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Venture Capital in Latin America and the Caribbean

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1. We thank Fernando Fabre, Meghan Stevenson-Krausz, Bill Maloney, Yira Mascaró, Erik Feyen, Alexandre Hugo Laure, and Shanthi Divakaran for their valuable comments. We are also indebted to Guillermo Rodriguez Ruiz and Eduardo Schiappa Pietra for excellent research assistance. The views expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the World Bank Group and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.
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Introduction

Until the last decade, venture capital (VC) was perceived as a side game in capital markets across the Latin America and the Caribbean (LAC) region. Only a few companies were able to succeed, and valuations of high-growth companies were missing against developed markets. However, in 2021, VC funding surged to levels equivalent to the total equity financing raised through initial public offerings (IPOs) in the main markets in the region, surpassing the volume of corporate debt financing. These amounts became significant enough to draw the interest of policymakers.

This paper explores the drivers of this surge and attendant challenges in terms of future sustainability. The evidence suggests that the incursion of a few deep-pocketed VC investors was an important driver of funds in both early- and late-stage deals. The appetite for investments also came from several successful exit deals that allowed investors to make profits and look for additional investment opportunities.

The less favorable macroeconomic scenario after the pandemic—including interest rate increases, the effects of the fall of Silicon Valley Bank (SVB), and reductions in international valuations of technology companies compared to 2021—suggest that the growth of the VC industry may stall. However, the presence of an active and vibrant network of successful Latin American entrepreneurs guarantees a sustainable pipeline of projects that can attract additional VC funding to the LAC region in the years to come.

This paper argues that the VC industry in the LAC region has only touched the surface in terms of investment opportunities, as most of the highly valued deals have been in companies that are still far from the technological frontier. As the climate agenda becomes more mainstream in the LAC region, large-scale VC investment opportunities may arise.

Considering the supply and demand factors that explain the surge in venture capital in the region, there are reasons to believe that the venture capital industry in the region might be resilient to adverse shocks. Although some international macroeconomic and financial conditions may have worsened since 2021, the region has improved in terms of connectivity. In this regard, the networks of entrepreneurs have continued to expand. In addition, regional priorities, including climate action, have become aligned with those of global partners.

The rest of the paper is organized as follows. Section 2 provides a literature review. Section 3 discusses the state of VC funding in LAC. Section 4 discusses the drivers of VC funding growth in the region and presents opportunities for the industry in LAC. Section 5 discusses potential policy research areas that should receive attention. Finally, section 6 offers conclusions.

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Literature Review

Venture capital (VC) investors are a constant in high-growth company clusters worldwide, including in London, Silicon Valley, Shanghai, and Tel Aviv (Klingler-Vidra 2018; Mallaby 2022). Forty years of academic research shows that the presence of these investors in startup clusters is no coincidence. VCs play two important roles. First, they provide capital to companies that might otherwise have difficulty attracting financing. Second, they also build and strengthen clusters by helping attract, train, and provide resources to new generations of entrepreneurs. These roles provide a rationale for the worldwide policy efforts supporting VCs (for comparison, see Klingler-Vidra 2018; Lerner 2009).

VCs provide "smart money" to young, innovative companies that can disproportionately contribute to economic growth, yet have difficulty in attracting financing. Less than 1 percent of companies ever raise VC. However, VC-backed companies account for approximately 50 percent of the total market capitalization and 60 percent of the innovation in the United States (US) (Gornall and Strebualev 2015).

VCs are said to provide smart money in that they provide more than just financing. A rich literature in finance shows that, relative to other financiers, VCs use two broad mechanisms to add value, while also mitigating the challenges of financing innovative companies. Notably, before providing capital, they scrutinize companies through a rigorous process called due diligence. This involves various evaluation and selection activities following the initial screening for adherence to the fund's mandate, as described by Gompers, Gornall, Kaplan, and Strebulaev (2020). After investment, these investors then monitor and add value to their portfolio companies in a variety of ways. These include: (i) designing financial contracts and compensation schemes that help align the incentives of entrepreneurs and investors (Lerner and Nanda 2020);[5] (ii) guiding entrepreneurs through their active involvement with the businesses (Bernstein and others 2016; Ewens and Malenko 2020; Hellmann and Puri 2002; and Lerner 1995); and (iii) facilitating the efficient reallocation of resources between portfolio companies (Gonzalez-Uribe 2020; Lindsey 2008).

