

# Could a Bridge between the EU and Latin America Boost Innovation “Sovereignty” in a Multipolar World?

by Nicola Bilotta and Alissa Siara

## ABSTRACT

The economic ramifications of COVID-19 will accentuate the technological innovation gap between Latin America and the rest of the world. In a region already suffering from chronic underinvestment in research and development, the strain placed on government budgets by the pandemic-induced economic crisis will push innovation further back down the agenda. The region has compensated for a lack of domestic resources with foreign capital and technology imports from China and the United States. As the US–China relationship becomes more adversarial in the face of COVID, however, Latin America will emerge as a geopolitical battleground whose countries may be forced to choose sides and potentially lose out on capital inflows or technology imports. Navigating this potential storm will involve the region in a search for other options. Public–private partnerships with European Union firms represent one valuable possibility, but Europe and Latin America should first align their innovation agendas.

*Latin America | European Union | China | USA | FDI | Technology | Digital policy | Coronavirus*

**keywords**

## Could a Bridge between the EU and Latin America Boost Innovation “Sovereignty” in a Multipolar World?

by Nicola Bilotta and Alissa Siara\*

### Introduction

The COVID-19 pandemic will have a dramatic humanitarian, economic and political impact on Latin America. The short- and long-term implications for the region's potential growth are grim. Its real Gross Domestic Product (GDP) is estimated to have grown by only 0.6 per cent in 2019. Due to the drastic reduction in Chinese demand and the fall of commodity prices, 2020 is likely to show even worse figures.<sup>1</sup> COVID has exposed Latin America's structural vulnerability and its dependence on external factors such as trade, foreign direct investment (FDI) and tourism. The region will suffer a major contraction as local currencies depreciate, supply chains are disrupted, tourism plummets and capital flees. The Economic Commission for Latin America and the Caribbean (ECLAC) estimates that average growth in Latin America will fall by 9.1 per cent in 2020.<sup>2</sup> Other projections are more pessimistic, the International Monetary Fund (IMF) predicts a decline of 9.4 per cent.<sup>3</sup>

Since the last commodity bubble ended, Latin America has experienced a lack of dynamism, reflected in low productivity and remarkably modest levels of innovation. Besides Brazil, none of the region's countries spend more than 1 per cent of their GDP on research and development (R&D).<sup>4</sup> To take just one example,

<sup>1</sup> Alejandro Werner, “Outlook for Latin America and the Caribbean: A Stalling Recovery”, in *IMF Blog*, 29 July 2019, <https://blogs.imf.org/?p=26870>.

<sup>2</sup> Economic Commission for Latin America and the Caribbean (ECLAC), *Latin America and the Caribbean: Updated Growth Projections for 2020*, 15 July 2020, <https://www.cepal.org/en/node/51768>.

<sup>3</sup> International Monetary Fund (IMF), *World Economic Outlook Update, June 2020: A Crisis Like No Other, An Uncertain Recovery*, June 2020, <https://www.imf.org/en/Publications/WEO/Issues/2020/06/24/WEOUpdateJune2020>.

<sup>4</sup> UNESCO website: *Regional Overview: Latin America and the Caribbean*, <https://en.unesco.org/node/252377>.

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· Paper prepared for the Istituto Affari Internazionali (IAI), July 2020.

Latin America’s digital economy still lags behind that of the rest of the world. The region accounts for less than 1 per cent of the market capitalization value of the world’s 70 largest digital platforms. In terms of harnessing digital data, Latin America together with Africa hosts less than 5 per cent of the world’s colocation data centres.<sup>5</sup>

Economists agree that technological innovations are the ultimate driver of productivity increase and long-term economic development – and Latin America is no exception to this rule. Digital transformation could help the commodity-reliant region to foster more diversified and high value-adding economies. Innovation policies and national innovation systems must be designed in such a way as to unleash the region’s untapped innovation potential and catch up with the main trends of the fourth industrial revolution (often dubbed “Industry 4.0”) – the internet of things (IoT), robotics, cloud computing and Artificial Intelligence (AI). The effect of Industry 4.0 will be felt across all sectors, from manufacturing to city management, transport and logistics, retail and resource-based industries. It is not just a matter of bolstering output and productivity but also of tackling some of the most pressing social challenges that Latin America faces. Innovation provides the opportunity to foster inclusive growth that could benefit everyone.

National governments have a substantial role to play in facilitating, incentivizing and financing investments in innovation. Despite the latest advances, however, Latin American governments have not done enough, and it seems increasingly unlikely that they will prioritize long-term reforms under current public-finance constraints. In this context of domestic underinvestment, foreign capital and foreign technological enterprises have taken on a central role in Latin America’s innovation development, with Chinese and US companies leading the race. However, technological dependence on these two giants could cause a significant economic and political backlash as well as undermine the development of the region. With Beijing and Washington engaged in an intense economic and technological competition, Latin America could emerge as a battleground in their rivalry for influence. These two global powers are already clashing over 5G technology, with the US administration pressuring Latin American governments to prevent the Chinese telecom provider Huawei from providing the region with 5G telecom systems.<sup>6</sup> COVID-19 will strengthen whichever of the two powers creates initiatives and shows solidarity to help Latin America fight the effects of the pandemic. Could the European Union (EU) step in to offer a third way to Latin America, with the ambition of increasing cooperation in the field of innovation while pursuing “technological sovereignty”<sup>7</sup> for both regions?

