decade. A new orthodoxy has spread throughout the continent, with some finance ministers and central bankers targeting inflation at the low single figures seen in Germany or New Zealand.

Such inflation-hawkish ambition may raise questions relatively new to Latin America, but more familiar to the OECD Member countries. In particular, in view of the social fragility of the region and the need for social sustainability of reform and stabilisation, we will discuss whether there are costs of Latin American disinflation in terms of higher unemployment or in terms of an output gap (the shortfall between potential and actual output). Should there be a trade-off between disinflation and employment, this would probably also imply that the past gain in price stability is unsustainable if the economy returns to full employment. The existence of a trade-off would also raise questions about the optimal rate of inflation and the optimal speed of disinflation towards such a rate.

We first provide a capsule summary of the significant cost of high inflation for growth and equity. We then proceed with a small model and some empirical evidence about the cost of disinflation, with a focus on the sacrifice ratios in Latin America. This will allow us to discuss the effectiveness of credibility management through central-bank independence, exchange-rate anchoring, and incomes policy.

The Costs of Immoderate Inflation

Inflation has the capacity to distort a wide variety of economic transactions, for example through interactions between inflation and taxation, the effects of inflation on uncertainty, and its effects on capital accumulation and growth. A recent survey by Fischer (1991) on the evidence that macroeconomic policies matter for long-run growth shows that the inflation rate enters the typical new growth-theory cross-country regressions with statistical significance and the expected negative sign. The causality seems to run from inflation (its level and variability) to reduced profitability (mark-ups) which in turn depresses the investment rate and the lagged growth rate. In addition, the distortions caused by the variability of price levels and relative prices affect total factor productivity.

Recent work by Michael Bruno (1993) has revealed some interesting differences for the impact of inflation on growth between OECD and Latin American countries. Table 1 shows the Spearman rank-correlation coefficient between cumulative growth and cumulative inflation to be significantly negative in Latin America, while it is positive but insignificant for the OECD. Bruno (1993) also reports an ordinary least-squares regression of the output expansion over the price expansion, which gives a significantly negative coefficient with an $R^2 = 0.46$ for Latin America (but only 0.23 when Brazil is included), while the respective OLS is insignificant for the OECD, with an R^2 close to zero.

Table 1. Inflation and Growth, 1950-90

		1960-70		·····	1970-90	
	GDP Annual Growth (%)	CPI Inflation (%)	Spe	GDP Annual Growth (%)	CPI Inflation (%)	Spe
Latin America ¹	4	9	-0.75	3	46	-0.48 ²
OECD ³	5	4	0.14 ³	3	. 7	0.31

Spearman Rank Correlations (Spe) by sub-period and country group

1. 1960-70 includes: Argentina, Bolivia, Colombia, Mexico, Peru. Uruguay. Venezuela, Costa Rica, El Salvador and Paraguay. For 1970-90 Ecuador and Chile are also included.

2. When Brazil is included the Spe falls to -0.31.

3. Includes Australia. Austria. Belgium, Canada, Denmark, Finland, Netherlands, Norway, Sweden and Switzerland. The period extends over the whole 20 years 1950-70.

Source: Bruno (1993).

These different growth responses to inflation may well be explained by the much higher rates of inflation encountered in Latin America. In fact, Bruno (1993) also shows the inverse relationship between cumulative output expansion and inflation during 1970-90 to hold only for the group of high-inflation countries (Argentina, Peru, Bolivia, Chile, Uruguay, Mexico; Brazil being the traditional outlier). The relation between output growth and inflation is rather positive for the group of six Latin American countries that experienced moderate inflation during 1970-90 (Venezuela, El Salvador, Paraguay, Costa Rica, Colombia, Ecuador). Consequently, lower levels of inflation have been associated with higher growth (or a return into positive numbers from the negative growth region). "Stabilisation by itself, even before sustainable resumption of investment and long-run growth, improves resource allocation and total factor productivity" (Bruno, 1993, p. 37).

High inflation is not only harmful to growth, but is also likely to worsen the distribution of disposable income and wealth. Even if the tax system itself is indexed in high inflation countries, tax collections may not keep pace with inflation because of the generally long lags in collection. Progressive income taxes, nomally a small share of tax collection in LDCs, may then lose their role as a distributive mechanism. The inflation tax, by contrast, can be expected to hit the poor in the informal sectors, because they find it more difficult to switch into foreign currency or inflation-proof assets. Inflation, in the absence of complete indexation, also erodes the real value of entitlements from public spending, such as pensions. High inflation and the pauperisation of the middle-income class have usually gone hand in hand. Lenin was right in observing that the fastest way to destroy the social order is to debauch the currency.

The Costs of Disinflation

The fact that low inflation is good for growth and equity should not blind us to the complications of getting there. Because of entrenched expectations and indexation derived from the country's past inflation record, inflation will persist unless price disinflation is helped by wage disinflation or real exchange-rate appreciation (Fischer and Dornbusch, 1991). A clear way to show this is by considering an economy where prices are fixed following a mark-up over wages in the non-tradable sector and following the law of one price in the tradable sector, so inflation is $p = \alpha w + (1-\alpha)(e+p^*)$ where α stands for the share of non-tradable goods in total output. Assuming no international inflation, and by substracting past inflation, we get the following expression for disinflation:

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$$p - p_{-1} = \alpha(w - p_{-1}) + (1 - \alpha)(e - p_{-1})$$
(1)

Table 2 below takes a closer look at the disinflation process. Argentina and Mexico have entered single digit-levels of inflation, with the target for 1994 to bring them down further to 3 and 7 per cent per annum respectively. Chile and Colombia have also succeeded in containing inflationary pressures, but less ambitiously than Argentina and Mexico, so that inflation in both countries has mildly edged up in the first half of 1994. Devaluation, corrected for the inflation of 1993, has fallen short of disinflation in all four countries, implying real appreciation; this has been particularly marked in Argentina and Mexico. We now turn to current exchange-rate levels, in order to examine whether they (and correspondingly current rates of inflation) are sustainable. The first question is that of the sustainability of wage disinflation.

				Memo
	CPI Inflation	Real Wage Growth	Real Appreciation	GDP Open Urban Growth (%) Unemployment (%)
Argentina				
1991	84.0	3.9	-24.8	8.9 6.5
1992	17.5	-0.5	5.9	8.7 7.0
1993	7.7	-0.5	8.7	6.0 9.5
1994p	6.8	n.a.	n.a.	5.3 n.a.
Chile				· · · · · · · · · · · · · · · · · · ·
1991	18.7	4.9	1.4	6.1 6.5
1992	12.7	4.5	4.3	10.3 .4.98
1993	12.7	3.7	0.0	6.0 4.7
1994p	11.3	n.a .	p.a .	5.0 n.a.
Colombia				
1991	26.8	1.7	2.9	2.1 10.2
1992	25.1	3.3	7.7	3.5 10.0 +
1993	21.2	4.1	5.2	4.5 8.5
1994p	25.0	п.а.	n.a.	5.3 n.a. 1
Mexico				s and the second second second second second second second second second second second second second second se
1991	22.7	5.9	9.3	3.6 2.7
1992	15.5	7.9	7.1	2.6 3.2 * *
1993	9.7	-1.7	6.6	0.4 3.4
1994p	6.7	n.a.	B.a.	2.0
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Table 2. Disinflation in Latin America

Sources: CPI Inflation: IMF CD-ROM, July 1974

Real Wages: "Balance Preliminar de la Economía de América Latina y el Caribe 1993", ECLAC, Mexico: Dornbusch and Werner (1994) Real Appreciation (CPI Based): "Balance Preliminar de la Economía de América Latina y el Caribe 1993", ECLAC GDP Growth: "Situación Latinoamericana", 2nd Quarter 1994, CEDEAL Unemployment: Argentina, Colombia and Mexico; ECLAC, Chile: Boletín Mensual, Central Bank of Chile

Proj ections: Argentina, Chile and Mexico, OECD Economic Outlook (1994)

Definitions: Real Wage Growth: Change in the Wage Index deflated by CPI.

Assume, as a good part of structural models for industrial countries agree, that short-term wage-inflation dynamics are determined by a traditional Phillips curve mechanism 1994p

$$w = \delta p_{-1} - \beta (U - U^n) - \gamma \hat{U}$$

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a 3

(2)

(2')

. . . .

where δ reflects the degree of indexation of the economy (backward-looking contracts) and the last term, following Blanchard and Fischer (1989), catches the idea that wages are also affected by variations in unemployment; hence subtracting past inflation on both sides we get

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$$w - p_{-1} = (\delta - 1)p_{-1} - \beta(U - U^n) - \gamma \hat{U}$$

In the non-indexed economy case, $\delta=0$, nominal wages will change only as a function of changing conditions in the labour market. If $\delta=1$, on the contrary, nominal wages will depend mainly on past inflation. In other words, in the latter case, the required increase in unemployment for reaching a given wage disinflation will be higher than in the non-indexed economy. For a given indexation and past inflationary experience of the economy, any attempt to reduce wage-inflation will necessarily require a transitory increase in unemployment above the "natural" rate (the rate consistent with stable inflation). Combining equations (1) and (2') yields a rate of disinflation that depends on past inflation, cumulative unemployment above the natural rate (the level effect), the rise in unemployment during disinflation (the rate-of-change effect) and real exchange rate appreciation

$$p - p_{-1} = \alpha(\delta - 1)p_{-1} - \alpha\beta(U - U'') - \alpha\gamma \hat{U} + (1 - \alpha)(e - p_{-1})$$
(3)

We can see the permanent and transitory gains of disinflation between time 0 and T if we consider equation (3) between these two dates. As common terms cancel out we get

$$p_T - p_0 = \alpha(\delta - 1)(p_{T-1} - p_0) - \alpha\beta\Sigma_1^I(U_i - U_i^0) - \alpha\gamma(U_T - U_0) + (1 - \alpha)\Sigma_1^I(e_i - p_{i-1})$$
(4)

The sacrifice ratio is a useful concept with which to assess the unemployment costs of a disinflation. It measures the cumulative unemployment gap (the excess unemployment over the natural rate) in a particular period, divided by the reduction in inflation over the same period. The sacrifice ratio can also be measured using the output gap, the difference between potential and actual output. This standard formulation can be found in the second term of (4) when the right hand side is divided by p_T - p_0 . Following Sachs (1983) we call this the *level effect*. The sacrifice ratio would then be linked to parameter $\alpha\beta$. However, this measure can underestimate the true costs of disinflation because, getting rid of indexation, there are still two other terms which can also account for disinflation. The third term is nil in the long run if the economy is supposed to come back to full employment. This is called the *rate-of-change effect*, and it accounts for temporary costs of disinflation. It is linked to parameter $\alpha\gamma$. The fourth term, the real appreciation, is also of the rate-of-change rather than level variety to the extent that real appreciation must be reversed to restore growth and to return to a sustainable current account unless huge productivity gains take place during the stabilisation plan. Note that the structural model can easily be identified by estimating parameter (1- α), the one that accompanies the real appreciation.

For policy purposes it is crucial to know how much of a given disinflation has come from the two parts, for only the level effect reflects a sustainable gain in inflation if Latin America's authorities want to move their economies back to the initial unemployment levels. Table 2 shows that in Chile and Colombia inflation has fallen along with the unemployment rate (which may still be above the countries' natural rate). By contrast, Argentina and Mexico have bought disinflation through rising rates of unemployment, hence their recent stabilisation gains may be unsustainable.

The extraordinary reform effort and stabilisation from at times hyperinflationary levels have produced probably important parameter shifts in Latin America. This means that neither the natural rate of unemployment nor potential output can be estimated with high confidence. A back-of-the-envelope calculation may nevertheless be helpful: assume that the natural rate of open urban unemployment in each of the four countries is simply equal to the lowest observed rate of unemployment during the disinflationary 1990s. To be sure, these urban rates do not compare to the standardised unemployment rates as measured in the OECD; they are far below the corresponding OECD standards since many people in developing countries can simply not afford to stay unemployed for lack of sufficient unemployment benefits, etc. For example, in Mexico the open urban unemployment rate averaged around 3 per cent during 1989-91 (when inflation rates were essentially stable); this rate then corresponded to 21 per cent when the underemployed (employed for under 35 hours per week) are included (Banco de México, 1993, Table 3).

	"Natural" rate of open urban unemployment	Cumulative excess unemployment during disinflation	Drop in inflation rate	Sacrifice ratio
Argentina ¹	6.5	3.0	10.1	0.30
Chile	4.7	2.0	15.1	0.13
Colombia	8.5	2.7	11.2	0.24
Mexico	2.7	1.2	21.2	0.06

Table 3. The Sacrifice Ratio in Latin America at Moderate Inflation Levels

(1989-93)

1. Applies to 1993 only; inflation was not yet at a moderate level before.

Source: Authors' calculation.

The sacrifice ratios shown in Table 3 are well below those calculated earlier for OECD countries, which were rather in the order of 1.5 to 2.5 per cent for the United States and the United Kingdom when they disinflated from two-digit levels in the early 1980s. One explanation is the low level of measured open unemployment mentioned above. Other explanations would include a lower degree of real-wage rigidity (as suggested in Table 2) and the help from currency appreciation and productivity increases. The latter two may be temporary, so that any further attempt at disinflation could meet with higher sacrifice ratios than shown in Table 3. Yet another reason may reside in the fact that lower single-digit rates of inflation will meet higher costs in terms of output and employment foregone, as the credibility of inflation objectives becomes more difficult to establish, nominal downward price and wage rigidities more binding, and the upward bias of measured CPI inflation (OECD, 1994) more relevant.

With all these caveats in mind, Table 3 shows what might happen when the authorities wanted to pursue disinflation further, or alternatively, move the economy back to the natural rate of unemployment. Argentina would experience a rise in the urban unemployment rate from 9.5 per cent to 10.7 per cent in order to bring inflation to the 3 per cent target (the 1.2 percentage point rise in the unemployment rate results from the multiplication of a 4 percentage point drop in inflation times the sacrifice ratio 0.3). Alternatively, the 3 percentage point drop in unemployment needed to bring the economy back to the natural rate of unemployment would push inflation from 7 per cent in 1993 to around 17 per cent. To bring Mexico back to the natural rate of unemployment would require a rise in inflation from 9.8 per cent in 1993 to 20.5 per cent (a drop of 0.7 in the urban unemployment rate of unemployment, experienced a lower rate of inflation in 1993 than would be needed to bring Argentina and Mexico back to "full" employment. Whatever such scenarios in the spirit of the short-term Phillips curve are worth, they show that with a social priority for full employment the recent impressive stabilisation performances should not be taken for granted.

Another way of looking at sacrifice ratios is by considering that equation (3) can be estimated, so the parameters linked to each effect can be obtained econometrically. We present the results of the estimation of equation (3) for Argentina, Chile and Mexico in Tables 4a, 4b and 4c respectively. The periodicities and the length of periods change from one country to another. In each case an exact version of equation (3) is presented and the main derivations of it follow.

Table 4a. Estimation of Equation (3) for Argentina

Dependent	Variable:	acceleration in inflation
Biannual data from	i 1974 to	1993 t-statistics in parentheses

	Base Model 4a.1	No Unemp. 4a.2	No Lag Un. 4a.3
Constant	-2.78 (-8.32)	-2.78 (-8.47)	-2.92 (-9.37)
Lagged Inflation	-0.87 (-11.3)	-0.87 (-11.5)	-0.88
Unemployment	-0.0001 (-0.006)		
Lagged Unemployment	-0.02 (-0.95)	-0.02 (-1.002)	
RER	0.58 (9.88)	0.58 (10.64)	0.59 (10.72)
R ² adj.	0.84	0.84	0.84
ρ	0.54 (2.9)	0.54 (3.1)	0.57 (3.4)
h Durbin	-0.49*	-0.51*	-0.32

(*) Estimated following the methodology described by Pindick and Rubinfeld. Econometric Models & Economic Forecasts, McGraw-Hill, 1991

Table 4a¹ shows clearly that, in the lines of our previous model, Argentine wages do not respond significantly (in a statistical way) to changes in unemployment. Therefore, we cannot be certain of which part of the adjustment is temporary and which is permanent in terms of unemployment. What is striking in the Argentine case, however, is that disinflation is determined to a large extent by two factors: the presence of indexation (which reflects inflationary expectations) and by the real appreciation. The real appreciation of 8.7 per cent shown in **Table 2** explains 5.1 (0.59*8.7) points of reduction in inflation out of 9.8 points of disinflation in 1993. The management of expectations can explain a good part of the rest. In the eventual case of a devaluation, inflation should rise, by the exchange rate effect only, by about 60 per cent of the nominal devaluation. How expectations will evolve rests the main clue in the actual Argentine situation. If agents perceive that a devaluation is a correct measure *and if* the public sector continues in its current good shape [high tax collection, controlled deficit (currently in surplus)] then there would be no reason *a priori* for being afraid of an explosion in expectations that guide to a dramatic resurge of inflation.

We turn now to the Chilean case. This case is completely different from both the Argentine and the Mexican case presented below. The results of the estimations are resumed in Table 4b.

	Base Model 4b.1	No RER 4b.2
Constant	-0.094 (-0.47)	0.02 (2.48)
agged inflation	-0.67 (-4.09)	-0.64 (-4.09)
inemployment	-0.0041 (-1.91)	-0.0048 (-2.57)
agged unemployment	0.0052 (2.91)	0.0054 (3.12)
ER	0.021 (0.58)	
² adj.	0.46	0.47
ow ·	1.89	1.97

Table 4b. Estimation of Equation (3) for Chile Dependent Variable: acceleration in inflation

Juarterly data from 1983.2 to 1993.4 t-statistics in narentheses

The main difference from our other two cases is that Chilean wages seem to respond significantly to unemployment. Hence the labour market situation plays an important role in the control of inflationary pressures or, put in a different way, a disinflationary programme is likely to rely strongly on increased unemployment. The coefficient of indexation gives a value of around 0.3 (on a quarterly basis) for the Chilean case which amounts to considerable inertia in the inflationary process. On the other hand, the real exchange rates in this period do not seem to play a role in disinflation². The *level* effect is 0.001 (-0.004+0.005) while the *rate-of-change* effect is -0.005. Note here that the level effect is higher than the rate-of-change effect suggesting that the gains of disinflation are more permanent than transitory.

Finally, we made the same estimations for the Mexican economy. The results are summarised in Table 4c.

Dependent Variable: acceleration in Inflation Quarterly data from 1981.2 to 1993.4 t-statistics in parentheses Period 1: 1981.2-1987.4 Period 2: 1988.1-1993.4 Base Model No Unemp Base Period 1 I. Base Period 1 4c.1 4c.2 4c.3 4c.4	2 II. Base Period 2 4c.5
Base ModelNo UnempBase Period 1I. Base Period4c.14c.24c.34c.4	2 II. Base Period 2 4c.5
Constant -0.66 -0.07 -0.62 -2.11 (-5.12) (1.43) (-4.60) (-0.27)	-0.78
Lagged inflation -0.71 -0.32 -0.75 -1.01 -(7.53) (-1.35) (-5.20) (-11.5)	-1.02 (-12.4)
Unemployment -0.0023 -0.0027 (-0.35) (-0.2)	• •
Lagged -0.014 -0.013 -0.012 -0.027 unemployment (-0.07) (-1.94) (-2.60) (-2.01)	-0.029 (-2.77)
RER 0.16 0.007 0.15 0.72 (6.17) (0.79) (5.36) (7.52)	0.70 (9.49)
Pacto* -0.046 -0.054 (-4.07) (-2.05)	
R ² adj 0.57 0.23 0.60 0.86	0.86
DW 1.95 2.09 1.81	
ρ 0.99 (16.6)	0.99 (17.6)
h-Durbin 1.641	1.24

(*) Pacto is dummy variable with 1 since 1988.1 after the implementation of the Pacto de Solidaridad. Its negative sign suggests that the pacto helped significantly to reduce the inflationary pressures.

The Mexican case is interesting because at first sight there seems to be a structural break after the implementation of the *Pacto de Solidaridad*, in December 1987. Comparing the base model estimated in both sub-periods, equations 4c.3, 4c.4 and 4c.5 above, parameters changed dramatically, especially that of the real exchange rate: this shows clearly that the stabilisation plan has been based mainly on the use of the exchange rate. Furthermore, the implied value of parameter δ came down from 0.11 in the first period to -2.61 in the second one. The movement in the parameter suggests that expectations changed dramatically after the stabilisation plan was implemented. In order to prove the structural break formally, we calculated a Chow test parameter of 10.2, well beyond the 3.9 limit at a 99 per cent confidence. Therefore, we can reject the null hypothesis of no structural break. Equation 4c.5 also suggests that the *level* effect is -0.029 whereas the *rate-of-change* effect the opposite. Hence, from the labour-market viewpoint the disinflation gains in Mexico seem more transitory than permanent.

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Pre-commitment and De-indexation

The cost of disinflation emphasised in the last section stem from inflation persistence which can only be overcome by protracted unemployment or a shortfall in growth. Much of the inflation persistence is associated with some implicit or explicit indexation, in particular for wage setting, which becomes unavoidable in economies where inflation is substantial. When, for example, the indexing formula links wages to past inflation, real wages rise when the inflation rate is reduced, implying higher unemployment. In order to minimise the employment cost of disinflation, the authorities must achieve a major shift in inflation expectations. Backed by the modern credibility and time-consistency literature, most economists recommend governments to drop inflation-biased discretion in favour of rules to which monetary policy should pre-commit, supported by wage rules that move from backward to forward setting based on expected inflation. Fischer and Dornbusch (1991) and Frankel (1992) provide useful surveys about the theoretical background in the Latin American and Asian context.