5. See staged financing (Sahlman 1990); contractual arrangements (Cornelli and Yosha 2003; Hellman 1998; and Kaplan and Stromberg 2003); and compensation schemes (Baker and Gompers, 2003; Ewens and others 2020).

Recent research suggests that VCs are not only investors, but also ecosystem builders that can provide value to companies beyond their portfolio. The study by Gonzalez-Uribe and others (2023) shows that VC due diligence can have a substantial impact on business development — even if the VC decides not to invest. This is likely because the VCs' due diligence can help entrepreneurs overcome the constraints that limit their business development, such as financial difficulties (Kerr and Nanda 2015); information gaps (Yu 2020); and limited firm capabilities (Gonzalez-Uribe and Reyes 2021).

Other investors and institutions designed to support entrepreneurs, such as business accelerators, play similar ecosystem-builder roles in high-growth company clusters. Business accelerators are support programs for entrepreneurs that train, coach, and sometimes fund them (Gonzalez-Uribe and Hmaddi 2022). In the United Kingdom (UK) and the US, accelerators have been shown to help attract venture capital and talent to their surrounding region(s). This makes it easier for entrepreneurs to raise financing and grow — including even those that do not participate in accelerators (Gonzalez-Uribe and Hmaddi 2022).

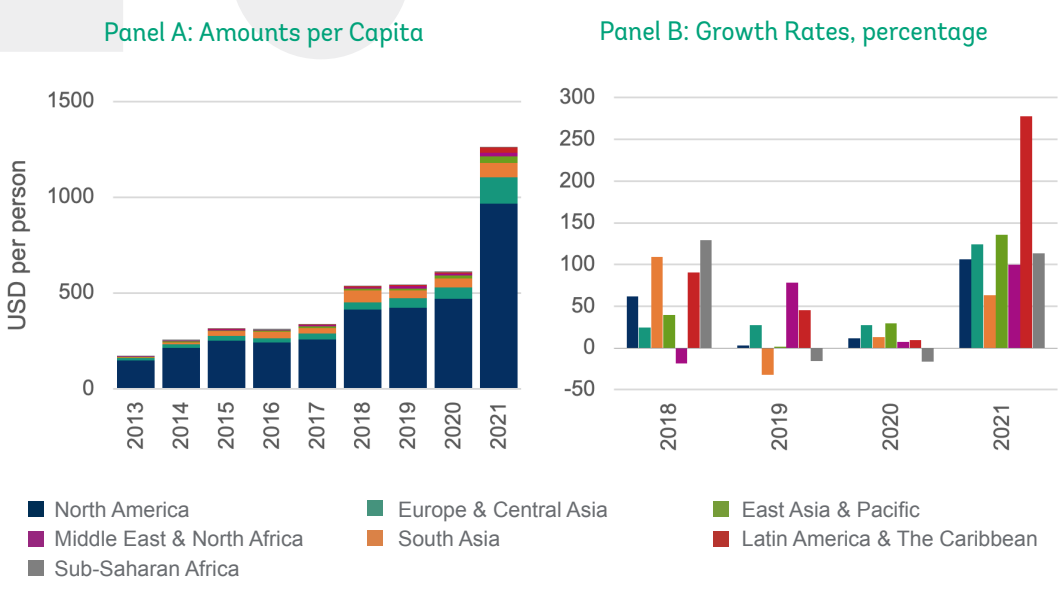
Until 2020, the high-growth company ecosystem in LAC was still in the developmental stage. High-growth companies in LAC were scarcer than they were in the US, and this difference in company growth distribution was at the root of LAC's development problem (Eslava, Haltiwanger, and Pinzon 2019). Closing the gap by unleashing the growth of high-growth-potential companies in LAC was not only a problem of financing, but also of capabilities (Gonzalez-Uribe and Leatherbee 2017; Gonzalez-Uribe and Reyes 2021). Access to smart money from VCs, as well as the opportunities that VCs and other early-stage investors provide entrepreneurs to get them investment-ready, are important resources for unleashing the high-growth company ecosystem.

Although the COVID-19 pandemic helped launch a strong start to the VC industry in the region, these are still the early days of the ecosystem. Although the opportunity is immense, so too are the potential challenges ahead, as already evidenced by the difficult year for LAC startups during 2022. Although the dramatic declines in valuations of both private and publicly traded technology companies in 2022 are not necessarily an impediment to the development of the VC industry around the globe, they may have collateral effects in regions that depend on international financing—such as Latin America and the Caribbean region— particularly in terms of delaying the industry's potential consolidation. The financial turmoil created by the collapse of SVB and Signature Bank in the US may also have significant collateral effects on the capital markets.