<sup>5</sup> Alejandro Werner, “Outlook for Latin America and the Caribbean: An Intensifying Pandemic”, in *IMF Blog*, 26 June 2020, <https://blogs.imf.org/?p=29959>.

<sup>6</sup> Oliver Stuenkel, “Huawei Heads South”, in *Foreign Affairs*, 10 May 2019, <https://www.foreignaffairs.com/articles/brazil/2019-05-10/huawei-heads-south>.

<sup>7</sup> European Commission website: *Europe Investing in Digital*, <https://ec.europa.eu/digital-single-market/en/europe-investing-digital-digital-europe-programme>.

## 1. The innovation landscape in Latin America

Over the past few years, Latin America has seen the rise of promising tech “unicorns”, meaning start-up firms with a valuation of over 1 billion US dollars. Brazil’s fintech company NuBank offers an alternative to the traditional banking system and easy access to finance. Its credit card is among the top five in Brazil and currently valued at 10 billion US dollars, serving 15 million users.<sup>8</sup> MercadoLibre, the Argentinian answer to e-commerce corporation eBay, has operations in 18 countries, counts more than 200 million users and is valued at 30 billion US dollars.<sup>9</sup> Colombia’s on-demand delivery app Rappi, which raised 1 billion US dollars from Japanese Softbank in 2019, has expanded to Argentina, Chile, Uruguay and other markets.<sup>10</sup>

The surge in tech innovations has been spurred by a rising awareness of the public sector and a change in the national policy environment. In Brazil, a country in which the top five banks control 82 per cent of assets, the Central Bank aims to foster competition in loans.<sup>11</sup> MercadoLibre has taken advantage of Argentina’s beneficial regulatory system, which is even more agile than the US one.<sup>12</sup> The government of former President Mauricio Macri invested in transforming the country, and especially the city of Buenos Aires, into a technology hub. At the national level, a law passed in 2017 cut bureaucracy to reduce the time and effort needed to start a business and created incentives for accelerators and venture capital. The removal of currency controls and the loosening of reserve and deposit requirements for foreign investors, two further measures enacted by the Macri Government, are meant to boost overseas investment.<sup>13</sup> In Colombia, Rappi has benefited from “the orange economy”<sup>14</sup> – a series of policies introduced under President Iván Duque to support the start of new businesses. These policies champion intellectual property rights and grant businesses tax exemption for the first seven years of trading.

A number of other noteworthy policy initiatives are to be found in the region. In 2019, Brazil’s Ministry of Science, Technology, Innovation, and Communications

<sup>8</sup> Aluisio Alves, “Brazilian Fintech Nubank Has Grown to 15 Million Users: CEO”, in *Reuters*, 11 October 2019, <https://reut.rs/2nz2lrs>.

<sup>9</sup> Matthew A. Winkler, “Two Homegrown Companies Defy Argentina’s Gloom”, in *Bloomberg*, 21 August 2019, <https://www.bloomberg.com/opinion/articles/2019-08-21/two-homegrown-companies-defy-argentina-s-gloom>.

<sup>10</sup> Carolina Mandl, “Japan’s SoftBank Invests \$1 Billion in Delivery App Rappi”, in *Reuters*, 30 April 2019, <https://reut.rs/2WbiBLo>.

<sup>11</sup> Marcela Ayres and Jamie McGeever, “Brazil Economy Chief Slams ‘Excessive’ Bank Profits, Urges Competition”, in *Reuters*, 4 June 2019, <https://reut.rs/2JYUwoK>.

<sup>12</sup> Benedict Mander, “Argentina: Home to the Majority of Latin America’s Tech Unicorns”, in *Financial Times*, 19 September 2016, <https://www.ft.com/content/687f5a58-5807-11e6-9f70-badea1b336d4>.

<sup>13</sup> Dion Rabouin, “Argentina’s Tech Sector on the Cusp of a Boom, But Obstacles Remain”, in *Reuters*, 20 October 2016, <http://reut.rs/2eKGMtT>.

<sup>14</sup> Lorenzo Montanari, “Innovation, Creativity, and Intellectual Property Rights: Can the Orange Economy Save Colombia?”, in *Forbes*, 17 October 2019, <https://www.forbes.com/sites/lorenzomontanari/2019/10/17/innovation-creativity-and-intellectual-property-rights-can-the-orange-economy-save-colombia>.