There are many candidates for the nominal variable to which monetary policy might commit: the exchange rate, money supply, the inflation rate, or nominal GDP. Using the exchange rate, in particular the US dollar, as the nominal anchor for inflationary expectations has much appeal for Latin American authorities because it is a simple commitment phrased in terms of a daily observable variable that can easily be monitored by the public. Moreover, the dollar peg imports credibility immediately while it does not overly destabilise the effective trade-weighted exchange rate when the country's trade depends heavily on the United States, in the case of Mexico reinforced by NAFTA. The problem is, however, that this disinflationary medicine cannot be taken for very long, unless it restores inflation convergence quickly or unless it is associated with an important lead in productivity growth. Otherwise, overvaluation will not fail to strike back.

It will suffice here to summarise and update an earlier analysis (Reisen, 1993) which still holds. We observe that while disinflation has been remarkable in Argentina, Chile and Mexico (less so in Colombia), there has been a striking contrast in the movement of their real effective exchange rates. Cumulative appreciation over 1991-93 based on CPI indices has been next to nil [5.7 per cent (3.4 per cent trade weighted)] in Chile, 15.8 per cent (10.8 per cent trade weighted) in Colombia, 23.0 per cent (17.3 trade weighted) in Mexico and 39.4 (27.6 trade weighted) per cent in Argentina (see Table 2). These differences are explained by the countries' choice of the exchange-rate regime. Both Argentina and Mexico tightened their monetary links to the US dollar more than Colombia and Chile did. The Argentine peso has been fixed to the dollar since April 1991 and, under the "Convertibility Law", the central bank cannot issue money unless backed by foreign reserves. Since 1989, Mexico has had an active crawling peg with the dollar, with a pre-announced devaluation rate falling short of inflation differentials with the United States. By contrast, Chile's exchange rate has been allowed to fluctuate within a band around a passive crawling peg set daily by the central bank, which has been conscious of the existence of a trade-off between a domestic inflation target and a real-exchange-rate target. Colombia has just moved from a crawling peg to a band similar to that of Chile.

Whether exchange-rate based disinflation such as practised in Argentina and Mexico can succeed depends on a) how quickly inflation can be brought down to the US level and b) the cost implied by the loss in international competitiveness. Chile's authorities are still traumatised by the failure of exchange-rate based disinflation in their own country during 1978-82 when backward wage indexation hampered inflation from converging quickly to world levels (Edwards, 1992).

By examining interest differentials on Mexican government paper to determine the country premium, the currency premium and expected inflation, Reisen (1993) finds significant drops in the country and currency premia but only a mild impact of the exchange-rate peg on inflation expectations. A significant reduction of inflation expectations also failed to show up in the term structure of Mexico's government-bond rates.

The strong cumulative appreciation of the real exchange rate observed in Argentina and Mexico does not necessarily imply a loss in international competitiveness, or overvaluation. How have Latin America's currencies valued in Purchasing Power Parity (PPP) terms evolved since disinflation started in 1990? There is generally a close cross-country correlation between PPP-adjusted real per capita GDP (relative to the US income level) and the deviation of the currency below PPP, since services tend to be cheaper in poorer countries. We take a country's deviation from the non-linear OLS fit as a yardstick to measure a country's position in world competition (excluding Africa and Eastern Europe). The underlying data are conveniently taken from the World Development Reports 1991, 1992 and 1993. We ran a panel regression of the deviation of the currency below PPP (a measure of the inverse of the real exchange rate) on the country's GDP level compared with that of the United States³. The regression results (t-statistics in parentheses) are

$$\log P_{i,t} = 3.26 + 0.019 * (GDP_{i,t}/GDPUS_t) \qquad R^2 adj.: 0.78 \qquad (5)$$

(79.5) (23.9)

This equation together with the evolution of our country sample plus a 1 standard deviation confidence interval are depicted in Figure 1. Our result shows that any relative gain in terms of per capita output with the United States involves an "equilibrium" appreciation of around 1.9 per cent equivalent to the Ricardo-Balassa effect. We are not considering other effects which can obviously affect the equilibrium rate of appreciation. As a result, the figures show that in 1990 Argentina was already 25 per cent above the level as determined by their comparative per capita income. Since 1990, the real appreciation observed in that country has added to overvaluation in PPP terms. Mexico was indeed slightly undervalued in 1990, by around 10 per cent. The cumulative real appreciation observed since then has made the peso to be just over the line. From this point of view the actual level of the Mexican peso cannot be considered as overvalued. What this analysis cannot say is whether the speed of the real appreciation (approximately 10 per cent in three years) can easily be absorbed by the economy. Chile and Colombia, by contrast, have remained quite "cheap" in PPP terms by international standards. Following our methodology, Chile has remained undervalued at around 30 per cent whereas Colombia has depreciated something like 4 per cent since 1990. In the latter two cases, their deviation below PPP is comparable to some Asian competitors whom the US treasury has not yet "negotiated" into exchange-rate overvaluation.





The overvaluation (in PPP terms) in Argentina and, less so, in Mexico would not need to be corrected if justified by fundamental determinants. However, depressed terms of trade and sizeable import liberalisation have rather called for a real depreciation in recent years. By contrast, thorough economic reform has raised productivity growth in both countries which warrants some real appreciation in the exchange rate (though the former fell short of the latter). But it is to be doubted that productivity growth can be kept sufficiently high to compensate for still existing differentials in inflation rates against major OECD trade partners. First, consolidation and privatisation of public enterprises as well as structural reform and stabilisation have crowded least-efficient firms and workers out of the productivity data; the resulting productivity rises could hardly be sustained if the Argentine and Mexican economies were to return to full employment. Second, both countries have seen quickly rising current-account deficits, reaching a massive 7 per cent of GDP in Mexico and 4 per cent of GDP in Argentina. If a new surge in foreign-debt dynamics is to be avoided, the savings-investment balance has to be corrected. If the adjustment burden falls on reducing investment rather than raising private savings (where the public-sector balance is already in surplus), the lead in productivity growth needed to avoid overvaluation will not be sustained.

Such analysis implies that the appreciation in real exchange rates observed in the early 1990s will eventually give way to depreciation. To the extent that disinflation has been bought by unsustainable real appreciations of the exchange rate, a reversal will imply that inflation will pick up until equilibrium exchange-rate levels have been reached. Following equation 4a.3 above, in Argentina a real depreciation of about 10 per cent (brought about by a nominal devaluation of 16 per cent) should imply an acceleration in inflation of 6 per cent (that is, to a level of around 10-11 per cent a year). This does not take into account eventual changes in expectations. In fact even if we discussed the fact that inflationary expectations fell abruptly after the Convertibility Law was announced, it is hardly predictable how expectations would react if a devaluation takes place. In the Mexican case, a 10 per cent real devaluation would accelerate inflation in 7 per cent to a level of 15 per cent a year. It should be stressed that this exercise is somewhat misleading because, by virtue of the above discussion, the desired real devaluation in Argentina is likely to be higher than that of Mexico. The reversal is likely to be sharper in Argentina than in Mexico whose exchange rate is closer to equilibrium levels.

Income policies have helped disinflation really only in Mexico. In Argentina, massive privatisation and overvaluation have generated enough unemployment to limit wage inflation. In Chile, backward-looking wage indexation has been replaced by bilateral bargaining between unions and employers; wages have consistently outpaced inflation, a reflection of the country's growing labour shortage. Colombia has never had successful experiences with income policies in part because of the weakness of labour unions and the dispersion of business federations. Wages are set in a fairly decentralised way and the *de facto* indexation is the result of free bargaining among agents. In Mexico, the Pacto between government, unions and business helped cope with inflation persistence through agreements consistent with disinflation over the next 6 to 12 months. Moreover, slow growth dampened any possibility of labour shortages. Even in Mexico, income policies could not prevent inflation persistence from remaining significant: Edwards (1992) shows for Mexico that inflation today remains determined by an estimated coefficient of lagged inflation as high as 0.70, brought down by a dummy representing the Pacto by a modest coefficient of -0.19.

The creation of an independent central bank is widely viewed today as the key step in stopping inflation. In Chile (1989) and Mexico (1993), central banks have been made independent, with responsibility for assuring monetary stability and inflation control; growth or employment are not part of the task description. Central-bank independence was granted at the end of disinflation to lock it in rather than to help reduce its costs. Adam Posen (1993) has recently convincingly challenged the causal link normally drawn between central bank independence and low inflation. His examination of the postwar record in OECD countries demonstrates that none of the mechanisms that would explain a counter-inflationary effect of central-bank independence — increased credibility, a higher policy priority for price stability, or decreased seigniorage — have a noticeable effect on cross-national differences in inflation rates. Posen shows instead that central banks will take strong anti-inflationary

action only when there is a coalition of interests, such as in the financial sector, capable of protecting it. It follows that the imposition of central-bank independence in countries where no supporting financial coalition exists will have far less effect on inflation than normally expected.

Conclusions

In spite of impressive disinflation achieved during the 1990s in some Latin American countries, inflation persistence has been shown to imply employment costs that raise questions about the speed and target level of disinflation. The lesson has been learned in countries that have abandoned monetary and fiscal policies that *sustain* ongoing inflation; fiscal irresponsibility and monetary accommodation is not the issue. To the extent that social considerations require the need to move Latin America back to "full" employment (the natural rate), some of the impressive disinflation may turn out to be unsustainable. That warning applies to those countries where price (and wage) disinflation have been bought by *growing* unemployment rates; only the cumulative excess unemployment above the natural rate can be thought to yield *permanent* disinflation. The warning applies equally there where exchange rate appreciation has not been accommodated by a huge productivity lead and a sustainable current account deficit; the imported price stability will have to be paid back then in terms of higher tradable goods prices.

To be clear, Chile and Argentina represent the two extremes in the region. Chile's authorities have stressed the existence of a trade-off between a domestic inflation target and a real exchange rate, and — despite five years of central-bank independence — they also seem to have recognised that rapid disinflation below 10 per cent would not be worth the price in terms of higher unemployment. The disinflation achieved, however, seems sustainable: the current inflation rate is associated with solid growth, low unemployment and a competitive exchange rate which can be easily defended in view of foreign-exchange reserves and a solid base of domestic investors (the pension funds). Argentina, by contrast, already has high unemployment and strong overvaluation. Growth is still impressive, but overvaluation will not fail to force it down. Accepting more stabilisation to return the exchange rate to competitive levels (the French strategy of "competitive disinflation"), would probably imply higher, politically unsustainable levels of unemployment. Defending the exchange rate through interest-rate hikes would slow growth, causing firms' balance sheets to deteriorate, and hence those of the banks. A return to full employment and competitive exchange rates will undoubtedly imply that the Argentine authorities will have to give up some of the disinflation achieved.

Notes

- 1. It was not possible to build formal tests of structural change for the period after April 1991 because there are too few observations (recall we used biannual data). The only possible way to deal with this problem was to estimate these equations up to the first semester of 1991. All of the parameters except lagged inflation increased in absolute value maintaining its significance. This suggests that *before* the Convertibility Law unemployment played a more important role in disinflation. The same argument serves to assert that the Convertibility Law played a major role in changing expectations. One casual way to explore a possible shift in parameters was to forecast disinflation during the Convertibility Law period. This forecast understates actual disinflation systematically, suggesting that some parameters could have changed.
- 2. In the Chilean case we chose a period where exchange rate policy was not used explicitly for containing inflationary pressures, as was the case in the 1977-1982 period. It is likely that a structural change in the inflationary process had taken place after that date, both because the government won credibility on a permanent basis and because the policy itself changed.
- 3. This is based on the Ricardo-Balassa hypothesis. However, we emphasize that we have neglected many variables that can affect the real exchange rate including the level of tariffs, factor dotation, domestic taxes, structure of government consumption, capital flows, monetary and real shocks, etc... However, many of these variables are not available for all of the countries and when they are their definitions usually differ from one country to another. Our exercise must be then taken only as a first evidence, which must be calibrated by the specific country experience.

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Draft INFLATION AND ECONOMIC POLICY REFORM: SOCIAL IMPLICATIONS IN BRAZIL¹ by ` Edward Amadeo Gustavo Gonzaga

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INFLATION AND ECONOMIC POLICY REFORM: SOCIAL IMPLICATIONS IN BRAZIL¹

Draft

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by

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Introduction

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In Brazil, recurrent stabilisation efforts since the mid-1980s have not been successful. Chronic inflation is a societal problem. It is the result of conflictual relations within the state, between private agents and the state, and between private agents themselves. Inflation in Brazil is the effect — not necessarily the cause — of these unresolved conflicts. However, to the extent that these conflicts exist and affect the everyday attitude of economic agents, the process of continual acceleration of inflation and the high volatility of inflation give rise to secondary social and economic consequences.

What are the implications of high and volatile inflation? We argue that the instability associated with the increase in price and wage dispersion — a consequence of the increase in inflation itself and of the expectations derived from the attempts to live with and control it — have two main social effects. First, it discourages firms from hiring workers through formal contracts. Second, it increases income inequality, due to the regressive nature of the inflationary process, and to the fact that better organised groups tend to get better deals in terms of wage adjustments than those prescribed by the official wage policy.

In order to develop these issues further, this paper is organised as follows. The next section presents an overall picture of the Brazilian labour market since 1980, stressing its high capacity of job creation and the poor quality of most of its jobs. We also discuss the evolution of income distribution in that period. Section 3 establishes, both theoretically and empirically, a (negative) link between high inflation (and high inflation variance) and job creation in the formal sector. Section 4 argues that high inflation was one of the main components behind the increase in income inequality in the 1980s. Section 5 discusses the effects of labour market institutions on the attitude of economic agents and the consequences of the latter for job creation in the formal segment of the labour market. The final section concludes.

The Brazilian labour market since 1980

Two issues are discussed in this section. We first argue that lack of job creation has not been a problem in Brazil at least for the last 14 years. Rather, the problem seems to be the poor quality of the jobs generated. Second, we present evidence that income inequality in Brazil, one of the highest in the world, has increased in the same period.

Despite the fact that Brazilian GNP growth since 1980 has been very weak, at about 1.1 per cent a year, occupied population grew at a much more rapid pace, at about 3.0 per cent a year (see Amadeo *et al.*, 1994). Total population grew at a rate of 1.9 per cent a year in the same period. In absolute terms, 16.6 million new job positions were created between 1981 and 1990, which suggests that the Brazilian labour market is capable of creating a large number of new jobs even in periods of relative low growth.

The evolution of unemployment and participation rates in Brazil confirms this high capacity of labour absorption. The Brazilian unemployment rate is low by international standards. Unemployment rates for the whole economy remained below 5 per cent in every year since 1980, despite the observation of higher rates in some metropolitan regions. Average unemployment in the six main Brazilian metropolitan regions between 1982 and July 1994 was 4.9 per cent, exceeding 6 per cent only twice in that period.

Participation rates, on the other hand, increased from 53.4 per cent in 1981 to 56.7 per cent in 1990, reflecting mostly a growing trend of women participation in the labour market². This increase, however, could be accommodated without a rise in unemployment rates, which illustrates that the Brazilian labour market is able to create a large number of new job opportunities.
What could explain the fact that an ailing economy, such as Brazil's in the 1980s, was able to incorporate a growing number of workers? The answer lies on the poor quality of the new jobs created. Most of these new jobs, especially those created in the first years of this decade, are in the informal sector, pay much less than 14 years ago in real terms, and are located in the tertiary sector, which is historically characterised by low wages, a high degree of informality, low unionisation, and high turnover rates.

Average real earnings of the economically active population, for instance, declined 14 per cent in the 1980s. This decline, however, was not monotonic. In fact, real earnings fluctuations have been very pronounced since 1980. Average real earnings decreased almost 30 per cent in the recession period from 1981 to 1983, then increased about 80 per cent in the recovery period starting in 1984, reaching a peak in 1986 (the year of the Cruzado Plan), but fell back in 1990 to a level 14 per cent lower than that observed in 1981.

More recent data covering only industrial workers in the State of São Paulo (the most modern sector of the Brazilian economy) show a slight increase in real wages in the first years of the 1990s, but still display significant fluctuations. Average real wages declined 15 per cent during the recession of 1990-92, a trend reversed by a substantial increase (about 30 per cent) between 1992 and 1994.

On the other hand, there is evidence that the informal sector non-agriculture activities has expanded since 1980. The proportion of workers hired without a formal contract (*sem carteira assinada*, without a work card), and therefore not covered by the Brazilian Labour Code (*Consolidação das Leis do Trabalho*, CLT), in non-agriculture activities increased from 20.4 per cent in 1979 to 26.1 per cent in 1990 (see Saboia, 1994)³. The corresponding figure covering the six main metropolitan regions of Brazil shows an increase from 13 per cent in 1982 to 15.5 per cent in 1992.

By contrast, data covering Brazilian non-urban activities show a decrease in the proportion of workers hired under a formal contract (*com carteira assinada*, with a work card) from 55.9 per cent in 1979 to 46.8 per cent in 1990 (see Saboia, 1994). The proportion of workers hired under a formal contract in the main Brazilian metropolitan regions declined from 57 per cent in 1982 to 50.5 per cent in 1992⁴.

While the working population in Brazil rose from 50 to 62 million between 1985 and 1990, the number of formal jobs in Brazil (workers hired under the *CLT*) grew by only 0.1 per cent a year in the same period, and declined 1.6 per cent a year between 1990 and 1993 (see Figure 1).

Labour turnover in the formal sector, on the other hand, is high when compared to other countries, suggesting little worker-firm attachment (and, therefore, little on-the-job training) even in the formal sector of the economy. Approximately 734 000 workers (3.1 per cent of the formally employed), on average, got a new job each month between 1985 and 1993, while about 722 000 (3.0 per cent of the formally employed), on average, left their jobs each month during the same period. Most of them (about 80 per cent, on average) were fired.

Another piece of evidence regarding the poor quality of the new jobs created in Brazil in the last fourteen years is given by a sectoral decomposition of employment. The proportion of workers employed in the tertiary sector, for example, increased 6 per cent in the 1980s, from 43 to 49 per cent. In absolute terms, this corresponded to the creation of more than 10 million new jobs in the last decade, a 50 per cent increase with respect to the number of jobs available in 1981. By contrast, the proportion of workers in the secondary sector remained almost constant in the same period, at about 23 per cent. The primary sector, on the other hand, created 0.9 million new job positions, decreasing its share on total occupation from 28 to 22.5 per cent.

More recent evidence covering only the Brazilian metropolitan regions in the first years of the 1990s display this same pattern. Data for the metropolitan region of São Paulo, for example, show a 20 per cent increase of new jobs in commerce and services between 1990 and 1993. By contrast, there was a 25 per cent reduction of jobs in the industrial sector in the same period.



Figure 1, based on data collected by the Labour Ministry (law 4923/65), shows the evolution of total formal jobs in Brazil and for three sectors of the economy: industry manufacturing, services and commerce. It reveals that, despite the large increase in the total number of service-sector jobs between 1990 and 1993, the number of formal jobs in this sector dropped from around 8.9 million in the beginning of 1990 to 8.5 million in the end of 1993. The total number of commerce-sector formal jobs also dropped from 4.0 to 3.7 million workers in the first years of the 1990s. Nonetheless, Figure 1 shows that the number of industrial sector formal jobs dropped even more, from 6.5 to 5.5 million in the same period, indicating that the informalization process has intensified recently⁵.

The fact that most of the new jobs created in Brazil since 1980 came from the services sector is another evidence that most of these jobs are "bad jobs", as we illustrate below. Amadeo *et al.* (1994*b*) show that approximately 60 per cent of workers employed in the services sector in 1989-90 have 4 years or less of education. By contrast, the proportion of workers with 4 years or less of study in the industrial sector is around 40 per cent, while for the whole economy is near 50 per cent.

Moreover, about 38 per cent of employees in the services sector in 1989-90 have a formal contract (are hired under CLT). The corresponding figure in the industrial sector is around 85 per cent. Most of these service-sector jobs display low tenure: 47 per cent of employees have less than one year of job experience at the firm. In the industrial sector, the proportion is 31 per cent.

Even among formal workers (hired under *CLT*), turnover rates are much higher in the services sector. In the commerce sector, for example, approximately 4.3 per cent of formally employed workers, on average, got a new job each month between 1989 and 1993, while 3.9 per cent of them, on average, lost their jobs in the same period. The corresponding figures in the industrial sector are 3.2 per cent and 3.4 per cent, respectively.

The tertiary sector is also characterised by low unionisation rates. Amadeo and Camargo (1993) show that the proportion of workers that belonged to a union in 1986 was 29.1 per cent in the manufacturing sector, compared to 5.6 per cent in the services sector and 14.4 per cent in commerce.

In sum, the typical service-sector job in Brazil is held by the relatively unskilled, does not provide a formal contract, is not unionised, and has a short tenure.

Finally, we present some evidence that income inequality in Brazil, one of the worst in the world, deteriorated in the last decade. Amadeo *et al.* (1994*a*) show that the income ratio of the richest 10 per cent against the poorest 40 per cent in Brazil is around 6, while for other countries with

population over 5 million and good quality data, this ratio is below 3.5. In fact, Cardoso *et al.* (1993) argue that Brazil has one of the most unequal income distributions in the world, worse than any other country with similar income per capita levels.

Moreover, income inequality in Brazil only differs from the pattern observed in other countries when we look at the top of the distribution: income distribution among the 80 per cent poorest is similar to the available international evidence. However, income distribution becomes very unequal when comparisons are made between the 80 per cent poorest and the 20 per cent richest (see Amadeo *et al.*, 1994*a*).

The rise in income inequality is illustrated by the time series behaviour of the national Gini coefficient in the 1980s, which increased from 0.564 in 1981 to 0.602 in 1990, after reaching a peak of 0.630 in 1989 (see Saboia, 1994). Barros and Mendonça (1994) present additional evidence that Brazilian income distribution worsened in the 1980s. They show that all deciles of the distribution lost income in the 1980s, but the poorest were the most affected. While average income declined by 1.5 per cent a year, on average, between 1980 and 1990, the mean income of the 10 per cent poorest decreased by 5.1 per cent a year, on average, in the same period. The 1 per cent richest, on the other hand, increased their income share from 12.1 per cent in 1981 to 13.9 per cent in 1990.

Data for the more recent period, covering only the Brazilian main metropolitan regions, show a drop in inequality measures in the first year and a half of the current decade. The Gini coefficient in these regions was 0.558 in mid-1991, after reaching a peak of 0.600 in mid-1989.

Most authors agree that income inequality in Brazil is mostly explained by unequal access to education, with the labour market's acting as a mere vehicle through which education disparity manifests itself (see, for example, Amadeo *et al.*, 1994*a*). However, in Section 4, we argue that the deterioration of income inequality in the 1980s is also explained by other factors, such as high inflation and macroeconomic instability.

Inflation and job creation

In this section, we argue that the high and unpredictable rates of inflation observed in Brazil have been a main source of macroeconomic instability and uncertainty throughout the 1980s and the first years of the current decade. This uncertain environment discouraged firms in the formal sector from engaging in long-term attachment to their workers. The result has been little training, low productivity, and high labour turnover.

Figure 2 depicts the evolution of monthly inflation rates in Brazil since 1985. The average monthly inflation rate between 1985 and July 1994 was 19.8 per cent, but it fluctuated from almost 0 per cent in the first months after the Cruzado Plan in 1986 to more than 80 per cent in the months preceding the launching of the Collor Plan in 1990.

The Brazilian economy has experienced six major stabilisation plans in the last ten years. Most of them froze prices and wages, five of them replaced the national currency, all of them succeeded in bringing inflation down temporarily, but then failed to control inflation on a more permanent basis (the most successful kept inflation low for only 8 months).

In fact, as Figure 2 shows, each and every plan since the Cruzado Plan in 1986 (with the exception of the Collor Plan in 1990) brought inflation down but to a higher level and for a shorter period of time than the previous plan was able to obtain. Lack of credibility in the government, especially after the first failed stabilisation attempt, inconsistency of fiscal and monetary policies, and unrealistic wage policies and de-indexation schemes were the main reasons behind this series of failures.



A typical pattern of inflation in Brazil since 1986 has been followed. Government fiscal imbalances, a passive monetary policy and a sophisticated system of wage indexation cause inflation to gradually accelerate from an already high monthly level. Price increases get to a close to the intolerable level, which threatens public security. Economic agents anticipate a new government stabilisation plan, encouraging them to increase relative prices out of fear of wage and price freezing. As everyone acts the same way, inflation accelerates.

The government, panicked by the events, launches a new plan. Inflation is reduced, but relative prices are still distorted, since this process is usually harmful to the government finances. Moreover, the government lacks credibility, since agents realise that structural changes have not been implemented. After a period of formal de-indexation, indexation re-starts, inflation gradually accelerates, and the process starts all over again (for a more complete discussion on stabilisation plans in Brazil, see Abreu and Carneiro, 1994).

Perhaps, the main social cost of these attempts to halt inflation is represented by the increase in the variance of inflation. A high inflation variance, coupled with a staggering pattern of intertemporal price and wage adjustment, produces a larger relative price dispersion. It also affects the wage-bargaining process, since unions, incapable of correctly predicting future inflation paths, rationally tend to incorporate a risk premium in their nominal wage demands, leading to a price-wage spiral. A larger variance of inflation, therefore, represents a higher degree of uncertainty in the economy⁶.

Non-synchronisation of wage adjustments is another source of uncertainty. Unions are organised at the regional and occupational level and each category bargains a collective agreement with firms once a year in a pre-determined month of the year. In a high inflation country like Brazil, non-synchronisation of collective bargaining makes the task of forming expectations about the future course of relative wages and inflation very difficult. Since transaction costs do not allow for more frequent wage bargaining between unions and firms, there is an incentive to overshoot wage demands, contributing to more inflation and higher wage dispersion. Higher wage dispersion is also a consequence of the differential degrees of bargaining power of distinct worker categories.

The same argument can be applied to explain why a higher level of inflation would lead to higher price dispersion. The frequency of price adjustment tends to increase when inflation accelerates, but some firms are not able to adjust prices as frequently as others, due to the existence of price controls or differential menu costs, for example⁷.

We measure price dispersion by the standard deviation of monthly price increases of 320 sub-items which compose the Cost of Living Index in São Paulo (*FIPE-SP*). We then test whether higher inflation leads to higher price dispersion. In fact, Figure 3 confirms the existence of a positive relationship between inflation and price dispersion (12-month moving averages) in Brazil. The only exception is between 1991 and 1993, when inflation accelerated without any increase in price dispersion.





Figure 4 plots inflation against wage dispersion (12-month moving averages), as measured by the coefficient of variation of real wages in 18 sectors of the manufacturing industry. It also finds a positive relationship between these two variables.

How does this uncertainty (measured by wage and price dispersion) affect the labour market? We argue that it affects the labour market through lower formal job creation.

First, we argue that, despite the high degree of flexibility of the Brazilian labour market when compared to most European countries, costs of adjusting employment in the formal sector are not zero. There are two main direct (institutional) costs of firing in Brazil. The first was introduced in 1966 and consists of a fine paid by the firm to workers in case of non-justified dismissals. The fine corresponds to 40 per cent of the amount deposited in a capitalisation fund in the name of the worker concerned, the *FGTS, Fundo de Garantia por Tempo de Serviço*⁸. Since the fine increases, in absolute terms, with the amount deposited in this capitalisation fund, it increases with the time of employment the worker has in a given firm.

The second most important cost of firing formal workers is the law requiring one-month's advance notice which the firm must give to its workers. During this period, the worker can take 2 hours a day off to look for another job. Since the firm knows that productivity goes down significantly in this month, it usually fires the worker and pays him/her an extra monthly wage⁹.

Amadeo et al. (1993) estimate that the direct institutional cost for a firm that fires, without justification, a worker with 1 year of employment in the firm and pays him an extra wage as advance



notice corresponds to 1.38 monthly wages. If the worker is in the firm for 5 or 10 years, the cost corresponds, respectively, to 2.15 or 4.84 monthly wages.

Costs of hiring, on the other hand, are driven mostly by technological reasons. Among them, the most important is the cost of training new personnel.

Theoretically, an intertemporal profit-maximising firm, in the presence of non-zero costs of hiring and firing, will hire fewer workers in an unstable environment than in a stable one, since in an unstable economy, target employment levels fluctuate much more. Since the firm would choose not to incur in costs of hiring and firing the same worker in two consecutive periods, it simply opts not to hire. Therefore, its optimal strategy is to avoid formal contracts, to prefer hiring temporary workers when it can, and not to invest in improving its labour-force quality. Empirically, this would imply the observation of less job creation in the formal sector in unstable periods.

Of course, we should not ignore the role played by the traditional variables affecting labour demand, like wages, own product demand, and technological improvements. The argument here is one of a partial correlation. *Ceteris paribus*, an increase in uncertainty should decrease formal job creation.

Figure 5 plots the evolution of wage dispersion and the number of workers hired (12-month moving averages) in the formal sector between 1985 and 1993. With the exception of the period 1990-91, the two variables look negatively correlated, *i.e.* firms hire more formal workers in times of low wage dispersion¹⁰. Apparently, however, there is no correlation between our price dispersion index and the number of workers hired.

Figure 6 compares wage dispersion and total employment in the formal sector (12-month moving averages). The Figure shows some evidence of a negative relationship between the two variables, with exception of the period from 1989 to 1991.

A more rigorous analysis could be carried out via an estimation of a dynamic labour-demand equation, and a test of the significance of adding our price and wage dispersion measures as explanatory variables. This should be done using firm level data in future work.



Figure 6. Formal employment and wage dispersion (12-month moving average)



Inflation, wage policy and income inequality

Cardoso *et al.* (1993) show that there is a significant positive relation between the inflation rate and several measures of income inequality in Brazil using data from 1980 to 1991. They find that variations in inflation and unemployment explain more than 30 per cent of the variation in income inequality in 5 large Brazilian metropolitan areas. They note that their findings still underestimate the total effect of inflation on earnings inequality since the data compares earnings at the beginning of each month, therefore ignoring the differential effect of the inflationary tax on the different groups in the society. In fact, the inflationary tax is felt more intensely at the lower end of the income distribution, since the lower one's earnings, the lower the probability of one being able to open a interest-paying current account at the bank. Before presenting some new evidence on the relationship between inflation and income inequality, it is useful to describe two characteristics of the Brazilian labour market that help to understand how inflation may be an important factor in explaining the rise in income inequality in Brazil during the 1980s. Both explain the wide use of the official wage policy in wage negotiations between workers and private firms, especially during the military period from 1964 to 1985 (see Gonzaga, 1988).

The first characteristic concerns the format of Brazilian Labour Laws. The Brazilian Labour Code (*Consolidação das Leis do Trabalho, CLT*) dates from 1943, an authoritarian period of strong fascist influence in Brazilian politics (see Amadeo and Camargo, 1993). The *CLT* had, from the start, a corporatist and paternalistic design, which basically left the task of intervening to mediate labour-capital conflicts to the state¹¹.

The second important feature of the Brazilian labour market for our analysis is the development of a sophisticated indexation system that emerged in response to the frequency of high rates of inflation, under the same paternalistic inspiration that permeates labour-capital relationship in Brazil. The official wage policy was introduced in 1965, after the military coup. According to one of its formulators, it intended to replace labour-capital conflicts by a simple arithmetical formula.

Government wage policy changed more than 15 times since its introduction. Most of the modifications concerned the frequency of automatic wage adjustment (which varied from yearly adjustments during the whole period before 1979, to monthly adjustments), and the percentage of inflation to be incorporated to wages.

Throughout the period, unions always fought for more frequent adjustments. Inflation acceleration, however, made the system incapable of protecting real wages. Nominal wage increases were, in general, eventually eroded by inflation acceleration.

The official wage policy was particularly important for all categories before 1985 (see Gonzaga, 1988). Since then, it has increasingly been converted into a "floor" of wage adjustment, usually followed by those groups with less bargaining power. It was also frequently used to adjust the minimum wage value.

Therefore, we make the argument that, especially after 1985 with the rise in union activism in Brazil, some workers became more effective than others in obtaining wage increases above the level determined by the official wage policy. Since this implies that some workers are more protected from inflation than others, inflation acceleration should increase wage inequality, especially after 1985.

Figures 7 and 8 display the evolution of inflation and earnings differentials since November 1982. Figure 7 plots inflation and the ratio between average wages in the industrial sector of São Paulo (*FIESP*), the most modern sector of the Brazilian economy, and the minimum wage, taking this ratio in November 1982, the first month, to be equal to 100^{12} .

Although there is substantial variation in the two series, they seem to move together throughout the period, again with the exception of 1990. This provides some support to the hypothesis that the more organised workers were able to obtain a better protection from high inflation than those workers that earn the minimum wage (or fixed multiples of it).

Figure 8 is very similar to Figure 7. It uses the ratio between the earnings of formal workers and the minimum wage as the wage differential variable, using the base November 1982 equal to 100. It shows that those employees hired with a work card, supposedly those with more bargaining power, could increase their wages in terms of minimum wages whenever inflation accelerated.

In sum, although more frequent than monthly data on earnings differentials, which would allow us to measure the total impact of the inflationary tax on income inequality, are not available, there is some evidence that the most organised groups in the society were more able to incorporate price increases in their wage adjustments than other groups. Therefore, those groups seem to have felt the effects of high inflation rates in Brazil less intensely, which contributed to the increase in income inequality observed in the 1980s.



Institutions and its effects on employment quality¹³

We have emphasised that the main problem in Brazil is not job creation but the low quality of the jobs created. In this section, we look at the way in which labour regulations affect the attitudes of individual workers and employers and, in turn, the way in which these attitudes affect the workings of the labour market. In particular, we are interested in the role of the interaction between agents' attitudes and certain characteristics of the Brazilian labour market, such as high rates of informal job creation and labour turnover.

As part of a state corporatist strategy, the Brazilian Labour Code was based on the notion that the law should protect workers from undue exploitation by employers. The counterpart of this approach is that if the law protects the workers, the latter do not need to negotiate better working conditions or wages. The objective of this strategy is to avoid capital-labour conflicts by reducing the level of direct negotiation between workers and employers. In such a scheme, both the Labour Code and the Labour Courts play a very prominent role.

However, laws are rigid and do not respond to environmental changes, whereas negotiations provide — at least in principle — room for flexibility. The usual attitude of unions and employers, in a system in which the law establishing wage adjustments and working conditions is very detailed and encompassing, is to appeal to labour laws each time one of the parts is not willing to negotiate.

Take, for example, the way workers, employers and Labour Courts behave when a worker is fired in Brazil. On the one hand, the worker has no costs if he sues the employer for unlawful practices during the contract, except the cost of attending the hearings¹⁴. This means that when a worker is fired he has a strong incentive to sue the employer. He has nothing to lose by doing so, and has a possibility of winning. So employed workers tend not to complain about unlawful practices for fear of being fired, but are very active in the Labour Courts if they are dismissed for any reason.

Employers, on the other hand, tend to appeal against the decisions of the Board of Conciliation and Judgement, since they perceive the system as favouring workers at this level.

The final result is an extremely congested system of labour law, with millions of demands per year (see, for instance, Pastore and Zylberstajn, 1988), and this results in impairing workers rights, as the final judgement can take years before being handed down. This consequently generates distrustful employer/workers relations, with employers always afraid of being sued in the labour courts, and very little incentive for co-operation at the firm level.

Although these considerations imply rigidity in the work standards dimension and very distrustful capital-labour relations, the current regulations tend to generate incentives for very flexible real wages and employment relations. This is so for two reasons. First, because the costs of firing in Brazil are purely pecuniary. There is no really important non-pecuniary limitation on a firm's firing a worker. Second, because the current system — in which, if the worker is fired without a justified reason, he has the right to withdraw his capitalisation fund (*FGTS*) and the firm has to pay a fee of 40 per cent of the fund, as described — provides an incentive for very short-lived individual labour contracts.

If a worker is never fired, he will never receive the fine and will only draw his *FGTS* when he retires. For unskilled workers, in jobs without clear promotion opportunities, being fired means an immediate income inflow which can be substantial, depending on how long they have held their jobs. This revenue would, otherwise, only become available on retirement. Obviously, the incentive to get fired is higher the smaller the rate of unemployment, since the probability of getting another job quickly increases in this case. For these workers, the optimal strategy is to find another job and try and try to get fired, reducing the amount of effort dedicated to the current job and, consequently, reducing productivity.

As short-term work relations are the optimal strategy for the worker, the employer's best strategy is to get the most out of the worker in this short period of time and never invest in him or her in the long run. This is so because the probability of losing the investment in workers through training and qualification is very high. Thus, the optimal strategy for the firm is to provide the minimal amount of training to unskilled workers and to exploit them as much as possible.

Under these circumstances, worker-firm relationships are expected to be of short duration. Firms have no interest in providing training for workers, while workers are not involved with the firms objectives. The employment relationship is very flexible, but there is very little room for labour productivity growth through training and learning on the job.

Table 1 shows turnover rate of the Brazilian formal-sector workers during the period 1985/1993. The turnover rate is calculated as the minimum between admissions and dismissals, divided by the

total labour force. The table shows the monthly average turnover rate and the annual labour turnover rate for the periods for which data are available.

The data should be read as follows. In 1985, on a monthly basis, 3.8 per cent of the jobs in all legally registered Brazilian firms with more than five employees changed hands. On an annual basis, in 1989, 39.66 per cent of the jobs changed holders. Although the time period is too short for more elaborate statistical inferences, the turnover rates showed in the table are strikingly high. On the one hand, it shows a high *employment flexibility* in the Brazilian labour market. On the other, it suggests that, with such high turnover rates, training and on-the-job learning would not be very common in the formal Brazilian labour market.

Another important institution to be discussed is the unemployment insurance programme. This programme functions more like a monetary transfer programme to formal unemployed workers than the traditional OECD unemployment programmes, which link the right to receive the benefit to some specific duties, like accepting a job offered by the government employment service, or to being available for re-training. Actually, the fact that it functions like a monetary transfer programme to unemployed formal-sector workers creates an incentive for workers and firms alike to turn signed labour contract jobs into temporary (during the four months the benefit is received by the worker) non-signed (informal) labour contract jobs.

During the four months the worker receives the benefit, the unemployment board has no control over the activities of the recipients. Thus, if the worker finds an informal job within these four months, the benefit will not be discontinued. If the new job is a signed contract job, the unemployment board could, in principle, find out that he is not unemployed and cut the benefit, although, in practice, that never happens. For the employer, on the other hand, it is always less expensive to have a non-signed contract worker.

Thus, a coalition can be formed between workers and employers to informalise the labour force. If the contract is discontinued for four months, but the worker maintains his job position, he will keep his wage and receive the unemployment benefit. Actually, the agreement could include the drawing of the capitalisation fund by the worker and the employer could negotiate the informal repayment of the 40 per cent fine of the FGTS. Thus, both employers and workers may have a financial gain, at the expense of the state.

This conjecture helps to explain, at least in part, the fact that the introduction of an unemployment insurance programme in Brazil did not result in a tendency to increase the rate of unemployment or to reduce the percentage of workers with a non-signed contract job, as theoretical models would anticipate. These models predict that unemployment insurance benefits would increase the rate of unemployment or the percentage of workers with a non-signed contract job for at least two reasons: because it would reduce the "utility" of work and thus induce leisure, or because, as the worker receives the benefit, he can refuse other employment opportunities in the informal market.

Figure 9 shows the evolution of the rate of unemployment (vertical axis) versus the evolution of the percentage of workers without a signed contract (horizontal axis) between May 1982 and October 1993. These are monthly household surveys data (*Pesquisa Mensal de Emprego - IBGE*) for the six largest Brazilian metropolitan regions. As in Figures 3 to 8, each point represents 12-month moving averages of the rate of unemployment and the percentage of workers without a signed contract, for a given period. The slope of this curve shows the relative behaviour of these two variables. The steeper the slope, the more the unemployment rate is the labour-market adjustment variable, as compared to the percentage of workers without signed contracts.

Points 1 and 2 correspond to the strong recession of the beginning of the 1980s (1982-84). Points 3 to 8 account for the years 1985-90, which is a period of rapid economic growth (1985-86) followed by relatively slow growth (1987-89). Finally, points 9 to 11 represent the recession period of the beginning of the 1990s.

As seen in the Figure, there is a clear change in the reaction of the Brazilian labour market in the two recession periods (points 1, 2 and 3 as compared to points 9, 10 and 11). While in the first



recession, the rate of unemployment was the main labour-market adjustment variable, in the second the percentage of workers without signed contracts replaced it. Thus, the role of unemployment as the adjustment variable becomes smaller after the introduction of the unemployment insurance programme.

Although this behaviour can not be entirely credited to the unemployment insurance system, the fact that the unemployment rate became a less important labour-market adjustment variable after the creation of the unemployment insurance programme is quite unexpected. Thus, one possible implication of these data is that the Brazilian unemployment insurance system created incentives for an increase in the number of informal labour contracts relative to formal labour contracts.

We conclude that the individual labour contract is a very important instrument of the Brazilian labour relations system. The paternalistic nature of the regulations of the individual contract and the importance of the Labour Courts in Brazil generate rigidities on work standard practices, but the lack of non-pecuniary restrictions and the relatively small costs of dismissal, combined with institutions which generate important incentives for worker-firm relations of short duration, discriminate against human-capital investment, on-the-job training and labour productivity growth. All this implies flexible employment relations, as opposed to the rigidities observed in the labour contract itself. Finally, the unemployment insurance programme creates incentives for the transformation of signed contract jobs into non-signed contract jobs, inducing the growth of the informal segment of the labour market in Brazil.

Conclusions

We started by arguing that the main employment problem in Brazil is not job creation but rather the low quality of the jobs created. In a sense, the Brazilian labour market is very flexible since the costs of hiring and firing are not particularly high. As a result of the uncertainty associated with the recurrent failures to reduce inflation, firms do not have the incentives to establish long term relations with workers, on the one hand, and on the other, have incentives to establish informal labour contracts. Labour market institutions — the role of the labour courts, the firing procedures and the unemployment insurance system — are also conductive to wage and employment flexibility. Hence, in a sense, the problem in Brazil is neither rigidity in the traditional sense nor sluggish job creation. On the contrary, the problem is too much flexibility as a result of the characteristics of the long inflationary process and the relationship between institutions and the attitudes of economic agents.

As a result, contracts in the formal sector of the Brazilian economy are short-lived, turnover rates are very high and the size of the informal segment of the market is large and growing.