(MCTIC) launched a plan for machine-to-machine services and the internet of things. The Chilean Economic Development Agency (CORFO) is implementing a Smart Industry strategy. The Mexican Government has issued a roadmap for the IoT. CELAC (Community of Latin American and Caribbean States) members have created the Digital Agenda for Latin America and the Caribbean (eLAC) in order to develop a regional digital ecosystem by 2020. Several other countries in the region – Chile, Peru, Mexico and Colombia, in particular – have undertaken reforms to strengthen intellectual property rights that should stimulate entrepreneurship and attract foreign investors.<sup>15</sup>

Latin American governments have also developed new governance arrangements that incorporate the concept of the national innovation system.<sup>16</sup> This notion recognizes the fact that innovation benefits from interactions between private stakeholders – including companies and research centres – and public institutions such as universities and the country’s political administration. Brazil’s innovation law has been updated twice (in 2016 and 2018) to stimulate linkages between public research organizations and the private sector, in the hope of using this interdisciplinary approach to abolish barriers to driving innovation – for example, by consulting research that can help to clarify the legal framework.<sup>17</sup> In Guadalajara – “Mexico’s Silicon Valley” – the Jalisco state government has founded a public-private partnership in order to create work spaces for tech start-ups, charged at minimal rent.<sup>18</sup>

Despite these public initiatives – which have fostered success stories like those of NuBank, MercadoLibre and Rappi – no Latin American country fared well in the Global Innovation Index (GII) of 2019. The highest ranked, Chile, occupied only the 51st slot.<sup>19</sup> The ranking underlined the fact that Latin Americans are doing much worse than their African, Eastern European and Southeast Asian counterparts when it comes to producing high value-added goods and services. The GII praised several countries in sub-Saharan Africa and Asia – such as Kenya, Vietnam, Malawi and Rwanda – as “innovation achievers”, meaning that they performed at a level 10 per cent higher than their peers adjusted for GDP.<sup>20</sup> None of the Latin American economies featured among the “achievers”. In Latin America, the ICT (Information

<sup>15</sup> Biz Latin Hub, *Overview: Intellectual Property Regulations in Latin America*, 9 June 2019, <https://www.bizlatinhub.com/?p=160212>.

<sup>16</sup> ECLAC, *Exploring New Forms of Cooperation between China and Latin America and the Caribbean*, Santiago, United Nations, January 2018, p. 83, <https://repositorio.cepal.org/handle/11362/43214>.

<sup>17</sup> Angelica Mari, “Why Is It So Hard to Innovate in Brazil? The Legal Issues”, in *Forbes*, 10 July 2018, <https://www.forbes.com/sites/angelicamarideoliveira/2018/07/10/why-is-it-so-hard-to-innovate-in-brazil-the-legal-issues>.

<sup>18</sup> Raoul Lowery Contreras, “High Tech in Jalisco: Is It Mexico’s Future?”, in *Mexico News Daily*, 22 February 2018, <https://mexiconewsdaily.com/opinion/high-tech-in-jalisco-is-it-mexicos-future>.

<sup>19</sup> Soumitra Dutta, Bruno Lanvin and Sacha Wunsch-Vincent (eds), *Global Innovation Index 2019*, Ithaca/Fontainebleau/Geneva, Cornell University, INSEAD and WIPO, 2019, p. xxxiv, <https://www.globalinnovationindex.org/gii-2019-report>.

<sup>20</sup> Ricardo Aceves, “Innovation in Latin America: Potential Goes Untapped Due to Weak Economic Conditions”, in *Focus Economics*, 20 October 2016, <https://www.focus-economics.com/node/33488>.

and Communications Technology) development index reflects a two-speed process: some countries are at 75 per cent of the Organization for Economic Co-operation and Development (OECD) average, whereas others are only at 38 per cent.<sup>21</sup>

These low results can be ascribed to poor education standards, weak policy frameworks and low R&D investment. First, school enrolment in secondary education is low, which means that the supply of human capital remains scarce for the labour-market needs of Industry 4.0. Government education spending at average is at 4.4 per cent, whereas countries elsewhere at a similar level of development – like Kenya, for example – spend 5.3 per cent.<sup>22</sup> Second, policy frameworks are weak due to political and macroeconomic instability. Entrepreneurial efforts are hindered by administrative burdens and “red tape”. According to the World Bank, it takes 17 days to open a business in Brazil compared with 8 in South Korea.<sup>23</sup> Lastly, after the COVID-19 pandemic, public finances in Latin America will be more strained and it will be difficult to catch up with levels of R&D spending beyond 4 per cent, as it stands for innovative nations like South Korea. Local venture capital may also take a hit as investors turn towards low-risk targets.

To counterbalance the lack of domestic dynamism in innovation, it is widely expected that reducing trade barriers and restrictions on FDI would nurture Latin America’s innovation. Trade in technology may foster innovation by increasing economies of scale, technology transfers, market size and the total pool of available R&D. Yet, value-chain linkages between the region and the rest of the world have proven to be asymmetric, with the former specializing in unprocessed primary products and low-technology inputs.<sup>24</sup> In fact, Latin America has been *de-industrializing*, as the value added in manufacturing there decreased from 806 billion US dollars in 2013 to 756 billion in 2018.<sup>25</sup> The region’s fate is often associated with the natural-resource “curse” – the paradox that resource-abundant countries tend to be trapped in economic poverty. Commodity export is not R&D intensive, nor does it produce technological spillovers into other parts of the economy. High barriers to entry in higher-value-added activities of the value chain, which are dominated by developed-country companies that exhibit monopolistic tendencies,

<sup>21</sup> World Economic Forum (WEF), *Creating New Models: Innovative Public-Private Partnerships for Inclusive Development in Latin America*, Geneva, WEF, April 2014, p. 15, <https://www.weforum.org/reports/creating-new-models-innovative-public-private-partnerships-inclusive-development-latin-america>.