Stabilising the economy is certainly necessary for enhancing the conditions for better labour-market performance, but the stabilisation process itself is not independent from the workings of the labour market in Brazil. The process of wage formation is too segmented and staggered over time, which — given pervasive uncertainty — creates an incentive for the overshooting of wage demands. In a relatively closed and very oligopolistic economy, the result of wage pressures is the acceleration of inflation.

Stabilisation is thus a necessary but not sufficient condition for better labour-market performance. Changing the labour-market institutions also seems to be an important factor in enhancing labour market conditions. The introduction of collective bargaining, the reduction in the importance of the Labour Courts, changes in the firing procedures, and greater control over workers benefiting from the unemployment insurance are examples of changes which could be introduced to improve the functioning of the Brazilian labour market.

Notes

- 1. Paper invited to be presented in the 5th annual meeting of the International Forum on Latin American Perspectives, sponsored by the IDB and the OECD Development Centre. We thank Paulo Levy for providing the price dispersion data used in this paper. We also thank Luiz Eduardo Miranda Cruz, Áureo Nilo de Paula Neto e Henrique de La Rocque for able research assistance.
- 2. Saboia (1994) shows that the significant increase in female participation rates for women in the last decade was mostly accounted for by those women that had 5 years or more of study. Women with 9 years or more of education, for example, increased their participation rates from 57 per cent in 1979 to 63.9 per cent in 1990. Total female participation rates rose from 33.6 per cent in 1979 to 39.2 per cent in 1990, while male participation rates remained almost constant, around 75 per cent.
- 3. Workers hired under a formal contract (under *CLT*) are entitled to receive social security benefits and are guaranteed by job security policies. The Brazilian Labour Code is more extensively discussed in Section 4.
- 4. In fact, most of this reduction (about 5 per cent) happened between 1990 and 1992, which might suggest the occurrence of a structural change with respect to the past, perhaps related to the introduction of new measures of trade liberalisation and aiming at the modernisation of the economy. This exposed many Brazilian firms to more competition, most of them located in the metropolitan regions covered by this household survey data.
- 5. Note that the time-series pattern of formal jobs in the services and commerce sectors look more smooth than in the industrial sector. This only illustrates that net employment changes at the sectoral level have not been large, hiding, however, an intense labour reallocation measured by gross job changes (number of workers hired and fired) at the firm level in these sectors, as we show below.
- 6. Fischer (1991) argues about the likely positive effect of inflation on uncertainty, via an increase in inflation variability. He also suggests that an increase in uncertainty is likely to reduce economic growth, and presents cross-country evidence of the negative effect of inflation levels on growth.
- 7. See Benabou (1988) for a theoretical model that would imply a positive relationship between inflation and price dispersion. Lach and Tsiddon (1992) provide empirical evidence.
- 8. FGTS, Fundo de Garantia por Tempo de Serviço, is a capitalisation fund also created in 1966. Each month, firms hiring workers through a formal contract deposit 8 per cent of the nominal wage value of each worker in a bank account opened in his/her name. Each account pays 3 per cent interest a year plus inflation adjustment and can be withdrawn (by the worker) only in case of non-justified dismissal, retirement, or housing purchase. Fund's resources were mainly used to finance housing construction. The fine for non-justified dismissal was originally set at 10 per cent. The 1988 Constitution determined its increase to 40 per cent.
- 9. A third institutional component of firing costs in Brazil, overlooked by most labour market analysts, is that job separation times are the best occasions for a worker to sue his/her firm for any unpaid benefits that he/she was entitled to receive in the period he/she was still working for the firm. Since the Brazilian Labour Code (*Consolidação das Leis do Trabalho, CLT*) determines that any unresolved dispute between firms and workers should be sent to Labour Courts, final decisions are usually slow and expensive, constituting in an important additional turnover cost.
- 10. 1990 was a very exceptional year in Brazil, characterised by a freeze in monetary assets over US\$ 1 000 of every Brazilian citizen, determined by the Collor Plan.
- 11. The *CLT* has been significantly changed only twice since its creation: in 1964 and in 1988. In 1964, after the military coup, the military government reduced the right to strike and amplified the scope of intervention in collective agreements. In 1988, a new Constitution was implemented, introducing a chapter on social rights, and amplifying the right to strike.
- 12. A number of 130 on the vertical axis, for example, means that the differential between FIESP wages and the minimum wage is 30 per cent larger than it was in November of 1982.
- 13. This section draws on Amadeo et al. (1994c).
- 14. In general, labour lawyers charge fees proportional to the value of the lawsuit, contingent on a favourable decision to the worker.

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Table 1. Labour turnover rates Brazilian formal labour market, 1985-93

Year	Labour turnover monthly average	Labour turnover annual	
1985	3.80	n.a.**	
1986	3.67	n.a.	
1987	3.72	n.a.	
1988	3.80	n.a.	
1989	3.49	39.66	
1990	3.26	38.20	
1991	2.69	35.75	
1992	2.26	28.05	
1993*	2.73	32.81	

Ministry of Labour — Law 4923 * Period January-October, 1993 ** n.a. — not available Source:

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Draft LABOUR-MARKET CONSEQUENCES OF THE ECONOMIC REFORM IN ARGENTINA by Carola Pessino

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Introduction

In 1991 Argentina entered a new era after decades of high inflation, disinvestment, capital flights and negative growth. That year, a new economic stabilisation plan, known as the "Convertibility Plan", was launched by the Government of President Carlos Menem with the aid of Minister of Economy Domingo Cavallo. This plan anchored the nominal exchange rate at one peso to the dollar, and empowered only Congress to approve a devaluation. This inhibiting of the use of inflationary financing was accompanied by massive privatisation of state-owned enterprises and a campaign to collect consumption and income taxes at a rate never before observed. It also decreased import tariffs from an average of 29 per cent in 1989 to 10 per cent in 1993¹. This change was in contrast to previous decades, with the exception of the period 1979-81, and implied a wide trade liberalisation. Table 1 presents main indicators for the period 1980-94. As a result of the Convertibility Plan, inflation was basically halted, GDP has been growing at an annual average rate of 7 per cent, there were a consumption boom and a massive inflow of capital, and the central bank has accumulated, international reserves of more than \$13 billion (from a low of \$784 million in 1989).

In spite of this success, unemployment has increased in Argentina, the real exchange rate is at low historical levels, the trade deficit has worsened and wages for skilled workers have been rising relative to those for less skilled workers. In principle, there should not be any worry regarding these indicators, since trade deficits could be sustained during a long period of time as long as the country is undergoing investment and growth with the aid of international capital inflows. This entrance of capital is, however, sustaining the historically low real exchange rate. The mention of "devaluation" as a cure for these side effects of the Convertibility Plan, causes most Argentines to tremble at the potential consequences of such an action on the calm "stability" of the 1990s.

Despite the macroeconomic situation and the delicate stability of the country, there are enormous pressures on the parallel side of the adjustment: the labour market. The low real exchange rate, which at least in the short run is not susceptible to devaluation, means that the price of tradeable relative to non-tradeable goods is historically low. When trade liberalisation is linked to the lifting of import tariffs and quotas, there are enormous pressures to lower the cost of goods produced domestically. In particular, exportable goods, such as agricultural production, are suffering while the import-competing sector and mainly industrial producers are faced with fierce competition from abroad (except for the automobile and paper sectors, which are governed by special rules). What can be done to gain international competitiveness? Unit costs of production must be reduced to face foreign competition. What are the possible ways of achieving this? To decrease unit costs of production, that is the ratio of wages to average labour productivity, firms can in principle try to lower wages, but wages, and especially wages in dollars are high with low real exchange rates. Wages in dollars cannot be touched for the same reason that nominal exchange rates are not touched. One possible way of dealing with wages directly is through lowering the gap between the cost of labour to producers and wages received by workers. In Argentina, with its regulated and taxed labour market, this gap is very wide: 18 per cent contributions from employees and 33 per cent contributions from employers, resulting in a gap of more than 50 per cent². The government has thus diminished employers payroll taxes for some sectors by 30 per cent and a labour reform was discussed in Congress in late 1994. So, while there is room to decrease unit costs of production through narrowing the gap in labour costs, it is going to be neither rapid nor wide, given the political constraints faced by the current administration.

Firms can increase labour productivity, the other adjustment plank, by:

- I using more capital-intensive techniques: buying more capital, usually an imported good in Argentina, with the added incentive of its price being relatively low. The balance of trade figures report, one third of imports correspond to intermediate capital goods;
- 2 using less labour, especially less skilled labour, and obsolete skills;
- 3 increasing labour productivity directly through incentive schemes such as pay-forperformance and other management techniques.

These three strategies, more complements than substitutes, imply that there is an incentive to lay-off the more unproductive workers, and substitute them with lower-priced capital goods, simultaneously creating a situation where non-working people have the incentive to wait for one of the high-wage jobs in the economy. Conversely, the structural-adjustment programme in itself means the end of the era of import substitution and some kinds of labour- market activities that are no longer needed: bureaucrats, rent-seekers or simply artisans working for a closed economy. While this type of labour faces a lower demand, highly skilled workers, especially those uncontaminated by the old model, face an increased demand reinforced by complementarity with the newly acquired capital goods and the need for efficiency.

In sum, the labour market is supporting most of the pressures of the adjustment, sustaining growing unemployment together with higher relative wages for skilled workers.

If newly created unemployment is seen in this perspective, and some workers are "paying" the cost of the adjustment process, having accumulated the wrong kind of skills for the new model, there is nothing to blame on the government. Jobs are still being created, labour productivity is increasing. Unemployment is supporting the transition to a market economy as workers cannot be reconverted in an instantaneous way; nor is it economically efficient to reconvert or retrain older workers. There is still room to decrease unitary costs of production through wider flexibility and lowering of taxes on the labour market. These measures certainly contribute to higher unemployment, but they are not the main cause of the rise in unemployment rates.

This paper will describe the current situation in the labour market in Argentina in the light of the structural adjustment programme. The aim is to present the situation with regard to relative wages and wage inequality and the evolution of employment and unemployment. While theoretically one can expect a short- to medium-run increase in wage inequality and unemployment, which could be self-correcting in the long run, such outcomes can produce a halting in the stabilisation programme due to political constraints.

Simple analytical framework

There is no consensus in the theoretical or empirical literature on the effects of trade liberalisation on relative wages and unemployment. Recently, the United States has been experiencing an increase in the relative wage of skilled workers, which a growing number of researchers attribute to increased trade, which has raised the relative demand for this type of labour. However, the evidence is no conclusive³, The theoretical framework used in the US case is that trade leads, via Factor-Price-Equalization (FPE), to raising relative wages in developed countries. The same argument should lead to a decrease in relative wages in less developed countries, where less-skilled workers are more abundant. The argument for less developed countries is that trade liberalisation eliminates capital subsidies, raising the cost of capital relative to labour and inducing a shift in the composition of output towards more labour-intensive products.

However, in Argentina the stabilisation plan tended to decrease the price of capital (since most capital goods are imported in Argentina) relative to the price of labour through not only lower relative tariffs for intermediate capital goods but with an overall lower real exchange rate.

The real exchange rate is one of the most fundamental relative prices in an open economy⁴. It results from the internal price of tradeable goods (IPT=PT.E) over the price of non-tradeable ones (PN) and it fundamentally affects the allocation of resources in the Argentine economy.

Figure 1 shows the evolution of the real exchange rate from 1970 to 1994. It is defined as the US WPI multiplied by the parallel- market exchange rate in Argentina (austral/dollar) and divided by the Consumer Price Index of Argentina. This measure is an approximation for the Argentine case of



e = PT.E/PN. Defined in this way, a high real exchange rate implies an improvement in Argentina's competitive position relative to other economies.

Given the smoothness in the US WPI, variations are determined mainly by differential rates of increase in the nominal exchange rate and prices. A variety of factors are found in the literature about the determinants of changes in this measure: among others, the ratio of trade balance to GDP, internal terms of trade, government spending, tariff reductions and international capital movements.

The importance of the evolution of e for this economy is that in the period under review it has become extremely volatile. Although correlated, changes in two or three times the level of this variable can take only a couple of years.

Argentina experienced a major overvaluation during 1979 and 1980; the real exchange rate in 1980 was half the level of 1977-78 and a third of the level in 1974. This overvaluation of the Argentine currency has been explained in the literature [see Sjastaad and Rodríguez (1979) and Calvo (1987)] as being a consequence of the 20 December 1978 "Tablita" plan, which failed to reduce the fiscal deficit, but produced an increase in the prices of non-tradeable goods with a "hooked" nominal exchange rate (real-exchange-rate "misalignment"). After the abandonment of the plan in 1981, through successive nominal devaluations the real exchange rate depreciated to reach three times the 1980 level. During the 1982-89 period the real exchange rate fluctuated by plus and minus 20 per cent at a relatively mean average level. Beginning in 1990, the real exchange rate begins to decrease accumulating approximately a 66 per cent decrease between 1989 and 1994.

The effects of the volatility of real exchange rates on different distributional aspects of the labour market seem to be enormous. At the income-distribution level, the literature on international trade stresses the relationship between real exchange rates and aggregate real wages (without distinguishing in the simplest version between skilled and unskilled labour), or real wages as a proportion of real return to capital. Depending on the model, the effect can be different. The most intuitive explanation in a two-goods model comes from the idea that "labour" is a non-tradeable good, so if *e* increases, the relative price of non-tradeable goods decreases, and there is a decrease in real wages. In a more structured way, the "Stolper-Samuelson" theorem of international trade for a two-good two-inputs model says that an increase in the relative price of the good that uses labour intensively will increase the relative remuneration of labour against capital. This issue has crucial policy implications for the Southern Cone countries or other import-substituting economies. Trade liberalisation (mainly through tariff reductions) has been opposed by different "interest" groups in these countries because they claim that labour will "lose". The assumption is that there are two

sectors, the agricultural sector and the manufacturing labour-intensive sector previously competing with imports.

When there are more factors or more goods the relationship can be ambiguous. Rodríguez (1981) shows that in theory, a positive relationship can be found between functional income distribution and tariff reductions. The main features of his model are three sectors, the agrarian sector (the exportables), the industrial sector (which competes with imports) and the service sector (the non-tradeable sector). Production is carried out through the use of three factors of production: labour, land and capital. Labour is used in the three sectors, land only in the agricultural sector and capital only in services and industry. He finds that for every one-point decrease in duties on imported industrial products, real wages will rise by at least eight points⁵.

On the individual or demographic side, we also expect differential effects. (Of course, these effects are interrelated in some sense with overall income distribution.) The change in relative demand for tradeable and non-tradeable goods will cause changes in the relative wages for these sectors and differential effects depending on how sectors are differentiated by intensity of education, gender and experience, will emerge. For example, women are overrepresented in the service sector and where they tend to have higher levels of education than men. If the real exchange rate decreases we will expect their earnings to rise relative to those of men.

When labour is dissagregated into skilled and unskilled groups, if we rely on the FPE we expect declining relative wages, while if we rely on capital substitution and search for efficiency, such as incorporating R&D to deal with competitiveness, we expect the opposite to occur, that is, an increase in relative wages for skilled workers. In this case, the relatively higher demand for capital is complementary to more skilled labour and is a substitute for less skilled labour. We thus expect to find an increase in wages for more skilled workers and a worsening in income distribution. The effect on aggregate demand for labour will depend on the scale effect: if GDP increases sufficiently with the lower price of capital, there will be increases in the demand for all factors of production. However, the net effect will be a higher demand for capital, more skilled workers and lower demand, at least in the short run, for less skilled workers. Stokey (1994) developed a theoretical model where rising capital flows from trade liberalisation in an LDC raises relative wages in the medium-run, until endogenous human-capital formation catches up. On the other hand, the switch from a model of import-competition to export-led-growth and international competition means that skilled labour used in the previous setting will not have the same rental rate in the new model. There will be individuals who have accumulated the wrong type of skills, either formally or through training on the job (an example can be an excess of lawyers, or public relations individuals functioning as rent seekers). This implies that the higher demand for skilled labour will be for newer skills. The pressures to be more competitive are not only driving firms to buy more capital, they are increasing demand for skilled labour and enhancing incentive schemes. These forces create higher unemployment and increasing its average duration, since workers with skills would have the incentive to wait until they find a high-paying job. However, if laid-off workers are unproductive in the new scheme, they should either accept lower-paying employment or obtain retraining in higher-wage skills.

Changes in the structure of wages by sector, skill and education

Considering labour in the aggregate — that is, as one factor of production which together with capital produces output — the simpler models predict that aggregate real wages can decrease (if the tradeable sector is relatively more capital intensive) or increase (if there are more sectors than in the traditional Stolper-Samuelson model of the tradeable sector is more labour intensive) following real exchange-rate depreciation. Figure 2 shows aggregate wages for males aged 25-54 in the period 1986-93, using microeconomic data from the Household Surveys in Greater Buenos Aires⁶.



The data support the hypothesis that aggregate real wages have increased since the stabilisation plan. However, when one considers wages differentiated by skill groups, the story is somewhat different. In fact, as Figure 3 shows, wages for professionals have risen more than for white-collar workers and these in turn more than for less-skilled workers, whose real wages have fallen. This evidence contradicts FPE, in the sense that the relative abundance of unskilled labour is the factor that gains after trade liberalisation.



Wages by Industry⁷ have also moved differently, confirming the hypothesis that wages in the service sector have risen relative to manufacturing, but real wages in manufacturing have still increased since 1990.

To gain further perspective on whether the alternative explanation to FPE — the higher demand for capital and search for efficiency as explanations for rising relative wages — instead of looking at



relative wages by skill or industry (which a worker can change) a better understanding can be gained by looking at relative wages by educational level.

Relative wages in the economy are derived from changes in both derived demand for labour and supply for each type of skill. Assuming imperfect substitution among labour types, an increase in demand or supply will change the relative wage. Following Welch (1970), Freeman (1979), and assuming a CES production function, we have that:

$$\hat{W} = \hat{I} / \sigma (\hat{d} - s)$$

where W is the ratio of wages for more skilled or more educated labour with respect to less educated or less skilled, d and s are relative demand and supply respectively for skilled labour, σ is the

elasticity of substitution for these two types of labour, and a hat over a variable indicates rate of change.

So, if there is an increase in demand for highly educated individuals relative to supply, we should expect an increase in their relative wage as long as the elasticity of substitution is not infinity. This relative wage increase will be manifested essentially through an increase in the rate of return to education. Pessino (1993, 1994) estimated the rate of return to education for the periods 1986-93 using household data; these estimates are summarised in Figure 5.



Notice first that during the period 1986-89 the rate of return to education increased by almost 3 percentage points, from 10 per cent to almost 13 per cent. As documented by Pessino (1993), this increase was due mainly to inflation and especially hyperinflation. After inflation ceased the advantages more educated workers had of improving their relative position ceased. After 1990, there was a gradual increase in the rate of return from a low of 9 per cent to more than 10 per cent in 1993.

These figures consist of the rates of return to one more year of education, on average, without considering the different rates of return to primary, secondary and university years. While there is evidence of a slight increase in rates of return to schooling, a different and more accurate perspective can be gained studying the individual returns to primary, secondary and tertiary education since we would expect an increase in their relative rate of return. Figure 6 plots the returns to education by educational category.

There was a significant increase in the rate of return to tertiary education and a decrease in the returns to primary and secondary education, causing a small increase in the overall rate in the 1990-93 period. This increase in returns for individuals with tertiary studies reveals the increase in their relative demand with presumably low elasticity of substitution. This increment in the rate of return to Higher Education occurred in spite of the increase in supply of highly educated individuals during the period. The 1980s, with their stagnation, drove more people to school and the results can be appreciated in Table 2.

Table 2 compares the schooling level (either complete or incomplete) attained in 1987 and 1993. We see in this short period of time, an increase in the population of GBA with tertiary studies: while in 1987 only 12.3 per cent of the population (aged 14 or over) had some tertiary studies, in 1989 more than 17 per cent finished that level. When one compares census data from 1980 and 1991, the



enrolment ratio in tertiary studies doubled (from 20 to 40 per cent); however, part of this index results from increased periods of residence in tertiary studies in Argentina.

Moreover, by industry we expect that rates of return to education will increase mostly in sectors with higher demand for skilled workers, that is, those sectors that have increased their capital intensity and/or are in the process of lowering labour costs. In Table 3 we see that most sectors have higher returns to education, especially the financial sector; workers in the manufacturing and construction sectors increased their rate of return to education from 1990 to 1993, compensating for the loss in return during the 1987-90 period. Figure 3 plots rates of return to education for the period 1986-93 for manufacturing, services (both formal and informal), construction and the public sector.



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Although there is evidence that trade liberalisation with low historical exchange rates produced an increase in the relative demand for skilled workers (see the bottom panel of Table 3), the increase is relatively higher in the services sector and construction.

This is a first step towards overall unit costs reduction in Argentina, since we expect that the lower prices of services will contribute to lower prices of tradeable goods. There is still, however, a long way to go in terms of structural adjustment to see if these changes were only brought about by the overvaluation of the peso. Note that the increase in real manufacturing wages (see Figure 4) and the increase in the rate of return to education from 1990 until 1993 (Table 3) might be biased towards those manufacturing sectors that receive special government protection, such as automobile and paper manufacturing.

As a consequence of these factors, income distribution in the Greater Buenos Aires area worsened after the convertibility plan. This is because, if rates of return to education increase, so will (other things constant), the variance of log wages. Figure 8 plots the highest income decile divided by the lowest decile. Notice that a higher real wage and greater inequality of wages does not mean that in terms of welfare Argentina is worse off [see Shorrocks (1983, 1988) for a discussion on these matters], moreover, welfare was at its lowest in the 1985-1989 period with declining real wages and increasing inequality. This is an important fact, which should be kept in mind by authorities worried by increasing income inequality. In the case of Argentina growing income inequality is accompanied by higher real wages, but also follows the structural adjustment process, which requires higher rates of return to education.



Unemployment consequences

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The change in relative demand for labour brought about by the Stabilisation Plan implies more mobility of workers across sectors and occupations. Following Lillien (1982) and subsequent literature, sectoral shifts alone can explain increasing unemployment. While in the short run, educational levels are not easy to change, sectors that acquire capital and sectors facing international competition will try to hire more skilled labour and dispose of workers with either low skills or skills that are obsolete in the new context. At the same time, employers trying to increase labour productivity further will use incentive schemes, raising wages to motivate the employed workers, and wages (being nominally difficult to diminish) will not tend to move downward at least in the short run.

Figure 9 shows the evolution of unemployment from 1974 until 1993.



Notice that the unemployment rate accelerates in 1992, the May 1994 figures showing a further 1 per cent increase.

To determine whether the increase in unemployment was due to similar reasons as those for the increase in rates of return to education, we should find that unemployment did not increase just for those with lower skills, but also for highly skilled people in the import-substitution sector.

Table 4 compares unemployment rates by education in 1987 and 1993 (October of each year). The comparison between these two years is similar to that between 1991 (the start of the Convertibility Plan) and 1993.

Table 4 shows a higher proportion of the unemployed among tertiary and secondary educated workers. This increase is higher than the increase in employment by educational categories (see Table 2).

Table 5 compares rates of unemployment by sector, showing that the more human-capital intensive sectors also produced the higher rates of increase in unemployment. As an example, the financial sector has both the greatest increase in rates of return to education and the larger lay-off rate among the group of firms.

Furthermore, the work of Pessino and Giacchino (1994) showed that unemployment increased more for white-collar workers than for blue-collar workers, contradicting the usually held view that unemployment tends to increase more for the low-skilled workers.

While the demand side of the increased unemployment shows evidence of a shifting of skills, both towards higher skills and to substitution of new for obsolete skills, there was also a response on the supply side of the market. In particular, labour-force participation of women increased as did their unemployment. However, Pessino and Giacchino (1994) showed that this increase was more an "added-worker effect" produced by the increase in unemployment of prime-age males. In this sense, unemployment of women augments but is not the main cause of increasing unemployment.

A further cause of the increase in rates of unemployment was the introduction of unemployment in 1992. This compensation for laid-off workers was established with a replacement ratio of 80 per cent and a maximum pay of 400 pesos (without counting family subsidies), financed through an additional payroll tax. As of December 1993, at least 10 per cent of the unemployed collected insurance, and the rate of coverage was expected to increase. As Pessino and Giacchino (1994) showed, this compensation had the effect of increasing the average duration of unemployment, and this alone might contribute almost a 1 per cent increase in the measured unemployment rate since 1992. If the compensation continues to have the same pay and minimum conditions to qualify, we expect a further increase in the unemployment rate on this account.

While there was an increase in unemployment, employment as a proportion of the population remained relatively stable since 1985. Figure 10 shows the evolution of employment for prime-age (35 to 49) males and females and the aggregate.



Note, that at least in terms of this cohort of women with a more stable labour-force participation, there was a proportionate increase of the group in the jobs created in the economy. For men, employment did not grow and in the last three years showed a slight decline⁸.

These results imply that with growing (absolute) employment, and growing GDP, it is not clear if the average productivity of labour increased or declined. However, the increased rate of return to education, higher wages for more skilled workers, higher unemployment both due to sectoral shifts and incorporation of capital-intensive techniques, and the search for competitiveness through discharge of obsolete human capital and incentives schemes to motivate the labour force should point to an increase in labour productivity. This increase should be higher in the sectors that are experiencing these changes most. Table 6 shows average productivity for different sectors of the economy and Figures 11 A and B plot these relationships with a base of 1980 = 1.

Overall, between 1990 and 1993, average labour productivity (AP) increased by approximately 5.5 per cent per year, or by 17 per cent, while if one takes 1994 into account, the annual increase is 6.5 per cent, giving a figure for the whole period of 22 per cent. Conversely, prior to 1989, average labour productivity decreased by 1.9 per cent a year. There were clear differences in productivity growth by sector. Since 1990, AP in agriculture increased around 3 per cent a year, mining by 2.6 per cent, manufacturing by 11.7 per cent, construction by 12.7 per cent (although it had a similar performance 1987 and 1988), electricity by 3.9 per cent, trade by 3.9 per cent, transportation by





1.6 per cent, the financial sector by 8.3 per cent and finally, personal services AP decreased by 0.7 a year.

It is not surprising that average productivity increases in "booms" coinciding with the highest rate of growth in GDP in the last 30 years. According to business cycle theory, this happens because of labour hoarding, since labour is a quasi-fixed factor of production. When changes in demand come to be regarded as more permanent, demand for labour tends to increase. If the technical change is non-neutral, however, labour productivity will be higher in the steady state. Evidence of this is the increased demand for educated labour in some sectors which should produce an increase in productivity by itself. Perhaps the highest incentive for this growth in labour productivity is the need to compete with imports and to decrease prices of exportable goods. However, the largest increases in productivity have been obtained in manufacturing and construction, the former mostly composed of import substitutes and the latter of non-tradeables. The exportable goods, such as those from mining and agriculture have experienced the lowest increases in productivity⁹. The real forces of the economy are working towards a higher real exchange rate and hence more competitiveness.

Although the trend towards higher labour productivity is positive and continuing, unit costs of production as proxied by wages in (dollars) divided by average labour productivity are still much higher than at the beginning of the Convertibility Plan¹⁰.

Table 7 compares dollar wages, average productivity and their ratio for selected sectors for the years 1989, 1991 (the beginning of the Convertibility Plan) and 1993.

While the rate of real exchange rate appreciation between 1991 and 1993 was 20 per cent, the average increase in dollar wages was approximately 50 per cent¹¹. Note that in a simple model with two sectors, tradeables and non-tradeables, and under a fixed exchange rate, under equilibrium in the non-tradeable-goods market, the following equation holds [see Edwards (1989)]:

$$\hat{W} - \hat{E}_t = -\frac{\hat{\eta} + \varepsilon}{\varepsilon} e_t - \frac{\gamma}{\varepsilon} \hat{T}_t$$

where W is the nominal wage rate, E is the nominal exchange rate, $e = P_T \cdot E / P_N$, P_T is the price of the tradeable good, P_N is the price of the non-tradeable good, and T is a parameter that captures technological change or productivity gains (shifting supply of non-tradeable goods). The parameter η (<0) is the elasticity of demand of N with respect to the relative price of N, ε (<0) is the elasticity of supply of N with respect to the W in terms of P_N , and finally γ (>0) is the elasticity of supply of N with respect to T. This equation states that a real appreciation increases dollar wages while productivity improvements will also tend to increase them. Note that it also implies that a given real appreciation of x per cent will impact by more than x per cent in dollar wages. The appreciation of the exchange rate by 20 per cent with increases in productivity of 12 per cent and an increase in dollar wages of 50 per cent is therefore not incompatible¹². Moreover, this simple model assumes only one class of labour and does not capture the increase in aggregate wages induced by a higher demand for skilled workers.

Returning to Table 7, unit costs increase less than dollar wages since there were gains in productivity, and on average there was a 33 per cent increase in unit costs. If one deducts from these costs, say 10 per cent from the reduction in payroll taxes, there is still a 22 per cent increase between 1991 and 1993.

Unit-labour costs measure the ability of a country to compete internationally, a relative increase in unit-labour costs reflects a loss of competitiveness and of the ability to penetrate international markets. Although it will be useful to compare these numbers to other Latin American countries, especially those forming Mercosur, it is clear that Argentine exports were just 5 per cent of GDP in 1993 or approximately \$12 billion. Argentina is still very far away from reducing unit labour costs. Further increases in productivity or direct reductions in labour costs are needed.

Conclusions and policy recommendations

The evidence we have presented showed that the change in policy brought about by the Convertibility Plan had important consequences for outcomes in the labour market.

First, relative wages for more educated individuals increased during this period, notwithstanding the increase in their supply¹³. Relative wages increased for more skilled workers and for the services sector, especially the more intensive-human-capital sectors.

Second, and as a consequence of the first result, inequality of wages increased. However, from a welfare point of view, this distribution of wages may be regarded as an improvement. In addition, the

higher dispersion encourages individuals to invest in more and better education, so that there is no reason to expect that this increased inequality will continue in the long run.

Third, the same forces that produce increased rates of return for tertiary-educated individuals, through a biased demand towards them, implied lower demand for less skilled workers and for workers with "obsolete" skills.

Fourth, the same dynamic implies that employers will not in the short run diminish wages significantly in the face of higher unemployment. This is because their need for productivity growth means they have to maintain or even increase wages to motivate the labour force. If this is indeed the case, there is no short-run hope for a decrease in unemployment¹⁴.

Fifth, the lower real exchange rate has not been translated into a proportional increase in unit costs of production, since after 1990 there was an increase in labour productivity. However, these costs are still higher than historical levels, and further increases in productivity are needed.

Sixth, the Stabilisation Plan was still underway at the time of writing. While the indicators show evidence of a restructuring of production in the economy towards a more competitive stance, the appreciation of the peso in itself (without trade liberalisation or reconversion) can also produce a higher demand for human capital and increase unemployment. Moreover, Argentina did not produce a significant increase in exports brought about by this presumed reconversion.

What can the government do under these conditions?

In principle, the increase in wage inequality is temporary and is giving the right signals for individuals to invest in human capital. There is then no need for manpower planning or any educational planning. Where the government can and must intervene is in the improvement of educational provision and its quality for the population. The current system of free public schools for everyone is subsidising the rich, since the poor have little access to any type of education and yet they pay for the education of the rich through taxes. Moreover, the lack of competition between public schools and the declining educational budget over the 1980s have resulted in a deterioration of the quality of education.

One of the most important measures to be undertaken is the lifting of regulations in the labour market. The main impediments to free mobility of labour and the causes of higher costs have to do with current legislation in Argentina, especially the restrictive lay-off policy, mandatory severance payments, accident compensation, the considerable power of unions in setting wages, minimum wages and high payroll taxes. This "flexibilisation" of the labour market can at least enhance prospects for the young to find employment and smooth the transition between sectors for individuals.

Another policy undertaken by the government is the provision of training programmes for young and less educated workers. The programme consists of subsidising the groups' employment as trainees in the private sector. While this can alleviate the unemployment rate of younger workers it can worsen the unemployment rates of more mature workers if there is some possibility of substitution. If providing training programmes substituting for incomplete schooling for the poorest part of the population cannot be regarded as a bad policy (if on equity grounds most of the population is subsidised to complete school), such programmes will not necessarily succeed in lowering unemployment rates.

The other major programme introduced by the government — unemployment insurance, with a replacement ratio of 80 per cent and a maximum pay of 400 pesos (without counting family subsidies) — apart from being financed through an added payroll tax, is increasing the rate of unemployment. The government should find a different way, if it wants to decrease poverty, instead of subsidising leisure in such a way.

In sum, government intervention in trying to accelerate the process towards full structural adjustment should be: to lift restrictions on mobility in the labour market to avoid increasing unemployment more than necessary; to improve the educational system by making it more competitive and allowing equal access to the population without the need to provide it publicly; and to lower payroll taxes through decreased employer and employee contributions and through improved legislation on mandatory severance payments and accident compensation. Politically, higher unemployment and low competitiveness of the economy are hard to sustain. However, the path to improving competitiveness has just begun and most corrective measures to avoid the transition (such as increasing protection for selected products, or giving massive unemployment compensation) will not help in achieving the goal.

Notes

- 1. The average tariff masks variations according the degree of completion of the good: zero tariff for imports of intermediate capital goods, between 2.5 per cent and 15 per cent for raw materials and intermediate goods and 20 per cent for finished consumption goods. See Rodríguez (1994).
- 2. This gap does not take into account severance payments and compensation for accidents. Firms constitute provisions for this eventuality, which increase the gap by an average of 6 per cent.
- 3. See for example the work of Bound and Johnson (1992) and Katz and Murphy (1992).
- 4. The terms of trade, defined as the ratio between the dollar price of exports and the dollar price of imports, is another important relative price in an open economy. The effect of this variable on microeconomic relations in Greater Buenos Aires is presumably of second order when compared to the effects of variations in the real exchange rate. Additionally, it is expected that an improvement in the terms of trade will decrease the real exchange rate through an increase in foreign exchange. For these reasons, the analysis of the impact of this variable on micro relations is left for future work.
- 5. Rodríguez concludes the paper by stating that "This ratio of eight to one between tariff reductions and real wage increases is certainly almost beyond belief, but it should serve as a warning to those who habitually assume a negative relation between protection and real wages. It is to be hoped that further empirical research will shed more light on this fascinating relationship."
- 6. Note that nominal wages were extracted from the Household Surveys of the Greater Buenos Aires area in October of each year. There are other surveys, mainly sectoral surveys, which calculate much lower rates of change in real wages for the period after 1990. [See FIEL (various issues) and Carta Económica (various issues)]. However, the surveys tend to weight more less-skilled workers, for whom wages have increased the least or not at all.
- 7. These results and all that follows refer to data on wages and returns to education for male wage and self-employed workers, 25-54 years of age. The household data is from Greater Buenos Aires area (GBA) that comprises 40 per cent of the population and a higher proportion of GDP,
- 8. For all the age-groups of workers, the behaviour of this time series is similar.
- 9. Note that balanced growth in productivity will produce an increase in aggregate supply in Argentina and thus a real depreciation of the peso. However, if productivity growth is biased more towards the non-tradeable goods, we expect a further increase in the real exchange rate. See Marston (1987) for evidence on differential productivity growth between the United States and Japan.
- 10. A more accurate measure of unit-labour costs considers wages received by employees plus all the payroll taxes of employees and employers and all forms of wage compensation. The major change during the period was the reduction in employer payroll taxes of 30 per cent; however this reform began in 1994.
- 11. Using data from industrial and sectoral surveys, the dollar wage increase during this period is estimated between 25 and 35 per cent. The sample was restricted to the wages of formal-sector, 25-54 year-old workers since this group contains the most unskilled workers.
- 12. Note that the increase in T will also produce an increase in e, through a lower price of P_N .

- 13. Robbins (1994) studying the experience of trade liberalisation in Chile after 1975, also found a widening of relative wages in favour of skilled workers. During the early 1980s Chile also experienced very high unemployment rates and real- exchange-rate undervaluation.
- 14. However, in terms of "efficiency wages" theories, we would expect that higher unemployment in turn will be an incentive means for workers in itself, and wage increments to motivate workers might no longer be needed. See Bulow and Summers (1986).

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	1980-84	1985-89	1990-94	1994 (projection)
GDP (1986 prices)	9 849.1	9 800.5	11 009.6	12 360.5
Annual rate of growth (%)	-0.9	-1.1	7.0	4.5
Consumption (1986 prices)	7 779.6	7 781.7	9 032.6	10 202.1
Investment (1986 prices)	2 143.8	1 740.9	2 089.6	2 762.4
Unemployment (October, Greater Buenos Aires - %)	3.5	5.5	7.6	10.5
Employment (millions)	9 731.2	10 655.4	11 529.5	11 753.0
Trade balance (S millions)	1 267.0	3 286.9	75.0	-5 300.0
Real exchange rate/\$US	102.6	119.1	54.3	43.5
Inflation (annual average rate – %)	268.1	863.2	505.2	4.0
Average labour productivity	0.96	0.91	0.96	i.05

Table 1. Principal indicators of the Argentine economy

Note: Averages over the period, the data for 1990-94 is estimated.

Employment figures are estimated from census data, household data and industrial surveys. The trade balance is defined as exports minus imports. The real exchange rate is defined as the nominal exchange rate multiplied by the US wholesale-price index and the consumer-price index in Argentina.

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Table 2. Schooling by level - Population and employed, Greater Buenos Aires, 14 and more years of age (percentages)

·	Рппагу	Secondary	Teniary
Population > 14			
1987	55.6	32.1	12.3
1993 Employed > 14	48.5	33.8	17.7
1987	53.8	29.6	16.6
1993	43.7	31.9	24.4

Source: Own calculation with data from INDEC, EPH, October each year.

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	1987	1990	1993	1990-1987	1993-1990
Average return	10.3	9.0	9.9	-1.3	+0.9
Average return by sector					
Manufacturing	10.9	7.8	9.8	-2.9	+2.0
Services, informal	8.7	10.0	10.1	+1.3	+0.1
Services, formal	10.8	8.2	10.3	-2.6	+2.1
Financial services	9.3	11.7	15.3	+2.4	+3.6
Construction	7.7	2.7	8.1	-5.0	+5.4
Public services	10.5	9.9	9.9	-0.6	0.0
Average return by occupation					,
Professionals	8.1	10.0	13.7	+1.9	+3.7
White-collar	8.3	6.9	7.4	-1.4	+0.5
Blue-collar	6.6	4.7	3.0	-1.9	-1.7
Source: Own calculation. See Pessino (1994).					
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Table 3. Average returns to education, Greater Buenos Aires(by sector and occupation, 1987, 1990 and 1993)

Table 4. Unemployment rates by educational level (percentages)

	Primary	Secondary	Teniary	Total
Proportion of unemployed				
1987	60.7	30.8	8.5	100
1993	44.0	41.5	14.5	100

Source: Own calculation, on the basis of EPH, INDEC.

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	1987	1993	% increase
Unemployment rate	5.2	9.6	84.6
Unemployment rate by sector			
Very human-capital intensive	1.9	4.2	121.1
Financial services	1.3	10.8	
Services to firms	3.2	6.4	
Public administration	1.2	2.4	
Public instruction	1.3	1.8	
Medical services	2.0	3.0	
Moderately intensive	4.5	7.6	68.9
Chemical products	6.0	10.1	
Machinery, metal	3.2	6.5	
Other manufacturing	5.7	8.3	
Electricity, gas and water	0.0	14.5	
Retail/wholesale trade	5.0	7.0	
Transportation	2.9	8.3	
Less intensive	7.4	13.0	75.7
Food, beverages, tobacco	6.7	9.9	
Textile	6.5	10.9	
Construction	10.7	16.2	
Restaurants, hotels	7.2	10.5	
Repair services	8.2	10.0	
Domestic services	5.9	14.5	

Table 5. Proportion of the unemployed in each sector

Source: See FIEL (1994).

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	Total GDP	Agriculture	Mining	Manufacturing	Construction	Electricity & water	Trade	Transport/ Communication	Financial sector	Personal services
1980	1.02	0.58	3.86	1.42	0.77	1.49	1.05	0.78	3.23	0.59
1981	0.96	0.63	4.06	1.32	0.71	1.50	0.87	0.73	3.34	0.60
1982	0.92	0.63	3.57	1.28	0.76	1.52	0.78	0.75	2.96	0.58
1983	0.96	0.65	4.20	1.39	0.80	1.62	0.83	0.76	2.80	0.60
1984	0.95	0.64	4.45	1.37	0.72	1.69	0.82	0.85	2.85	0.58
- 1985	0.89	0.64	4.58	1.25	0.65	1.59	0.73	0.79	2.66	0.56
1986	0.92	0.66	4.53	1.40	0.83	1.68	0.71	0.81	2.87	0.54
1987	0.95	. 0.64	4.24	1.42	0.90	1.73	0.76	0.85	2.77	0.55
1988	0.92	0.72	4.51	1.31	0.87	1.62	0.74	0.85	2.81	0.54
1989	0.86	0.66	4.67	1.30	0.68	1.39	. 0.65	0.86	2.64	0.52
1990	0.86	0.75	4.93	Í.39	0.60	1.38	0.65	0.81	2.51	0.50
, 1991	0.90	0.79	4.65	1.69	0.64	1.22	0.69	0.84	2.58	0.48
1992	0.97	0.81	5.03	1.83	0.81	1.45	0.73	0.83	3.02	0.48
1993	1.01	0.82	5.32	1.93	0.86	1.55	Ó.73	0.85	3.19	0.49

Table 6. Average labour productivity (GDP 1986 prices/Total employment)

©Source: Own calculation on the basis of sectoral GDP data from the National accounts, Economic Ministry, and employment figures estimated by FIEL.

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	1989	1991	1993	1989-91	1991-93
All sectors					
				%	%
ALP	0.86	0.90	1.01	4.7	12.2
Dollar wages	203.1	659.6	986.1	224.8	49.5
Unit costs	236.2	732.9	976.4	210.3	33.2
Manufacturing					
ALP	1.30	1.69	1.93	30.0	14.2
Dollar wages	183.4	589.5	887.2	221.4	50.5
Unit costs	141.1	348.8	459.7	147.2	31.8
Construction					
ALP	0.68	0.64	0.86	-5.9	34.4
Dollar wages	137.1	497.8	851.7	263.1	71.1
Unit costs	201.6	777.8	990.3	285.8	27.3
Service sector				, i i i i i i i i i i i i i i i i i i i	ut Elita
ALP ·	0.86	0.84	0.85		1.2
Dollar wages	226.5	743.9	1 100.7	228.4	1. h
Unit costs	263.4	885.6	1 295.0	236.2	46.2
Personal services					
ALP	0.52	0.48	0.49	-7.7	2.1
Dollar wages	160.1	600.6	917.7	275.1	52.8
Unit costs	307.9	1 251.2	1 872.9	306.4	49.7
Financial services					
ALP	2.64	2.58	3.19	-2.3	23.6
Dollar wages	340.9	970.3	1 667.2	184.6	71.8
Unit costs	129.1	376.1	522.6	191.3	39.0

Table 7. Dollar wages, average productivity and their ratio (Selected sectors, 1989-1991-1993)

Source: Own calculation. See Pessino (1994).