<sup>22</sup> World Bank Data: *Government Expenditure on Education, Total (per cent of GDP)*, <https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS>.

<sup>23</sup> World Bank Data: *Time Required to Start a Business (Days)*, <https://data.worldbank.org/indicator/IC.REG.DURS>.

<sup>24</sup> Dayna Zaclicever, “A Network Analysis Approach to Vertical Trade Linkages”, in *ECLAC International Trade Series*, No. 147 (2019), p. 7, <https://www.cepal.org/en/node/50748>.

<sup>25</sup> World Bank Data: *Manufacturing, Value Added (constant 2010 US\$) - Latin America & Caribbean*, <https://data.worldbank.org/indicator/NV.IND.MANF.KD?locations=ZJ>.

make it even harder to escape from the trap.<sup>26</sup>

Besides trade, FDI could allow local firms to absorb and assimilate technology from foreign companies as well as stimulate competition for local enterprises. Latin America is a valuable market for foreign tech investors, and FDI in technology has been on the rise. The region is one of the world’s most urbanized, with 80 per cent of its population living in cities. Its middle class has been growing steadily and a quarter of its population is aged between 15 and 29. Moreover, 63 per cent of Latin Americans are expected to have mobile internet access by 2020.<sup>27</sup>

With investments of around 18 billion US dollars in 2017, the largest amount of FDI inflows stems from China.<sup>28</sup> Increasingly, the People’s Republic has deepened its engagement with the region through the enlargement of its Belt and Road Initiative (BRI). The 2015–19 China-LAC Cooperation Plan aims to surpass 500 billion US dollars in bilateral trade and 250 billion US dollars in FDI by 2025. Since 2005, Chinese state-to-state finance has exceeded lending from both the World Bank and the Inter-American Development Bank (IADB).<sup>29</sup> The latter has recently acknowledged that the “China-LAC partnership will be the new fuel for innovation and an economic engine for development”.<sup>30</sup>

In particular, there is an increasing volume of Chinese FDI towards the telecommunications industry, which is the fuel powering Latin America’s current tech boom. The Chinese telecom company Huawei – the number-one supplier of telecommunications equipment and second in phone manufacturing – is now among the top three mobile-phone brands in the region. In Colombia, Huawei makes up over 25 per cent of the market.<sup>31</sup> Its activities include building a fibre-optic cable in Mexico connecting the states of Sinaloa and Baja California Sur, with plans to lay a transpacific cable connecting Chile to Asia.<sup>32</sup> Huawei and Chinese e-commerce multinational Alibaba have also struck contracts to build a 5G network and data centres in Latin America that will develop cloud-based solutions for local companies.

<sup>26</sup> Raphael Kaplinsky, “Globalisation and Unequalisation: What Can Be Learned from Value Chain Analysis?”, in *The Journal of Development Studies*, Vol. 37, No. 2 (2000), p. 117-146.

<sup>27</sup> LatAm Investor, *Latin America’s Tech Boom*, 7 May 2019, <https://latam-investor.com/?p=3503>.

<sup>28</sup> Daniela Guzman, “China’s Billions Are Powering Latin America’s Tech Boom”, in *Bloomberg*, 8 January 2019, <https://www.bnnbloomberg.ca/china-s-billions-are-powering-latin-america-s-tech-boom-1.1194801>.

<sup>29</sup> Margaret Myers and Kevin Gallagher, “Cautious Capital: Chinese Development Finance in LAC, 2018”, in *The Dialogue*, February 2019, <https://www.thedialogue.org/?p=78933>.

<sup>30</sup> Andrés Rodríguez, “How China Is Becoming a Key Source of Tech Investments in Latin America”, in *Nearshore Americas*, 18 December 2018, <https://nearshoreamericas.com/?p=69508>.

<sup>31</sup> Latin America Tech, *Huawei Expanded in Latin America During 2019*, 21 December 2019, <https://wp.me/pajh2m-Mv>.

<sup>32</sup> Natalia Cote-Muñoz and Lorand Laskai, “Is Latin America Prepared for China’s Booming Tech Investments?”, in *Americas Quarterly*, 23 April 2019, <https://www.americasquarterly.org/?p=6161>.

Chinese investment goes beyond the telecom market, however.<sup>33</sup> Tencent, the parent company of multipurpose app WeChat, has invested 180 million US dollars in Brazil's NuBank. Bytedance – owner of social-networking service TikTok and the most valuable start-up worldwide, with a market valuation of over 100 billion US dollars – has opened operations in São Paulo. Chinese Didi Chuxing, a virtual ride-hailing platform, acquired the Brazilian firm 99 Taxi. Ofo and Mobike, China's bicycle-sharing apps, are eyeing the Mexican market.

Chinese foreign policy has traditionally been based on non-interference in other countries' internal affairs. Even though loans from the China Development Bank have higher interest rates, they do not – in contrast to those of the World Bank or the International Monetary Fund – come with political conditionalities attached.<sup>34</sup> China has also increased philanthropic funding that could spur innovation in Latin America. Between 2015 and 2019, Beijing granted Latin American countries 6,000 governmental scholarships, an equal number of training opportunities and 400 opportunities for on-the-job master's-degree programmes in China.<sup>35</sup>

Chinese investments could have a reverse effect, reinforcing Latin America's dependence on raw materials through the purchase of primary products. In 2018, raw materials accounted for 76 per cent of the region's exports to China. While the BRI promises to build a Digital Silk Road through cooperation in such areas as the digital economy, AI, cloud computing and “smart” cities, China's economic footprint in Latin America overshadows collaborative efforts in innovation. Prospects for technology transfer, the promotion of R&D and job creation have fallen short of expectations as Beijing contracts Chinese firms and excludes local ones. Most Chinese financial aid to Latin America is commodity-backed or resource-secured. Despite indications that FDI in tech is increasing, most of the FDI in Latin America still occurs in the region's primary sectors: Brazil's largest share of FDI (23 per cent), for instance, is in the area of oil and gas; financial services have the country's third-biggest share (9 per cent) while IT services are ranked ninth (4 per cent).<sup>36</sup> Commodity investments are less intensive in R&D and produce little technological change. China has also been reluctant to invest in public-private partnerships, and the few that exist target the region's energy markets.

On his tour of the region in April 2019, US Secretary of State Mike Pompeo warned that “corrosive” Chinese capital and “predatory” lending practices are “giving life to corruption and eroding good governance”.<sup>37</sup> Almost 200 years ago,

<sup>33</sup> Andrés Rodríguez, “How China Is Becoming a Key Source of Tech Investments in Latin America”, cit.

<sup>34</sup> Carlos Roa, “The United States is Losing Latin America to China”, in *The National Interest*, 15 August 2019, <https://nationalinterest.org/node/73906>.

<sup>35</sup> Ibid.

<sup>36</sup> Deloitte Brazil website: *Evolution of Foreign Investment in Brazil*, <https://www2.deloitte.com/br/en/pages/doing-business-brazil/articles/evolution-of-foreign-investment.html>.

<sup>37</sup> US Department of State, *Seizing the Opportunity for Freedom in the Americas*, 12 April 2019, <https://www.state.gov/remarks-on-u-s-latin-american-policy>; Raquel Carvalho, “China in Latin



the US responded to European interference in the Western Hemisphere with a declaration of principles known as the Monroe Doctrine, which gave Washington a blank cheque to intervene in Latin American affairs and served as a rationale for enforcing US interests by any means (including by supporting military coups). In its current competition with China, the US seems less keen to protect regional sovereignty south of its border. Instead, it has receded into the background. Since the 2000s, the US has exerted decreasing political influence from Mexico to the southernmost tip of Chile. Latin America has welcomed Beijing and given Washington the cold shoulder. Moreover, the “America first” rhetoric of President Donald Trump has translated into scaling back development aid that, among other projects, supported entrepreneurship and digital transformation in the region. Last year, the Trump Administration requested cuts in USAID (US Agency for International Development) assistance in Latin America by 34 per cent, from 1.7 billion US dollars in 2018 to 1.1 billion in 2019.<sup>38</sup> At the IADB, projects in science and technology rank 14 – i.e. third-last place.<sup>39</sup> The US president has also announced a scaling back of aid in three Central American countries – Guatemala, Honduras and El Salvador – due to their failure to curb migration.<sup>40</sup> Transcontinental cooperation – for example, through the Organization of American States (OAS) – struggles due to perceived US dominance.

The US private sector has not given up on the market “down south”, however. Google opened its Latin American headquarters in Argentina as early as 2007, and now operates a renewable-energy-powered data centre in Chile and is looking to expand into Uruguay. In September 2019, computer-software company Oracle Corporation declared Brazil and Chile part of its new Oracle Cloud regions. Stripe, the US online payment start-up, opened its first Latin American office in Mexico City in 2019. Moreover, several US tech companies successfully operate in the region. Latin America was Uber’s most profitable region in 2018, and Brazil remains the second-largest market for the ride-hailing service worldwide. Media provider Netflix counted 29 million Latin American subscribers by the end of 2019, which is almost double the number from 2017,<sup>41</sup> the countries with the best value-for-money Netflix subscriptions are Colombia, Brazil and Argentina. In early 2019, Amazon opened its first distribution centre in Brazil, and has recently announced that it will open a second one in 2020. Mexico was Amazon’s fastest-growing

America: Partner or Predator?”, in *South China Morning Post*, 25 May 2019, <https://multimedia.scmp.com/week-asia/article/3011618/beijing-conquest-latin-america/index.html>.

<sup>38</sup> Peter J. Meyer and Edward Y. Gracia, “U.S. Foreign Assistance to Latin America and the Caribbean: FY2019 Appropriations”, in *CRS Reports*, No. R45547 (1 March 2019), p. 4, <https://fas.org/sgp/crs/row/R45547.pdf>.

<sup>39</sup> Inter-American Development Bank (IADB) website: *IDB Projects*, <https://www.iadb.org/en/projects>.