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As there is no matching between total services sector from National accounts and the Survey on wages, Retail and wholesale trade productivity and wages were used for the overall services sector. Unit costs for personal services is the ratio between personal services average labour productivity and wages in the informal services sector.

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Draft ECONOMIC OPENING, FINANCIAL LIBERALISATION AND EMPLOYMENT: THE MEXICAN EXPERIENCE by Roberto Villarreal Gonda Adrián Jiménez Gómez

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Introduction

The 1980s marked the beginning of important economic transformations in many Latin American countries. At the outset of the decade, the economies of most of the countries in the region still based their production development on an import-substitution model that had been adopted in the 1950s; by the end of the 1980s, a great number of these countries were promoting an outward development of their production activities. The purpose of this was to take advantage of production opportunities for the international market, and thus not only increase the potential for productive employment generation but also raise the income levels in the country.

The aim of this paper is to analyse, on the basis of the Mexican experience, the effects of economic opening and financial liberalisation on employment and wages.

We shall go on to briefly describe the reasons for economic opening and financial liberalisation, and stress their importance to the country's new development strategy. Then we shall make a first assessment of the effects of economic opening on employment and wages in 1988-93. The results of economic opening, which in its first phase was unilateral, were seen in lower "profit margins", increases in productivity and in wages, greater vitality in the export sectors, and a restructuring of employment in the manufacturing industry. However, the implementation in this same period of a macroeconomic stabilisation programme and the simultaneous slowdown of growth, due to a number of different factors, make it difficult to identify the direct effects of unilateral economic opening on employment. The second phase of economic opening, which includes reciprocity, is just beginning; for this reason, we shall present mainly forecasts as to the expected effects. Thereafter, we shall describe the results of financial liberalisation, emphasizing the role of foreign investment in achieving a sustained high growth that can enable a favourable balance of payments. This will be followed by our main conclusions.

The reasons for economic opening and financial liberalisation

During the first stage of import substitution, high growth rates were experienced in a stable macroeconomic context; unfortunately, given the aforementioned distortions and inefficiencies in the production system, these were not accompanied by a sufficient number of job opportunities and better income distribution. By contrast, in the second stage, instead of getting to the root of the problem, the sort of fiscal and monetary policies that were implemented sacrificed macroeconomic stability in exchange for a temporary rise in the growth of output and employment. For that reason, the priority of the new development strategy since 1983 has been to eliminate, through structural change¹, the distortions, inefficiencies and oligopolies in the domestic market that in the past made it impossible to completely absorb the labour force despite economic growth. Current government policy also seeks to re-establish macroeconomic stability, which is the prerequisite to sustained economic growth. In other words, the new development strategy aims at developing a context that will favour a renewed high and sustained growth, capable of generating the job opportunities needed to face the unemployment and underemployment problems².

Economic opening and its effects on employment and wages

Unilateral and reciprocal economic opening: conceptual considerations

For the sake of clarity, we shall begin the following presentation³ by defining the objectives pursued in each of the economic-opening phases. During the opening's unilateral phase, market maladjustments, distortions in relative prices and the anti-export bias are corrected; during the opening's phase with reciprocity, the aim is to obtain efficient resource allocation in a free-trade context.

Protectionist trade policy favoured the emergence of oligopolies in the domestic market. This made the selling price of products greater than their incremental cost, which implied the existence of an excessive mark-up. The unilateral reduction of tariffs causes the price of imports to put pressure on the price of domestic goods in the economy. A unilateral opening up of trade corrects market maladjustments by eliminating the oligopolies that emerged as a result of a protectionist trade policy.

The phase of opening with reciprocity entails additional tariff reductions, which causes production and employment in the domestic-goods sector of the economy to decrease as against the levels corresponding to a situation of perfect competition. Nevertheless, although lower tariffs bring about a contraction in the domestic sector, the export sector of the economy expands as a result of the trading partners' lowering tariffs. In other words, once the process of the unilateral opening up of trade has been completed, the opening up of trade with reciprocity means that job opportunities will shift from the domestic sector to the export sector. The net changes in the total employment level can be expected to be positive by virtue of the difference between the size of the domestic market and that of the trading partners' markets. In addition, if work in the export sector tends to be more productive than in the same sector abroad, this has two effects: first, economic opening with reciprocity between trading partners makes Mexico's exports more attractive than the national products in countries where production costs are higher, which leads to an expansion of employment in the export sector; second, the greater productivity of this sector, as compared to the domestic-goods sector, means that the former offers relatively higher wages, which leads workers to mobilise on an intersectoral basis to obtain, through competition, a rise in real wages in the economy as a whole. Thus, the trade-liberalisation phase with reciprocity tends to increase the employment level and raise workers' wages through a better reallocation of production resources⁴. That is to say, the loss of a share of the domestic market is more than compensated by gains in the international market.

It should be emphasized that the initial existence of oligopolistic markets lessens the contraction in the domestic goods sector⁵ caused by economic opening, inasmuch as during the unilateral phase, market inefficiencies are corrected. In other words, unilateral opening up, by diminishing oligopolistic revenues, increases production and employment, which lessens the net contraction effect in the domestic sector caused by the opening's phase with reciprocity. Therefore expansion of the export sector will tend to generate strongly positive net changes in the level of employment as compared to the situation prevailing when the economy was protected against foreign competition.

Unilateral economic opening (1983-93)

Main policy measures

The unilateral opening of the economy was radical and relatively rapid from the beginning. In late 1982, all purchases from other countries required a prior import permit and the maximum and weighted-average tariffs were 100 per cent and 16.4 per cent respectively. First steps in the direction of liberalisation of imports were taken as of 1983: 83.5 per cent of the value of the imports was subject to permits and the weighted average went down to 8.5 per cent. In 1985, economic liberalisation was stepped up with additional elimination of import permits, bringing the value of

controlled imports down to 35.1 per cent of total imports. Nonetheless, some tariffs were raised to partly offset this opening, which in turn increased the weighted average to 13.3 per cent⁶. (See Table 1.)

Mexico's entry into the General Agreement on Tariffs and Trade (GATT) in 1986 did not require significant adjustments in the area of trade, given the level of liberalisation that had been previously reached by the Mexican economy. Nonetheless, adherence to GATT sent investors a clear signal of the future permanence of trade liberalisation⁷. This strengthened belief in continued liberalisation and encouraged a more rapid allocation of resources by investors to production activities with more profitable perspectives in the context of international liberalisation⁸. With its entry into the agreement, Mexico committed itself to continue reducing the proportion of imports subject to permits, to eliminate official prices and to consolidate a maximum 50 per cent tariff for any General Import Tax Tariff.

Unilateral trade liberalisation was stepped up as part of the stabilisation programme called the *Pacto*, implemented in late 1987. The objective was to have import prices exert stronger pressure on domestic goods prices in order to carry out the price controls explicitly established in the *Pacto* and to avoid product shortages in the market. Thus, official prices were totally eliminated, the proportion of imports subject to permits was reduced to 20 per cent, and import duty rates were fixed within a 0 to 21 per cent range, with only five tariff levels (0, 5, 10, 15 and 20 per cent). This last measure sought to limit tariffs in order to minimise the distortions, due to trade policy, in the allocation of resources to the various production activities. (See again Table 1⁹.)

Main results from unilateral economic opening

In Mexico's recent economic history, structural reform and economic stabilisation have been simultaneous processes. For this reason, it is clearly very difficult to study the effects of economic opening on economic variables such as profit margins, real wages, employment, production and income, independently of the effects that economic stabilisation has had on such variables at the same time¹⁰.

Keeping this in mind, we shall present a few analyses from which we will be able to make some preliminary deductions regarding a number of important effects generated by economic opening.

a) Evolution of the "profit margins" in the different divisions of economic activity

Figures 1 to 6 show graphic estimations¹¹ of the trends in "profit margins" for 1990-94 in 17 of the different divisions of economic activity; agriculture, mining, foods, textiles, wood, paper, chemical products, non-metallic mineral products, basic metal products, machinery and equipment, miscellaneous manufacture, construction, electricity, business and hotels, transport and communications, financial services and other services.

The average trend of "profit margin" for the economy as a whole shows a slight decline of about 6 per cent throughout the four and a half years under consideration. It can also be observed that, compared with this average trend, the "profit margins" have contracted somewhat more in the following sectors: mining, textiles, wood, basic metal industries, machinery and equipment, and miscellaneous manufactures. All these branches are exposed to international competition, and therefore the trade liberalisation engaged in years before is reflected, to varying degrees, in these trends. Nonetheless, two branches, foods and chemical products, though equally exposed to international competition, have shown a slightly lesser contraction in their "profit margins" than that of the average for the economy.

In the divisions less exposed to international competition, "profit margins" have generally developed upwards of the average trend. This is the case for the following divisions: electricity, transport and communications, financial services and other services. The only exception in this class of divisions less exposed to competition is construction, where "profit margins" have developed under the average, even following a pattern practically identical to that of the "profit margins" for





machinery and equipment production. This is interpreted as reflecting the fall in investment that began particularly in 1992 as a consequence of the high real interest rates that followed the uncertainty caused at that time by various events¹².

The described trends are interpreted in accordance with the predictions of economic theory, as we explained above: liberalisation has led in general to a reduction of oligopolistic revenues, or undue "profit margins". This has contributed to the reduction of inflation, has put a halt to the worsening of income distribution caused by the early 1980s recession and, in some cases, it has favoured an increase in production¹³.

b) Evolution in the main manufacturing-industry performance variables

Overview

The following are amongst the most outstanding trends¹⁴. First, a rapid rate of growth has been observed in productivity, which has enabled an equally substantial rise in average wages per employed person (measured in real terms), without a significant increase in the cost of labour per product unit. Indeed, productivity was growing at rates close to 4 per cent in late 1989, and four years later, in late 1993, it was growing at a rate of about 7 per cent. Similarly, mean wages per person have had positive growth in real terms throughout the period under consideration, also within the 3 to 7 per cent range. The unit cost has remained relatively stable during this period¹⁵, with a few fluctuations; amongst these, some increase can be observed throughout 1989 and then during 1991 and the first half of 1992.

Second, sustained growth has also been observed in exports and imports of manufactured goods, especially the latter, between 1989 and 1991. From that time on, the aggregate growth rate for both has slowed down, even though as of mid-1992 growth in exports again accelerated, which did not happen for imports until mid-1993¹⁶. As can be observed in the figure, growth in manufactured goods exports stepped up between 1989 and 1991 and then, once again, from mid-1992 to mid-1994. By contrast, imports rose during 1990, but then they grew at progressively lower rates until mid-1993, when a slight improvement was observed once again.

Third, the evolution in the manufactured-goods prices was very similar to the course of general inflation. The growth rate in prices has continued to decline since the beginning of 1991, reaching approximately a yearly 5 per cent by mid-1994.



Figure 3. Surplus (Index 1990 = 1)





Finally, as far as employment is concerned, after a positive growth of nearly 2 per cent in 1989, it has been in a period of decline since mid-1990, and, at the same time, there has been the beginning of a slowdown in GDP and in sales in real terms. Given that the slowdown in the latter two did not translate into an actual decrease in their absolute levels until the beginning of 1993, the reduction in employment began to take place as of about three years before these variables began to fall in absolute terms. It may be that the decrease in employment around 1989-90 could be explained as much by an adverse development in labour cost per product unit, as by the increase in imports, since in fact that period was marked by an intensification of both these factors, as can be appreciated in Figure 8. Nonetheless, it can be observed that, starting in 1991, this situation changed, with imports clearly beginning to decline while at the same time labour cost per unit stopped contracting. If, in the context of trade liberalisation, the level of employment in manufacturing has become more sensitive to variations in labour cost per product unit¹⁷, this could explain to some degree the incipient decline in employment around 1991, to which was added, from then on, an even stronger effect derived from the slowdown in domestic demand. As we have mentioned, employment is likely to recover as interest rates gradually go down and economic growth is recovered¹⁸.

When we analyse behaviour in the manufacturing sector as a whole for 1989-92, we find that the average annual growth rates were, respectively: for GDP, 4.1 per cent; for employment, -0.6 per cent; for product per person, 4.1 per cent; and for real wages, 9.9 per cent. These figures suggest that, given the stagnation of employment, the increase in manufacturing GDP was due essentially to increases in productivity, which were reflected in higher real labour wages. If this analysis is valid and the trend in productivity is maintained, then manufacturing GDP needs to grow at higher rates to raise employment levels in that sector. In other words, if there is sufficient growth, an increasing number of better paid job opportunities will be generated, but if growth-is low or negative, then employed workers' real wages will increase, but unemployment will tend to grow.

Analysis by branches

Table 2 presents data on the particular development of the mentioned variables for the main manufacturing activities. Performance in the nine main manufacturing branches differs noticeably both by period and amongst branches.

Examined by periods, the development of manufacturing shows changing behaviour patterns. For instance, it is generally observed that in 1989-91, the relatively more important manufacturing divisions, such as foods (27 per cent), machinery and equipment (19 per cent) and chemical products (13 per cent), experienced positive growth in employment: 0.7 per cent, 4.4 per cent and 0.6 per cent respectively. Furthermore, this growth in employment was greater, generally speaking, than that observed in 1986-88. However, later, in 1992-93, the three above-mentioned branches, which together represent about 60 per cent of employment in manufacturing, showed a decline in employment. This decline is responsible for the negative result in total job creation in these branches for 1988-93.

It must be emphasized that in 1989-91, when there was a rise in employment, labour cost per unit in the three above-mentioned branches behaved less favourably than in the previous 1986-88 period. The exact same thing can be said about the external trade balance for each of these branches.

Therefore, these do not seem to have stood in the way of rising employment in the three branches. By contrast, in the employment-growth period, real GDP in each of the three showed a remarkable vitality, unlike what had been observed in 1986-88. Indeed, between 1989 and 1991, GDP grew in real terms by 4.1 per cent, 4.1 per cent and 12.8 per cent in foods, chemical products, and machinery and equipment respectively, compared to 0.6 per cent, 3.7 per cent and 9.4 per cent in the previous years.

In addition, let us consider the negative performance of employment in these branches in the subsequent period of 1992-93, when employment in foods, chemical products, and machinery and equipment declined by average annual rates of -2.6 per cent, -5.7 per cent and -9.3 per cent. The table shows that in this period, compared to the previous one in which employment was on the rise, the









worsening of the external trade balance was proportionately less severe, labour cost per unit developed adversely overall and, above all, GDP showed a less favourable development in real terms, at rates of 0.4 per cent, -2.2 per cent and -0.6 per cent respectively.

All the foregoing seems to indicate that the changing trends observed in the employment level in the branches with the most jobs, have been due first to the changes in domestic demand, second, to the behaviour of labour cost per unit, and third, to the performance of the external trade balance.

Seen from another angle, when comparing the behaviour differences amongst the branches, one can observe in Table 2 that, aside from the three we discussed above, all the others showed a rapid decline in employment, first during 1989-91 and then, even more strongly, between 1992 and 1993. We refer to the following manufacturing branches, with their share in total manufacturing indicated between parentheses: textiles (16 per cent); wood (5 per cent); printing (5 per cent); non metal ore products (7 per cent); and basic metal products (4 per cent). In these branches, which together represent about one-third of employment in manufacturing, the deterioration in the external trade balance has been proportionately of a higher magnitude, while the development of labour cost per unit, with upward and downward trends in one branch or another, does not show a clearly defined behaviour. Nonetheless, in the great majority of these branches, GDP in real terms shows a marked

slowdown, and in many cases turns into an absolute decline, meaning that trade liberalisation can be considered in these cases to have had certain negative effects.

A possible conclusion, based on the analysis developed here, is that the jobs lost in the contraction of these sectors could have been absorbed more rapidly in the foods, chemical-products and machinery-and-equipment branches, had they not suffered a slowdown in domestic demand, as we mentioned earlier.

c) Relation between exports and the behaviour of various performance indicators in manufacturing activities

Figures 9 through 14 show in a stylised form¹⁹ the trends of several performance indicators in manufacturing-activity branches, correlating them with the behaviour of exports in the same branches. The following characteristics can be observed:

- first, for manufacturing activities as a whole, we find that the greater is the growth in exports, the greater the growth in total production, productivity and average wages per employed person;
- second, the greater the growth in exports, the greater the decline in labour cost per unit of
 production. (It should be noted that in this relation, as much as in the three previous ones,
 causality may well be going in either direction.);
- Third, there has been no significant relation between growth in exports and growth in employment, nor between the former and real growth in total wages paid.

In general, the stylised trends seem logical. A better performance in exports has tended to be correlated with a greater increase in productivity, as much for reasons of participation in more competitive international markets, which stimulates efficiency, as for the fact that a more rapid growth in productivity in turn raises international competitiveness. Moreover, as increases in productivity make it possible to pay more for labour without losing competitiveness, we can also consider as reasonable the positive relation observed with growth in average wages in real terms and with labour cost per product unit. However, it should also be noted that, even though a greater export rate has indeed tended to be correlated with a greater growth in total production (which can be explained by the fact that a greater external demand induces production growth), greater export dynamism has not been correlated with greater employment. A possible interpretation of this, to be verified in subsequent analyses, would be that productivity growth is so strong that the increase in external demand can be met without any changes in the number of personnel employed²⁰. Another plausible explanation, in light of earlier observations, would be that in the period under consideration there were sporadic increases as well as declines in employment, and therefore, on the whole, employment would not seem to be correlated with the general dynamics of exports.

To research this further, the exercise carried out in Figures 9 through 14 was repeated, with two modifications. First, the data considered came from 39 manufacturing branches instead of merely the nine aggregate manufacturing branches. Second, the analysis was applied not only to the five-year 1988-93 period, but also to the 1988-91 and 1991-93 sub-periods. We obtained the following results²¹.

First, for the 1988-93 period as a whole, the stylised characteristics drawn from the nine manufacturing divisions remain qualitatively unaltered when based on the data from the 39 separate branches. This reinforces the plausibility of the previously described phenomena.

Second, both the 1988-91 and 1991-93 sub-periods show a positive correlation between growth in exports on the one hand, and growth in production and productivity on the other. Similarly, both sub-periods show a negative correlation between growth in exports and labour cost per unit.

However, it must be noted, with regard to the correlation between export growth and employment growth, or between export growth and the growth of total wages in real terms, that these correlations are positive in the 1988-91 period, while in the 1991-93 sub-period both are negative.













This constitutes additional evidence for the interpretation that, had there not been a slowdown in domestic demand from 1991 on, then employment and real wages would have shown behaviour similar to that found for 1988-91, that is, an improvement correlated with the favourable development in exports.

d) Change in the composition of employment in manufacturing

Figure 15 shows three employment indicators in aggregate manufacturing activities throughout 1981-93: the annual growth rate of total employed blue-collar workers; the annual growth rate of total employed white-collar workers; and the total white-collar to total blue-collar workers ratio²².

It appears that in 1989, the rate of employment began to slacken, and by 1991 this was reflected in a fall in the absolute level of the variable. Simultaneously, the number of employed white-collar workers maintained a positive and constant growth rate between 1989 and 1991, but after 1991 it began to slow down, and even to contract. As a result of these trends, the white-collar to blue-collar worker ratio rose very markedly and practically without interruption in the period of more than three years after 1991, going from 0.41 in 1990 to an unprecedented 0.46 in mid-1994.

A possible explanation for this is that in more difficult economic conditions, enterprises tend to streamline operations, especially if they expect adverse conditions to last²³, by reducing their personnel, but they do so in a rational way. They lay off a higher proportion of the "human capital" that has less specific skills and knowledge and that it would be relatively less costly to rehire on the labour market once the economic problems have been overcome, i.e. blue-collar workers, while trying to avoid laying off the "human capital" that, for the same reasons, it would be more costly to rehire on the labour market, i.e. white-collar workers.

Insofar as trade liberalisation has made it necessary for enterprises to streamline their operations in recent years, in order to become more productive and reduce costs, it follows that personnel composition should show a steady increase in the white-collar to blue-collar worker ratio as a way to improve the average quality of "human capital". If this consideration is valid, the trend can be expected to be irreversible, leading to a structural change in labour demand in the manufacturing sector.

To sum up, the results reviewed above allow us to assert that the trade policy implemented in 1983-88 had remarkable effects as to the elimination or the reduction of the anti-export bias; helped to combat inflation; developed competition in the domestic market; and favoured the modernisation of production facilities. As for its effects on employment in the manufacturing sector, for which the greatest information is available, trends appear to indicate that in 1994, there is considerable growth in productivity, as well as considerable increase in average real wages per employed person, with no loss in compétitiveness, given that the level of labour cost per production unit remains relatively stable. As for the levels of employment, the analysed data suggests that in the liberalisation context, the employment level has become more sensitive to variations in the labour cost per product unit; however, the added factor of an economic slowdown due to other reasons during the same period makes it difficult to obtain a distinct and definitive appreciation of the effects strictly derived from economic opening. A first appraisal makes it possible to conclude that the decrease in employment level was due to the increase in imports, but there are indications that the slowdown has also been a prime factor. Furthermore, available indicators seem to suggest the intensification, starting with the economic opening, of a process of change in the composition of labour demand for manufacturing activities. This process, which began some years earlier, though to a lesser degree, raised the average skill of the personnel, and this is reflected in increases in the number of white-collar workers relative to blue-collar workers employed.





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A digression: the "maquila", or in-bond assembly industry, success story

Evidence supplied by the operation of *maquiladora* enterprises²⁴ is an example of the effects on employment and real wages that can be derived from the elimination of trade barriers. From the very beginning, *maquiladora* enterprises operated under regulations that in many of their aspects resembled those of free trade: Mexico authorised tariff-free entry into the country of raw materials, tools, intermediate goods and machinery for the production of export goods. In exchange, the United States allowed re-entry of components that had been assembled outside its territory, requiring a tariff only on the added value of the assembled good.

The growth of the *maquiladora* industry is reflected both in the number of enterprises and in the number of job opportunities generated. Employment in the industry, in absolute terms, rose from 1 500 persons in 1966 to 56 854 in 1973, 122 493 in 1982 and 542 640 in 1993. Starting in 1986 and until 1993, employment rose at an average rate of 10.5 per cent. Moreover, employment growth in the *maquiladora* industry, as a percentage of total employment in the manufacturing sector, was sustained for the 15 years preceding 1994, reaching at that date nearly 18 per cent of the total of existing job positions in manufacturing. Concomitantly, exports in the *maquiladora* industry have generated progressively higher levels of foreign exchange and, in recent years, more than all the rest of the manufacturing exports put together.

Seen from another angle, it is manifest that with time a remarkable qualitative change has taken place. In the past, the *maquiladora* industry focused on assembly activities, which were relatively labour-intensive. Furthermore, the fact that such activities required unskilled labour implied that the workers generally would receive no more than minimum pay and there would be a high personnel turnover. In 1994, production units in the *maquiladora* industries were using increasingly modern technology in the production processes and were requiring more highly skilled labour. As a consequence, work productivity and wages have gone up and personnel turnover has decreased, which has made employment in such industries more permanent.

Carrying out the production process in two countries, as is the case for *maquiladoras*, is accompanied by technology transfer, which in turn means that workers have to improve their skills. Moreover, the new conditions of international competition have progressively established quality as one of the main features for participation in international trade. For this reason, in past years *maquiladoras* have restructured the composition of their personnel inasmuch as training at every level is indispensable to obtain quality. The training and selection process has made the composition of personnel change over time. In 1992, 11 per cent of the workers were production technicians, 8 per cent were white-collar workers and 81 per cent were unskilled workers, as compared to the corresponding percentages in 1975 of 8.8 per cent, 5.1 per cent and 86.1 per cent respectively. This change in composition is one of the reasons for the increase in productivity.

Between 1988 and 1993, real wages for workers in the *maquiladora* industry grew at an average annual rate of 1.5 per cent and, unlike the average wages in manufacturing as a whole, they have reached higher levels and suffered less notable fluctuations. Moreover, there was a 31.7 per cent average annual added value growth rate between 1986 and 1993, measured in dollars. It is important to note that the payment of wages and salaries as a proportion of the added value has shown an upward trend since 1986.

Another important characteristic of this industry is that the growth rates in number of enterprises, employment and added value were positive in the 11 years preceding 1994, in contrast to what happened in Mexico's manufacturing industry overall, which was severely affected by the critical conditions of the domestic economy during most of the 1980s.

All the foregoing demonstrates the enormous potential of this industry, which is clearly integrated into the international economy, as an important employment generator. We can thus conclude that the *maquiladora* industry is an example of the benefits of free trade, resulting in a greater number of jobs that are increasingly modern, more productive and better paid.

Economic opening with reciprocity

Basic considerations

In 1989-94, policy in foreign-trade matters focused on three main objectives: i) further development of economic opening; ii) export incentives; and iii) international trade negotiations. Further development of economic opening has consisted correcting some tariff incongruities that arose in previous years, which led to negative protection rates²⁵ for a small number of production activities. Further development of the economic opening has also included updating the legal framework for foreign trade, to integrate and define concepts that have gained importance as Mexico's foreign trade has developed²⁶.

Export incentives have tried to make this activity more accessible to enterprises by cutting out red tape, circulating information about foreign markets and business opportunities, and encouraging a more dynamic entrepreneurial attitude, with the support of public and private institutions.

Unquestionably of the highest importance, international trade negotiations have aimed to further liberalise imports into the domestic market, in exchange for a free, permanent and secure access of Mexican products to other countries' markets, thereby ensuring reciprocity along with the economic opening of the Mexican market. To this end, in addition to taking part in the GATT Uruguay Round, the Mexican government offered to negotiate bilateral or regional free-trade agreements with a good many countries in Latin America and North America to determine a basis on which to establish the rules of their international trade. As part of this effort, between 1991 and 1994, free-trade agreements were signed with: Chile; Costa Rica; Columbia and Venezuela; the United States and Canada; and Bolivia. The agreements with Chile and the United States and Canada came into effect in 1991 and 1994 respectively; as for the rest, they become operative in 1995.

The free-trade agreements signed with other nations and the multilateral agreements reached in GATT ensure that henceforth, even after long periods, access to the international market will remain open to Mexican products under clearly defined rules that cannot be modified by any of the countries unilaterally; this is fundamental in encouraging private investment in international business and in consolidating an outwards orientation of the production system. In this context, reciprocity, as a guarantee for the future, was a logical step to take in the early 1990s for advancing to a new stage in Mexico's trade liberalisation and internationalisation, following up the achievements of the unilateral opening-up stage.

It is also important to note that one of the most significant sources of benefits derived from free trade lies in the possibility of efficiently exploiting the opportunities for complementarity amongst the different countries' economies, precisely because there is so much diversity amongst them. The fact that Mexico has reached trade agreements with countries having different characteristics offers Mexican enterprises of all types and sizes a wide range of possibilities, as each country will hold a variety of advantages in terms of scale, technologies, market niches, etc. Some enterprises may feel more inclined to deal with northern markets, while others will prefer to trade with Central and South American markets. Similarly, some of the Mexican producers that may be squeezed out of the domestic market by imports from North America, could find new export possibilities to other Latin American countries. The situation offers abundant means for Mexican enterprises to adjust and grow within the new conditions of competition in the international market.

Expected results from opening with reciprocity: the case of the North American Free Trade Agreement (NAFTA)

We go on to present and discuss the benefits that Mexico expects to gain in coming years as a result of free trade, focusing on the North American Free Trade Agreement (NAFTA)²⁷, which is the one that applies to the greater part of trade between Mexico and other countries²⁸. For this reason, NAFTA has — not surprisingly — been the subject of a great many studies²⁹.



Figure 16. Mexican share of US manufactured-products imports

Preliminary findings

NAFTA having come into effect only in 1993, there is not enough information to assess its effects on trade, investment, production, employment and wages. Nonetheless, it is encouraging to note that, according to available data, Mexican exports have developed positively, so much that they have grown more rapidly than United States purchases from the world as a whole, meaning that they have increased their share there (see Figure 16).

More specifically, the value of manufactured-goods imports by the United States from the entire world grew by 23.5 per cent in the first half of 1994. Imports from Mexico, in particular, grew by 29.6 per cent, going up from around \$2.7 to \$3.5 billion between January and June. As a result, the share of Mexican manufactured goods in total manufactured-goods imports by the United States rose from 5.9 percent, 6.2 per cent and 6.5 per cent in 1991, 1992 and 1993 respectively, to 7.2 per cent in the first semester of 1994. This figure can also be compared with the 5.1 per cent reached five years earlier, in 1989. Clearly, this reflects an improved competitiveness of Mexican exports, thanks to NAFTA, as against other countries' exports.

Forecasts

To evaluate the impact of NAFTA on the economies of the three member countries and in particular on the Mexican economy, a number of academics, research institutes and the governments in each of the three countries developed several Applied General Equilibrium Models (AGEMs) to evaluate the consequences of a trade agreement of the magnitude of NAFTA. Not only do the models provide a forecast on the net benefits for Mexico, they also identify the sources of such benefits. Generally speaking, the results of all the studies agree that Mexico is the country that stands to gain the most from the treaty. The studies also all forecast increases in the output, and in the levels of employment and real wages for the Mexican economy.



Figure 17. Foreign investment by country of origin (percentage to July 1994)

Source: SECOFI, DGIE.

The AGEMs simulate the effects derived from the elimination of trade barriers amongst the NAFTA countries. The resulting forecasts depend on assumptions regarding the labour market and capital flows. Two different assumptions can be made about the labour market. Labour supply can be considered to be vertical or perfectly inelastic (classic version), or else labour supply can be

considered to be horizontal or perfectly elastic (Keynesian version). The former implies that a change in labour demand will be reflected in real wages, and the latter, in employment levels. The existence of capital flows also raises the country's production capacity, thereby reinforcing the impact of NAFTA.

The results of models by a) Sorbezo (1993); b) Bachrach and Mizrahi (1992); and e) Brown, Deardoff and Stern (1993) are summed up in the following table:

Author	Classic	view	Keynesian		
	Without capital flow	With capital flow	Without capital flow	With capital flow	
Sobarzo, H.	W/P ¹ 4.3%	16.2%	Employment 5.1%	*-	
Bachrach and Mizrahi	W/P		Employment 0.85%	6.6%	
Brown, Deardorff and Stern	W/P 0.4%	7.2%	Employment		
Sobarzo, H.	GDP 4.4%	13.1%	GDP 5.9%		
Bachrach and Mizrahi	Real Income		Real income 0.32%	4.64%	
Brown, Deardorff and Stern	Welfare ² 2.2%	5.4%	Welfare ²		

Summary of some AGEM forecasts for real wages, employment levels and GDP

* W/P means real wages

** As a percentage of GDP

Sources: Sorbazo (1993); Barbach and Mizrahi (1992); Brown, Deardorff and Stern (1993).

The forecasts have two characteristics in common: the first is that they all indicate that in Mexico NAFTA will increase output, as well as employment and real wages, depending on the assumption made on the labour market; the second is that the effects are greater in the presence of capital flows coming into Mexico from abroad. The main sources of the benefits are: i) an improvement in the terms of trade; ii) the advantages of economies of scale due to the existence of larger markets; iii) greater capital formation; and iv) an efficient allocation of resources amongst the countries, promoted by free trade.

Other AGEMs emphasize a variety of aspects, individually summed up as follows:

Markusen, Rutherford and Hunter (1993) present an intra-industrial model for the automobile industry, analysing the consequences of NAFTA on models of production and trade amongst the member countries³⁰. In this simulation, Mexico increases its welfare by 0.7 per cent, measured as a proportion of GDP, as a consequence of trade liberalisation in the automobile sector. This gain in welfare is derived from the lower automobile prices resulting from smaller profit margins and the advantages of economies of scale, all of which are reflected in a lower cost per production unit.

Young and Romero (1991) developed a model based on a disaggregated production structure, which enables them to show the distortions in resource allocation that are caused by the different rates of effective protection for the various production sectors. The authors point out that in Mexico the sectors with capital-intensive production are faced with negative effective protection rates resulting from low nominal protection rates for finished products, combined with moderate tariffs for machinery and other capital goods. High real interest rates force enterprises to use capital goods sparingly, resulting in inefficient combinations of production factors.

The coming into effect of NAFTA represents not only a reduction in tariffs on capital goods, but also a lessening of the uncertainty about Mexico's economic perspectives, which will translate into lower real interest rates. This will make it possible to get rid of the bias against capital-intensive production and to gain important benefits in terms of a more efficient allocation of production factors. For instance, with a real interest rate of 10 per cent, the elimination of trade barriers increases GDP growth by 3.4 per cent. However, with a real interest rate of 9 per cent, the increase in economic growth rate reaches 9.2 per cent.

Barraza (1993) analyses the effects of NAFTA on the growth rate and on levels of real wages, stressing, in a full-employment model, the great importance in the economy of intersectoral capital mobility, as well as capital formation. To calculate the short-term impact of the elimination of trade barriers, the capital stock in each of the sectors is assumed to remain fixed, with intersectoral mobility only in the labour factor. In this scenario, the changes in GDP and in real wages are small: 1 and 1.8 per cent respectively. This can be explained by the relatively low elasticity in labour-capital substitution. To determine the medium-term effects of NAFTA, intersectoral mobility of capital is allowed. In this context, the benefits derived from economic opening with reciprocity are substantially increased, as GDP grows by 8 per cent and real wages³¹ by 13 per cent.

Finally, the author applies the model in a dynamic context, where labour-force growth and capital formation are explicitly considered through an investment function. It should be noted that external-savings flows are allowed to finance investment-level surplus over domestic savings. On this basis, in a free-trade context, GDP and real-wages growth rates are forecast as 4.9 per cent and 6 per cent respectively. This represents an additional growth rate of 1.9 per cent for GDP and of 3 per cent for real wages when compared to an autarchy situation.

This analysis brings out two essential characteristics in the expected benefits of NAFTA. The first is that such benefits will begin to materialise in the medium run, when capital will have been sufficiently reallocated amongst the different production sectors in a free-trade context. The second characteristic is that in a dynamic context capital formation makes it possible to increase the benefits of economic opening. The high rates of investment are explained by the rise in the rate of return on the capital factor, which is the result of gains in terms of trade derived from NAFTA. In other words,

the benefits of economic opening with reciprocity will materialise in the medium-run and they can be increased substantially through the mobilisation of external savings.

González (1993) studies the dynamic benefits of economic opening, stressing the formation of physical and human capital. Elimination of trade barriers helps the Mexican economy reach a high degree of specialisation. The findings indicate that wages rise by 22.9 per cent and 22.4 per cent for skilled and unskilled labour respectively. Moreover, in the long run, economic opening generates a GDP which turns out to be 23.3 per cent higher than it would be without NAFTA.

Levy and Van Wijnbergen (1991) concentrate on the migration of workers from rural areas to the Mexico's other production sectors, as well as on the study of a variety of policies to support the agricultural sector, in particular protection of the maize-production sector and subsidies to the urban classes living in poverty. The authors make the assumption that an exogenous differential in real income determines the migration between the different sectors within Mexico. With NAFTA, the liberalisation of maize generates a rural migration of between 650 000 and 700 000 people towards the rest of the economy, which causes, without a compensation plan, regressive distribution effects³². Nonetheless, the authors demonstrate that it is possible to design viable compensation packages that can largely offset the loss of income amongst the less privileged groups. In a dynamic version of the model, immediate liberalisation of the maize sector³³ produces high benefits in terms of efficiency. However, there is a 1.9 million-person aggregate migration over the transition period, with 700 000 migrating the first year. By contrast, a gradual liberalisation generates an annual migration of 200 000 people.

In conclusion, the applied general equilibrium models reviewed here all point to an improvement in employment and in real wages in Mexico, with a subsequent increase in welfare, as a result of economic opening with reciprocity. Moreover, there is notable convergence among the studies in suggesting that these benefits should be even greater if, as a sequel to greater trade liberalisation, Mexico experiences an important foreign-capital input. Finally, some studies stress the particular importance of some sectors, such as agriculture, in which economic opening can cause a significant displacement of the labour force, but they also confirm the feasibility of implementing government support programmes to lessen transition costs and give access to the benefits derived from economic opening with reciprocity.

Given the important role assigned to external capital in the above scenarios, we shall now analyse Mexican policies in recent years.

Liberalisation of foreign investment

Promotion of foreign investment: reasons and general results

Given the strong international competition for foreign capital and the great importance it holds for Mexico, the government implemented specific far-reaching measures to attract great quantities of foreign investment. These consisted mainly of the following: a notable updating of the legal and regulatory framework for foreign investment; agreements signed with other countries on the continent³⁴; and Mexico's application for membership of the Organisation for Economic Co-operation and Development (OECD). The entire policy aimed at attracting external resources stands on three essential columns: a stable economy, a legal framework for foreign investment consistent with current development strategy, and joint participation of external capital and domestic entrepreneurs.

As a consequence of all this, in 1989-94 Mexico attracted foreign investment to the amount of \$27.56 billion³⁵, which is historically more than the existing record of \$24 billion in 1988. In this context, the new Law gave rapid results. Applications for investment were 38.5 per cent higher in the first six months of 1994 than in the same period of the previous year. Administrative streamlining was

reflected in the lesser role played by the National Commission for Foreign Investment (CNIE) in approval of the investment plans. The percentage of investment operations that required previous CNIE authorisation fell from 13 per cent in 1989-93 to 2.9 per cent in the first half of 1994. We will now discuss the importance of foreign investment in driving economic growth and in Mexico's compliance with the external budget restriction. (See Figure 18.)





Foreign investment and economic growth

Generally speaking, foreign direct investment helps economic growth through five basic mechanisms: i) capital-stock increase; ii) technology transfer; iii) efficient integration of international production factors; iv) stronger linking of enterprises in Mexico with international production and marketing processes; and v) direct financing through purchase of shares of companies listed in the stock market.

An increase in Mexico's production capacity through greater capital stock³⁶ of vital importance because private investment is what drives economic growth³⁷. The distribution of foreign investment by economic sector is summed up in Table 3. It should be noted that more than one-third (34.3 per cent) of foreign investment attracted during the current administration³⁸ has been directed to the services sector. The manufacturing sector follows with 31.3 per cent and then the communications and transport sector with 19.5 per cent. The distribution by sector of foreign investment in Mexico is one more manifestation of the trend prevailing worldwide, which reflects a preference in the main capital-exporting countries for increasing investments in the service sector of the receiving countries. In this sector, foreign direct investment was directed to the subsectors of real-estate rentals, financial insurance and guaranty services; restaurants and hotels; professional, specialised technicians and personal services; and communications.

Within the manufacturing sector, the specific subsectors to which foreign capital was channelled were: a) metal products, machinery and equipment; b) chemical substances, oil- and coal-derived, rubber, and plastic products; c) foods, beverages and tobacco. As we mentioned earlier, in most of these branches the development of "profit margins" has been more favourable than that of the economy as a whole, on average. The high correlation between the growth of the most dynamic subsectors and the percentage of foreign direct investment in these subsectors should also be noted. (This can be seen graphically in Figure 19.)



It should also be pointed out that 13 per cent of the labour force registered in the Mexican Social Security Institute are employed in jobs generated by enterprises with foreign direct investment. All of this together leads us to assert that foreign direct investment has contributed significantly to the economic recovery observed in 1989-91.

Furthermore, foreign direct investment implies, in most cases, the transfer of a more modern technology³⁹, which in turn translates into greater productivity, and therefore into greater competitiveness in the international market of products made in Mexico. Similarly, foreign direct investment in a context of free trade promotes an efficient integration of the production factors, which also translates into greater competitiveness.

Closer interaction and links between domestic and foreign entrepreneurs result in benefits that are not as apparent, but equally important: modern marketing structures, easier access to markets abroad, the development of new products and a greater production-line efficiency.

In addition, foreign investment has contributed to economic recovery through the financing of the enterprises quoted on the Mexican Stock Market. From January 1989 through September 1992, the CNIE authorised 27 enterprises of this type to issue ordinary and Referred stock, which in their first placement, attracted foreign portfolio investment of \$5.45 billion. These securities do not give voting rights to their holders and they can be directly negotiated on the Mexican stock market or in the international market.

In the period from January 1991 to September 1992, 83.3 per cent of foreign portfolio investment was attracted through American Depositary Receipts (ADRs). TELMEX (the Mexican Telephone Company) had received 58 per cent of foreign investment in the stock market by the end of October 1992. It should be mentioned that TELMEX was government property, which meant that its privatisation represented not only an income by virtue of the sale itself, but also the possibility of attracting more foreign portfolio investment.

Finally, the availability of external resources for the financing of the production activities of very important enterprises decreases the demand on the domestic money and capital markets, which tends to reduce the interest rate and therefore to promote economic growth.

Foreign investment and the balance of payments

Foreign investment has contributed significantly not only to making it possible for the capital account to cover the current account deficit but also to the accumulation of international reserves since 1990 until they reached an unprecedented \$24.5 billion in December 1993.

As we indicated earlier, enterprises with foreign investment are characterised by efficient technology and access to international marketing. This makes it possible for goods produced in Mexico to be competitive on the international market, which is reflected in high export volume. If we take the 240 enterprises with foreign direct investment that are considered to have the highest import and export volume, we find they have a \$6.8 billion⁴⁰ trade surplus in 1989-91. This positive balance stands in contrast to the trade-balance deficits observed in the same period. It should be noted that in recent years, enterprises with foreign investment turned their deficit trend around to a surplus trend as a result of economic opening and the liberalisation of foreign investment.

Exports by such enterprises represented 57.9 per cent of total exports in the private sector during that same period. Automobile exports especially stand out, representing 62.3 per cent of exports by enterprises with foreign direct investment and 34.8 per cent of foreign sales of private-sector manufactures. Furthermore, imports by these enterprises represented 24.9 per cent of total private-sector imports in 1989-91. Imports by the automobile industry represented 53.6 per cent of total imports in the sample enterprises. The automobile industry thus achieved a \$2.2 million surplus.