<sup>40</sup> Megan Specia, “Trump Wants to Cut Aid to Central America. Here Are Some of the Dozens of U.S.-Funded Programs”, in *The New York Times*, 2 April 2019, <https://www.nytimes.com/2019/04/02/world/americas/trump-funding-central-america.html>.

<sup>41</sup> Edmund Lee, “Netflix Looks Abroad as Growth Slows in the U.S.”, in *The New York Times*, 16 December 2019, <https://www.nytimes.com/2019/12/16/business/media/netflix-us-subs-slowng-down-international-subs-growing.html>.

market in 2019, with 1 billion US dollars in sales.<sup>42</sup> Mexico is also the biggest user base for streaming provider Spotify and, together with Brazil, the largest market for Facebook, Instagram and WhatsApp.

Rising FDI from China and the US has been accompanied by an increase in venture capital (VC) investment. The Latin American private equity and venture capital association LAVCA found that VC funding almost doubled from 1.14 billion US dollars in 2017 to nearly 2 billion in 2018.<sup>43</sup> This has sparked a competition in funding. In 2019, Japan’s SoftBank Group announced a 5 billion US dollar technology innovation fund focused on Latin America, which equals the region’s venture investments of 2017 and 2018 combined. Yet, since 2018 it has been the US that has topped the list, as US companies have provided 67 per cent of all VC into the region.<sup>44</sup> Some of Silicon Valley’s biggest names – including Accel Partners, Y Combinator and Social Capital – have big stakes in Latin America. US ventures Sequoia Capital and Andreessen Horowitz have both invested in Rappi. Sequoia had initiated its investment in the region with NuBank.

As long as Latin America is “caught in the crossfire” between the US and China, trade and FDI *per se* will not have a significant impact on the region’s innovation path. Critics fear that emerging economies will end up with unsustainable debt burdens and that their standing as commodity producers will only be reinforced. There is growing debate in Latin America about forming a common front that could exercise pressure on China for better terms on trade and investment. A promising way forward would be to build international alliances beyond Beijing and Washington – and especially with Europe.

## 2. A middle way between China and the US

Europe, much like Latin America, has been missing out on Industry 4.0.<sup>45</sup> None of the largest 15 digital firms worldwide is European. In the Forbes list of digital companies, Deutsche Telekom is the only European one in the top 20. Venture capital in Europe is miserly compared with the resources of the US stock market and China’s public subsidies. As a result, European tech companies struggle to scale and hardly ever make it beyond the start-up phase. They are snatched up by giants like Microsoft in the case of Skype, or Apple in the case of identification app Shazam.

<sup>42</sup> Mary Ann Azevedo, “Latin America Has ‘Arrived’ Among Global VCs”, in *Crunchbase News*, 29 April 2019, <https://news.crunchbase.com/?p=18369>.

<sup>43</sup> Helgi Gudmundsson, David Feliba and Diego Castells, “In Hunt for Fintech Unicorns, Venture Capital Looks to Latin America”, in *S&P Global*, 16 October 2019, [https://www.spglobal.com/marketintelligence/en/news-insights/trending/PRUYHs6lGeZKDn-PNw\\_ung2](https://www.spglobal.com/marketintelligence/en/news-insights/trending/PRUYHs6lGeZKDn-PNw_ung2).

<sup>44</sup> Association for Private Capital Investment in Latin America (LACVA), *US Investors in Latam Startups (2013-2017)*, 26 February 2018, <https://lavca.org/?p=66712>.

<sup>45</sup> Iliyana Tsanova and Roger Havenith, “Europe Is No Longer an Innovation Leader. Here’s How It Can Get Ahead”, in *WEF Articles*, 14 March 2019, <https://www.weforum.org/agenda/2019/03/europe-is-no-longer-an-innovation-leader-heres-how-it-can-get-ahead>.

The EU’s technology research strategy unfolds under the Horizon 2020 Programme, which will continue for the 2021–7 period as Horizon Europe. With a budget of 100 billion euro – an increase from the 80 billion of its predecessor – Horizon Europe aims to complete the European Research Area and finance innovation hubs and supercomputing centres. Its two main priorities are working towards a Green European Deal and strengthening the social market economy.<sup>46</sup> “A Europe fit for the Digital Age” is the programme’s third priority, aiming to achieve technological sovereignty with around 15 billion euro allocated to the study of digital technologies.

Whether this effort will be enough to allow the Union to catch up is uncertain. First, although Horizon Europe is only a fraction of the total EU R&D expenditure – the majority coming from national governments and businesses – an investment of 100 billion euro is not in the same league as China’s R&D spending of 496 billion US dollars and US outlaying of 549 billion in 2017. In the same year, all EU member states combined spent less than 320 billion euro on R&D.<sup>47</sup> Second, Horizon Europe makes insufficient efforts to close the research and innovation gap across member states. Innovations remain concentrated in a few countries and the process of convergence is slow. Lastly, involvement in the Horizon Programme is limited to EU neighbours, while association for non-EU members remains restricted by legal and financial conditions.