Main conclusions

Economic opening and financial liberalisation are essential elements in Mexico's new development strategy. Economic opening from the 1980s to mid-1994 has meant a first stage in which it was unilateral, and later on, an extension of trade liberalisation to include reciprocity on the part of Mexico's trading partners. Unilateral opening was aimed at modernising Mexico's production system so as to eliminate the inefficiencies generated throughout the previous import-substitution stage. The purpose of opening with reciprocity is to guarantee access to important international markets, in order to significantly increase demand for Mexico's products, which is a prerequisite for recovering a high and sustained growth. As for liberalisation of foreign investment, its objective is threefold: to supplement domestic savings to finance the investment that will make economic growth possible; to promote technology transfer and access to international marketing channels, which should ensure the competitiveness of Mexican exports; and to generate a current-account surplus to offset the trade deficit that has been observed during the period of rapid modernisation of the production system.

Unilateral economic opening has had several effects. The first has been the reduction of oligopolistic revenues resulting from the previous protectionism. The second has been a rapid growth in exports, which has been associated with a steady rise in productivity and real wages without any loss in international competitiveness, as labour cost per product unit has remained relatively stable. Growth in total employment, within manufacturing activities as a whole, has not reflected export growth, for reasons that will be discussed below. There is, however, some evidence indicating a consolidation of the structural changes in labour demand that had been underway in previous years, though less intensely. These changes have altered the composition of salaried personnel, tending to improve the average level of skill and to be reflected in a higher ratio of white-collar to blue-collar worker employment. There is also some evidence that, since the economic opening, employment levels have become more sensitive to variations, no matter how small, in labour cost per production unit, which emphasizes how important it is for real wages to grow henceforth on a par with labour productivity.

With regard to trade liberalisation with reciprocity, which has just recently come into effect, perspectives indicated by initial findings and review of several applied general equilibrium models are encouraging. The studies all agree that Mexico can expect a marked increase in employment, real

wages, total production and welfare, as a consequence of economic opening with reciprocity. The models also indicate that all of these benefits will be even greater if there is an important flow of capital into Mexico from abroad. Financial liberalisation policy, which between 1989 and 1993 was beginning to be implemented to make foreign investment in Mexico easier, will continue the process of already considerable capital flow directed into this country. This will be helped by the economic stability achieved in recent years and the attractive opportunities for international business based on the trade agreements negotiated and finalised with other countries of the American continent. In addition to the effects previously presented, foreign investment increases financial resources, which favours a reduction in domestic interest rates. When this trend does away with the uncertainty of the recent past, real interest rates will go down and the economy will recover its growth.

It is important to point out that the impact on employment of unilateral economic opening and of the attraction of more foreign investment cannot be seen immediately, as stabilisation policies have had simultaneous, parallel effects. Similarly, the uncertainty of the recent past, related to domestic and foreign political events, has had a repercussion on Mexico's real interest rates, and has definitely been a very important factor in the economic slowdown and in the employment trends observed since 1991.

Probably the most significant challenge in the coming years will be to implement adequate policies to raise the labour force's training level to meet the growing demand for such skills. "Human capital" policies will therefore have to play a central role in reaping the expected benefits of the economic opening, not only by increasing productivity and real wages, but also by making sure there is a continuous reintegration into the labour market of individuals who over time may be displaced because they do not meet the growing skill demands resulting from the changes underway.

Notes

- 1. Structural change seeks primarily to have market mechanisms allocate existing economic resources in such a way as to reach greater rates of stable revenue growth; to that end, the aim is to induce greater efficiency in the production processes, a greater competitiveness in the domestic market, and greater interest in technological innovation and development. Trade liberalisation, relaxation of controls on foreign investment, privatisation of non-strategic parastate enterprises and implementation of deregulation programmes are important factors in the achievement of structural change.
- 2. For a more detailed presentation of macroeconomic, industrial and trade policies in 1955-70, 1971-82, and 1983-94, see Villareal and Jiménez (1994).
- 3. In order to simplify this discussion, we present it in a sequential, or chronological way. However, what is essential, is to make a conceptual distinction amongst the different characteristics and effects of unilateral opening and opening with reciprocity as they are described in the text. In the medium and long run, all that is observed in reality is the net effect, which is determined by the combination of effects from unilateral opening and opening with reciprocity: it is rarely possible to identify the moment or the exact point at which the opening not only eliminates the initial oligopolistic revenues, but also begins to shift production and employment towards other sectors.
- 4. This argumentation is backed up by a theoretical model developed by Jiménez (1994). The model is a static model. There is no capital accumulation, no technological change, and the number of individuals and enterprises remains constant. There are two sectors, one producing domestic goods and the other export goods. Both present decreasing labour output. In the first, the industrial structure is one in which there is monopolistic competition; in the second, there is perfect competition. This determines a total labour supply with a positive slope and there is perfect labour mobility between the two sectors. The supply and demand of both goods and labour are derived analytically from the maximisation of the earnings of enterprises and of the individuals' utility. Prices, on the international market, of goods competing against domestic goods and of the export goods, are determined externally; prices within the country reflect previous prices, plus or minus the import or export duty, depending on the case. The volume of imports depends on the difference between the local supply and the demand in the domestic-goods sector.
- 5. As Jiménez (1994) shows, the arrival of imports does not necessarily cause contraction of the domestic sector if the initial markets are oligopolistic. The level of demand rises as a result of the lowering of prices induced by the pressure of import prices. Domestic production can be increased to meet this increased demand, which raises the level of employment, while the rest is covered by imports.
- 6. See Noyola (1992) and Ibarra (1994).
- 7. Mexico had negotiated GATT membership earlier, in 1980-81. However, in March 1981, the government announced officially that, although the conditions negotiated had been satisfactory, the domestic situation of the country -- economic, political and social -- rendered its entry into GATT inappropriate at that time. GATT membership was probably rejected because of the resistance put up, on the one hand, by the prevailing protectionist interests within Mexico, and, on the other, because Mexico could still rely on its oil-export revenues; this last factor meant that the private sector did not believe that the government would take a strong stand in favour of entry into GATT, as was, in fact, the case. In contrast, five years later, in the midst of the recession provoked by the second oil shock, the situation was radically different: existing conditions were such that it was extremely necessary to diversify Mexico's exports and convert them into a further engine of growth. This fact may have strengthened belief in the government's intention to obtain GATT membership, which would explain its having been successful on this second occasion despite the continued protectionist interests in the country.
- 8. See Ibarra (1993).
- 9. As Table 1 shows, the increase in the tariff weighted average in recent years has been due to a rise in agricultural and livestock imports, which are typically subject to higher tariffs. Moreover, the increase in controlled imports, as a proportion of the total value of imports, reflects classification aspects that essentially are due to the fact that

enterprises in the automobile sector opted to carry out imports under the controlled system called "Regla Octava", "Eighth Rule", paying a single tariff for imports, instead of treating them as temporary, which is more complicated from an administrative standpoint.

- 10. See Villarreal and Jiménez (1994).
- 11. We would like to thank Dr. Adriaan Ten Kute for his valuable statistical help in the elaboration of the corresponding calculations. Estimates were based on the cost structure (goods and services, and work inputs) given by the 1990 input-output matrix for the Mexican economy. Taking the evolution of producer prices for each of the final inputs and outputs, as well as workers' wage indexes for each broad division of manufacturing activity, we obtained by subtraction, for each month in the 1990-94 period, the value that "earned surplus" would have at current prices, per product unit and for each activity. The figures thus obtained were then deflated by the index of retail prices, to be expressed in real terms. Finally, they were ranked with 1990=1. The "earned surplus" concept in the nation's social
 - accounting includes, besides capital profits, other income concepts such as interests, revenues or rents, etc. This is why the expression "profit margin" is used between inverted commas, instead of using the term "earned surplus", which is not as commonly known in non-technical language. In addition, we would like to note that the analysis presented here starts out from 1990 and not before (although economic opening was practically fully accomplished as of 1986), due to the fact that it would be inappropriate to use the 1990 input-output matrix to calculate earned-surplus modifications in the 1986-89 period, as there were certainly some important changes in the cost structures of the different production activities as a consequence of the recent liberalisation.
- 12. During 1992 and 1993, the ups and downs in the negotiations for the North American Free Trade Agreement (NAFTA) between Mexico, the United States and Canada were a continuous factor of uncertainty in Mexico. This particular situation ceased to exist once NAFTA came into effect on 1 January 1994. However, in the first half of 1994, the country experienced some exceptional political events in the context of its federal elections, which were to take place in August. After this date, the election results having been received favourably by the great majority of the population, the various causes of uncertainty were overcome. It could then be predicted that when the new government took office in December 1994 and there was a better knowledge of the policies it would defend, investment would recover a new vitality, thanks to economic stabilisation and the production opportunities offered by NAFTA.
- 13. This will be discussed further on.
- 14. As we have repeatedly mentioned, it is hard to make a precise and unequivocal interpretation of these indicators because of the convergence, in this period, of the effects of both trade liberalisation and economic-stabilisation policies. In particular, the economic slowdown that began in 1991 for reasons already mentioned has had some influence on the behaviour of a number of these indicators.
- 15. In the sense that its changes have been less pronounced, which does not mean that its effects have been less important, as will be discussed further on.
- 16. It is very important to stress that, according to the Central Bank of Mexico's data, manufactured goods exports (not including the in-bond assembly industry) rose from \$7.12 to \$19.83 billion, in other words, they tripled. With the decline in oil exports due to weak international prices for crude oil, manufactured-goods exports went from 44.4 per cent to 66 per cent of total exports in the above years. After NAFTA came into effect, growth in exports accelerated even more. This will be discussed further on.
- 17. This would emphasize, then, the key importance of the fact that to maintain the level of employment, henceforth real wages will have to develop on a par with work productivity.
- 18. According to recent data from the National Institute of Statistics, Geography and Information Technology (Instituto Nacional de Estadística, Geografía e Informática INEGI), economic growth began to appear in mid-1994. For instance, in April 1994, the industrial production index was 6.5 per cent higher than in the same month the previous year, which was the highest growth rate in 19 months. As for its components, the greatest growth was observed in construction (8.2 per cent), electricity (7.7 per cent), manufactured goods (6.7 per cent) and mining (1.6 per cent).
- 19. The Figures display graphically the ordered pairs (X_i, Y_i) for nine manufacturing divisions (i), where X denotes the growth of exports measured in dollars, and Y represents the growth of the performance variable under study, both of which are calculated between the first quarter of 1988 and that of 1993. The straight lines represented in the figures were adjusted by means of a regression per squared minima on the basis of the said ordered pairs. The six performance indicators considered are: the value of total production and of average production per employed person, the value of total wages paid and of the average wages per employed person (all of these measured in constant 1980 prices), as well as the labour cost per product unit and total employment. The nine manufacturing branches considered were: I, foods, beverages and tobacco; II, textiles, clothing and leather; III, wood; IV, paper, printing, and the publishing industry; V, chemistry, petroleum derivatives, rubber, plastics; VI, non-metallic minerals; VII, basic metal; VII, metal products, machinery and equipment; and IX, miscellaneous manufactured goods.
- 20. It is suggested that even though personnel does not change numerically, its actual composition is indeed modified, with a greater white-collar to blue-collar worker ratio, and therefore raising the average quality of "human capital".

This change in composition is consistent with both the increase in productivity and average wages, and with total production growth and with no effects on total employment.

- 21. Corresponding graphics are not included for lack of space, but they can be made available by the authors to interested readers.
- 22. A coefficient equal to 0.5 means that, on average, there is one white-collar worker for every two blue-collar workers employed.
- 23. Note that in 1988, at the outset of the *Pacto* both white-collar and blue-collar worker employment were treated negatively, but that on that occasion the white-collar to blue-collar worker coefficient remained unaltered at approximately 0.43, and even declined in the following two years. A hypothesis for this is that the *Pacto* was taken at its beginning to be a transition programme, of a contingent nature.
- 24. The operating procedure for maguiladora enterprises in Mexico dates back to the 1960s, when the Mexican economy was practically closed off from the rest of the world, which made it very difficult to generate employment at the country's borders, because it was too costly to import production factors and exports were far from being sufficiently competitive. At the beginning, the legal framework established for the maquiladora industry tried to deal with this situation by seeking, through special tariff, tax and administrative measures, to give specific incentives to enterprises wishing to import certain production factors or components on a temporary basis exclusively to assemble them in Mexico for re-exportation. Given that the sole objective was to generate jobs in Mexico's border zone with the United States, the maquiladora industry regulations applied only to the northern zone of the country. At that time, there was no plan to elaborate a larger pattern of international industrial development; consequently, there were strong restrictions on the operation of maquiladora enterprises, for instance as to the acquisition of production factors within Mexico, the sale of the products within the country or the production techniques that could be used within the enterprises. Over the years, the system contributed significantly not only to employment generation, but also to the amount of foreign exchange available to finance the rest of Mexico's international transactions. After the general opening up of the Mexican economy to foreign trade that took place in the mid-1980s, regulations for maguiladoras were made much more flexible and modified in such a way as to produce a more complete pattern of integration into international production. For example, in 1993 the geographic restrictions, as well as those on the acquisition of production factors, the sale of products and authorised processing techniques, were significantly relaxed.
- 25. That is to say, tariffs were lower for the finished products than for the production factors used to manufacture them, which made it impossible to obtain any profitable return from their domestic production.
- 26. A new 1993 Foreign Trade Law, for instance, clearly defines regulations concerning the nationality of the product, the different types of tariffs and their modalities, the required permits, the export and import entitlements, the safeguarding measures and the compensatory quotas.
- 27. About two-thirds of Mexico's economic transactions abroad, whether they are exports, imports or the capture of foreign investment, take place with the United States of America.
- 28. NAFTA took effect on 1 January 1994. It provides regulations to be observed by Mexico, the United States and Canada in matters of international trade of goods and services, covering, among other aspects, tariffs and non-tariff barriers, foreign investment, copyright regulations, the application of norms and standards, conflict resolutions, etc. Tariffs are to be totally removed over a period of 15 years, progressing gradually at different rates to be determined for every good or service by each of the three countries.
- 29. See bibliography.
- 30. For this purpose, only two products are considered: automobiles and a composite commodity. The automobile and replacement-parts industry is currently one of the most important in Mexico.
- 31. Barraza mentions that despite the fact that the model does not consider a horizontal labour supply, the magnitude of change in employment can be inferred by maintaining constant real wages. Assuming an almost unitary elasticity of labour demand to real wages, it can be said that the percentage change in employment, in a Keynesian version, would be of a magnitude similar to the percentage change in real wages in the classic version.

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- 32. As we mentioned earlier, these results were obtained before the final terms of the NAFTA negotiations had been determined. In practice, the Mexican government, aware of the effects of NAFTA on the agricultural sector, negotiated a 15-year period for the complete liberalisation of this sector, which is the longest tariff-reduction period allowed within NAFTA. Furthermore, since NAFTA has come into effect, rural support programmes such as PROCAMPO have been implemented in Mexico to minimise the costs associated with the transition period.
- 33. Which is far removed from the 15-year gradual tariff reduction put forth by NAFTA.
- 34. The United States and Canada, Colombia and Venezuela, Chile, Costa Rica, and Bolivia.
- 35. Preliminary figure as of July 1994.
- 36. For instance, in 1991 foreign direct investment reached 12.6 per cent of the gross fixed capital formation.

37. This is what has been experienced in the last years in which economic growth has taken place.

- 38. As of July 1994.
- 39. To promote technology transfer from the rest of the world, as well as to encourage technological research and development in Mexico, an up-to-date copyright law was enacted in 1991 to protect such rights in a way comparable to that which is observed in the main industrialised countries.

40. Exports and imports reached \$27.7 billion and \$21 billion respectively.
| Year | Average tariff | Tariff dispersion | Weighted
tariff average | Weighted
dispersion | Controlled
imports ³ |
|-------------------|----------------|-------------------|----------------------------|------------------------|------------------------------------|
| 1982 | 27.0 | 24.6 | 16.4 | 21.1 | 100.0 |
| 1983 | 23.8 | 23.8 | 8.0 | 12.7 | 100.0 |
| 1984 | 23.3 | 22.5 | 8.5 | 11.9 | 83.4 |
| 1985 | 25.4 | 18.8 | 13.3 | 10.1 | 35.1 |
| 1986 | 22.6 | 14.1 | 13.1 | 13.2 | 27.8 |
| 1987 | 10.0 | 6.8 | 5.6 | 6.9 | 26.8 |
| 1988 ¹ | 9.7 | 6.9 | 6.2 | 7.4 | 30.1 |
| 1988 ² | 10.4 | 7.1 | 6.6 | 7.7 | 20.9 |
| 1989 | 13.1 | 4.4 | 9.7 | 6.9 | 18.4 |
| 1990 | 13.1 | 4.5 | 10.5 | 7.0 | 13.6 |
| 1991 | 13.1 | 4.5 | 11.1 | 6.6 | 9.1 |
| 1992 | 13.1 | 4.5 | 11.4 | 6.6 | 10.7 |
| 1993 | 13.0 | 4.7 | 11.6 | 6.2 | 21.6 |

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Table 1. Main indicators of economic opening in Mexico

1. 2. 3.

January-June. July-December. Value of controlled imports as a percentage of the total imports value.

Source: Ministry of Trade and Industrial Development, Office of the Director of Foreign Trade Services.

Real GDP	Total	Food		Wood	Printing	Chemical	Ore .	Metal	Machinery	Other
1988	100.0	27.2	16.5	4.9	5,0	13.7	6.8	3.7	19.7	2.6
1993 ¹	100.0	28.3	15.0	4.7	5.0	13.2	6.8	2.8	20.8	· 3.5
1986-88 ²										
Employment	0.6	(0.3)	(2.1)	1.7	0.4	2.3	1.9	(2.2)	1.9	8.0
Real GDP	3.1	0.6	(2.1)	0.5	2.8	3.7	3.8	8.1	9.4	0.5
Labour cost per unit	(3.1)	(4.6)	(6.2)	(3.1)	1.1	0.8	(1.9)	(6.7)	(6.0)	(6.0)
Trade balance ³	(6 966.0)	1.437.0	767.0	245.0	(1 153.0)	(2 611.0)	985.0	574.0	(7 195.0)	14.0
1989-91										
Employment	0.1	0.7	(2.4)	(0.9)	(0.4)	0.6	(2.0)	(5.8)	4.4	14.1
Real GDP	5.0	4.1	(0.5)	(0.3)	1.5	4.1	4.8	2.1	12.8	5.4
Labour cost per unit	0.1	3.9	3.7	(4.4)	1.8	(2.2)	(0.9)	(5.1)	0.0	10.8
Trade balance ³	(42 086.0)	(3 698.0)	(1 235.0)	(15.0)	(2 559.0)	(7 238.0)	781.0	(988.0)	(26 586.0)	(585.0)
1992-93 ²										
Employment	(7.3)	(2.6)	(8.4)	(9.9)	(6.2)	(5.7)	. (7.3)	(14.3)	(9.3)	(1.8)
Real GDP	(1.5)	0.4	(7.4)	(10.1)	(6.4)	(2.2)	0.8	2.6	(0.6)	(3.7)
Labour cost per unit	(1.1)	7.3	0.2	4.6	(4.6)	2.7	(3.2)	(14.8)	(5.0)	2.1
Trade balance ³	(52 102.0)	(4 099.0)	(2 224.0)	(322.0)	(2 938.0)	(8 689.0)	336.0	(2.469.0)	(30.890.0)	(808.0)
1988-93 ²			. ,							
Employment	(1.4)	0.4	(3.4)	(2.9)	(1.1)	(1.8)	(1.4)	(7.9)	(0.7)	5.8
Real GDP	3.6	3.9	(1.8)	(2.6)	0.9	3.4	4.1	1.9	7.8	5.9
Labour cost per unit	1.3	4.2	3.2	0.1	2.1	1.1	0.0	(3.4)	0.6	(0.7)
Trade balance ³	(98 551.0)	(7 660.0)	(3 283.0)	(235.0)	(5 971.0)	(17.063.0).	1 483.0	(3 377.0)	(61 051.0)	(1.429.0)

Table 2. Changes in employment and its main determinants in manufacturing, 1986-93

1. Proportion of employment in total manufacturing.

2. Mean annual percentage change in the specified period.

3. Accumulated balance for the period, \$ million.

Source: Based on data from INEGI and BANXICO.

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Sector	1989-93 accumulat	ed	1994 ²		1989-94 accumu	lated
•	Value	% share	Value	% share	Value	% share
Total	23 843.4	100.0	3 719.3	100.0	27 562.7	100.0
Agriculture and livestock	199.2	0.8	1.0	0.0	200.2	0.7
Extraction	198.1	0.8	17.2	0.5	215.3	0.8
Manufacturing industry	7 384.8	31.0	1 241.9	33.4	8 626.7	31.3
Electricity, gas and water	0.7	0.0	4.7	0.1 .	5.4	0.0
Construction	529.4	2.2	150.9	4.1	680.3	2.5
Ттаdе	2 564.9	10.8	452.9	12.2	3 017.8	10.9
Transport and communications	5 306.2	22.3	56.4	1.5	5 362.6	19.5
Financial services ³	3 682.9	15.4	402.5	10.8	4 085.4	14.8
Communal services ⁴	3 977.2	16.7	1 391.8	37.4	5 369.0	19.5

Table 3. Foreign investment by economic sector¹

(million dollars)

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1. Does not include investment in the Mexican stock market.

2. Figures prior to July.

3. Financial and administrative services, and real-estate and goods-and-chattels rental.

4. Social and communal services, hotel and restaurant services, technical and personal services.

Source: Ministry of Trade and Industrial Development, Office of the Director for Foreign Investment.

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