A glance at Europe’s performance in new technologies fails to paint a brighter picture. Currently, the US and China are well ahead of Europe in AI – a technology that will revolutionize productivity and competitiveness while at the same time raising critical issues about social and labour rights. Whichever power wins the AI race will also define the latter. Chinese, Japanese and US firms account for 78 per cent of AI-related patent filings worldwide.<sup>48</sup> In February 2020, the European Commission issued a new strategy to catch up with the global powers. The White Paper proposes an investment plan of 20 billion euro per year until 2030, compared with just 3.2 billion in 2016.<sup>49</sup> Although this is a step in the right direction, critics fear that Europe is hamstrung by its own stringent privacy rules, which put its local companies at a disadvantage.

5G will be a key critical infrastructure because it underpins other industries and will process information needed to develop new technologies such as autonomous

<sup>46</sup> European Commission, *Orientations towards the First Strategic Plan for Horizon Europe*, December 2019, p. 8, [https://ec.europa.eu/info/files/orientations-towards-first-strategic-plan-horizon-europe\\_en](https://ec.europa.eu/info/files/orientations-towards-first-strategic-plan-horizon-europe_en).

<sup>47</sup> Eurostat, “R&D Expenditure in the EU Increased Slightly to 2.07% of GDP in 2017”, in *Eurostat Newsreleases*, No. 5/2019 (10 January 2019), <https://ec.europa.eu/eurostat/web/products-press-releases/-/9-10012019-AP>.

<sup>48</sup> World Intellectual Property Organization (WIPO), *Technology Trends 2019: Artificial Intelligence*, Geneva, WIPO, 2019, p. 16, <https://www.wipo.int/publications/en/details.jsp?id=4386>.

<sup>49</sup> European Commission, *White Paper on Artificial Intelligence. A European Approach to Excellence and Trust* (COM/2020/65), 19 February 2020, p. 5, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0065>.

driving or the IoT. With the Scandinavian companies Ericsson and Nokia, Europe has some edge in 5G development. However, the EU's domestic market cannot rival the Chinese one. Huawei is currently the company with the highest amount of 5G patents.<sup>50</sup> Despite its Digital Single Market initiative, the EU remains fragmented, with auction rules differing from one member state to another. A single telecom market is absent – and, with it, collective planning. The Commission foresees establishing a single data market by 2030.<sup>51</sup> By that time, China and the US will have further expanded their technology lead.

If the EU wants to improve its position in the global innovation landscape, a common agenda in technology between the Union and Latin America could constitute a win–win situation. Such a transatlantic collaboration would provide not only economies of scale, by accessing a wider labour market and knowledge networks, but also economies of scope, by building on complementarities in terms of the two regions' technological and economic bases. To fill the gap left by the US's political retreat and to counterbalance China's economic influence, the Union must formulate a strategic vision and mobilize political will. Long-term strategies and partnerships across the Atlantic can give rise to opportunities that foster technology and support the building of inclusive societies. Increased EU involvement would also provide Latin America with greater room to manoeuvre instead of forcing it to juggle the two superpowers.

At the beginning of 2019, relations between the EU and the countries of Latin America and the Caribbean (LAC) seemed to have reached stalemate. Diplomatic efforts to resolve the Venezuela crisis had lost momentum. Yet, new developments throughout 2019 changed the trend. First, Germany deepened its relations in the region with efforts culminating in a Latin America–Caribbean Conference organized by Foreign Minister Heiko Maas in May 2019. This puts Latin America on the agenda of the Union's most powerful economic player. A second step towards deeper relations was the political approval of the EU–Mercosur agreement in June 2019 – which, if successful, would create a market of 780 million consumers. Third, the new Commission re-launched EU–LAC relations under “Joining forces for a common future”. The document observes that “investing in knowledge, innovation and human capital, advancing the digital economy and promoting connectivity are important objectives of the economic partnership”.<sup>52</sup> In 2019, Mercosur reached a free-trade agreement with the EU that will lower barriers in the Mercosur market for exporters and potential investors.

<sup>50</sup> Mathieu Duchâtel and François Godement, “Europe and 5G: the Huawei Case”, in *Institut Montaigne Policy Papers*, June 2019, p. 15, <https://www.institutmontaigne.org/en/node/6612>.

<sup>51</sup> European Commission, *A European Strategy for Data* (COM/2020/66), 19 February 2020, p. 4, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0066>.

<sup>52</sup> Council of the European Union, *Council Conclusions on the Joint Communication on EU Relations with Latin America and the Caribbean, “Joining Forces for a Common Future”*, 13 May 2019, point 9, <https://www.consilium.europa.eu/media/39346/eu-lac.pdf>.

The EU can already congratulate itself on being the largest provider of development cooperation to Latin America and the Caribbean. Grants for bilateral and regional programmes reached 3.6 billion euro between 2014 and 2020.<sup>53</sup> The Union is investing 26.5 million euro to launch the deployment of an underwater fibre-optic cable connecting Portugal and Brazil.<sup>54</sup> The transatlantic digital data highway will provide high-speed broadband connectivity and boost exchanges between the two continents. European telecom companies Ericsson and Nokia are also racing to lead the 5G transformation in the region.

Better tools are required to address existing barriers to innovation cooperation, which include administrative burdens, mobility hurdles for entrepreneurs, barriers to technology transfer, a lack of standardized intellectual property regulations and the fragmentation of markets and innovation policies.

One policy option for addressing these issues that deserves increased attention is the Partnership Instrument, which allows the EU to promote policy cooperation and formulate alliances with third countries of strategic interest. To catch up with US and Chinese tech giants, the EU and Latin America should increasingly employ public–private partnerships (PPPs) – agreements that allow countries to draw up joint research and innovation programmes between governments, businesses and civil society. The success of large-scale R&D and innovation projects is contingent on collaboration between public and private stakeholders. The public sector determines the regulatory framework as well as issues such as talent support. However, governments and public institutions are limited by budget constraints, public mistrust, inefficiency, excessive bureaucracy or even corruption. Through PPPs, the EU and Latin America can align their innovation agendas, jointly define public policies and share experiences with national innovation systems at the public level, while aligning innovation actors in the private realm.

One example of a successful PPP between the EU and Latin America in the realm of technology innovation is the BELLA consortium, which oversees the deployment of a submarine fibre-optic cable on the Atlantic seabed. Since 2015, a wide array of public and private organizations has been working together to bring this large-scale project to life. The consortium consists of 11 research and education networks from Brazil, Chile, Colombia, Ecuador, France, Germany, Italy, Portugal and Spain. It is led by RedCLARA, South America’s research and education network, and GEANT, Europe’s equivalent.

The EU is currently also using the Partnership Instrument in international digital cooperation to secure a rules-based international digital sphere in accordance

<sup>53</sup> European Commission and EEAS, *European Union, Latin America and the Caribbean: Joining Forces for a Common Future* (JOIN/2019/6), 16 April 2019, p. 1, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019JC0006>.

<sup>54</sup> European Commission, *BELLA: A New Digital Data Highway between Europe and Latin America*, 13 August 2018, <https://europa.eu/!Jw67RN>.

with its General Data Protection Regulation (GDPR).

In addition to these projects, the EU and Latin America should invest in PPPs in the area of education and youth entrepreneurship in order to develop the human capital needed to match the skills demand of digitalization and entrepreneurship. The EU–LAC Joint Initiative on Research and Innovation has already contributed to researcher mobility and bi-regional research cooperation. However, Europe continues to have a small number of international tech experts. It struggles to attract talent due to low levels of tolerance towards migrants, a weak reputation for tech investments, the absence of a unified visa scheme and a lack of Big Tech giants.<sup>55</sup> For Latin America, Europe’s model of high-quality, affordable education serves as a good starting point from which to invest in tech talent. To this end, PPPs should connect tertiary- and secondary-education institutions with industry and firms across the Atlantic in order to cater to the needs of the productive sector.

## Conclusion

The economic ramifications of COVID-19 will further strain the already tight budgets of Latin American governments. Although the coronavirus was slow to hit the region, it has now reached every country – with Brazil leading the number of infections.<sup>56</sup> Currencies, consumption, raw-material prices and tourism have already plummeted. If the prognosis by the Economist Intelligence Unit of a 4.8 per cent decline proves to be confirmed, it would mean that Latin America will be facing a profound recession.<sup>57</sup>

Within this economic “perfect storm”, domestic investments in innovation and R&D are likely to take a back seat. The region has so far mostly relied on foreign trade and investment, mainly with the US and China, to spur domestic innovation. Yet, juggling between Washington and Beijing has come at a cost, and Latin American countries may soon be forced to pick a side. To avoid being caught in the crossfire of these two tech powerhouses, Latin America should increasingly invest in public–private partnerships with the European Union in order to reduce administrative burdens, mobility hurdles for entrepreneurs and barriers to technology transfer, as well as to standardize intellectual property regulations and align markets and innovation policies.

<sup>55</sup> Joanna Plucinska and Saim Saeed, “Europe Struggles to Attract Tech Talent Even as US Closes Doors”, in *Politico*, 14 July 2017, <https://www.politico.eu/article/why-europe-still-lacks-silicon-valleys-sex-appeal>.

<sup>56</sup> Charles T. Call, “As Coronavirus Hits Latin America, Expect Serious and Enduring Effects”, in *Order from Chaos*, 26 March 2020, <https://brook.gs/2QJLddT>.

<sup>57</sup> Sergio Bitar and Daniel Zovatto, “The Impact of the Coronavirus in Latin America’s Future”, in *International IDEA Commentaries*, 2 April 2020, <https://www.idea.int/node/308684>.

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States can emerge strengthened from this pandemic, and they should use these capabilities to support their relationships with the private sector. Building PPPs is not, however, an easy task, and it will require trust within and across governments as well as acceptance of other cultures and the provision of mutual benefits. At their best, technology PPPs with Europe provide an opportunity for Latin America to emerge strengthened from the pandemic and, in the words of best-selling author and historian Yuval Noah Harari, rebuild trust in science, in the media, in the institutions and in public authorities.<sup>58</sup>

*Updated 24 July 2020*

<sup>58</sup> Yuval Noah Harari, “The World After Coronavirus”, in *The Financial Times*, 20 March 2020, <https://www.ft.com/content/19d90308-6858-11ea-a3c9-1fe6fedcca75>.

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