The State of VC Funding in LAC

On a per-capita basis, VC funding for startups in LAC has historically lagged VC funding to startups in almost all other regions of the world (Figure 1). However, VC funding for LAC startups during the last decade has been steadily on the rise, culminating in recent unprecedented growth. In 2021, VC funds invested US$18.5 billion in LAC startups, a substantial increase from the previous funding record of US$4 billion in 2020 (Figure 2).

Figure 1. Regional VC Funding



Source: Authors' elaboration based on data from PitchBook..

The rise in VC funding to LAC is impressive relative to the rest of the global VC market. Indeed, LAC was the fastest-growing region in the world for venture funding in 2021, with a staggering 288 percent increase in value from 2020 (Figure 1). In addition, LAC was the fastest growing region in both early and late-stage VC funding, with impressive 472 percent and 310 percent increases in 2021, respectively (Figure 2). On a weighted basis, 2021 was the first year that LAC contributed a substantial amount to global VC growth, reaching close to 3.8 percent.

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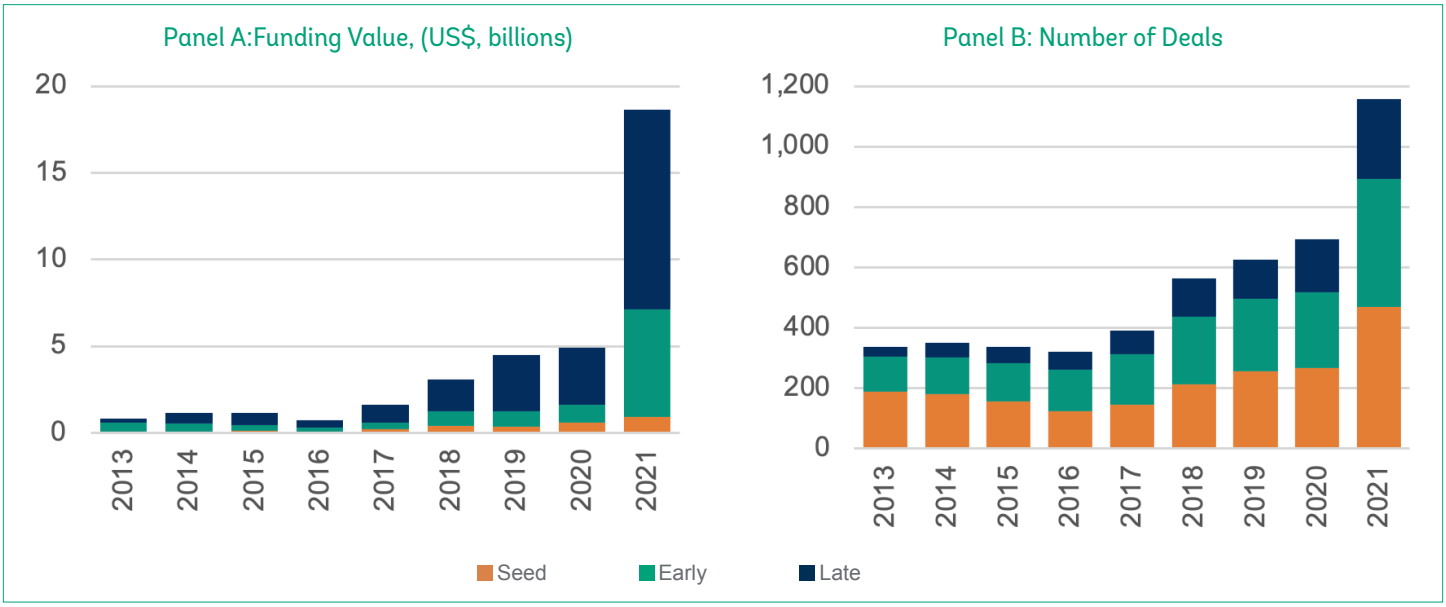
Figure 2. Total Venture Capital Funding in LAC



Source: Authors' elaboration based on PitchBook.

The rise in VC funding is also impressive relative to other financial markets in LAC. The growth in VC funding far surpassed that of corporate debt, and it was similar to that of IPOs. In fact, 2021 was the first year for which VC funding to LAC startups roughly equalled the size of the LAC IPO market, while also exceeding corporate debt issuance (Figure 3).

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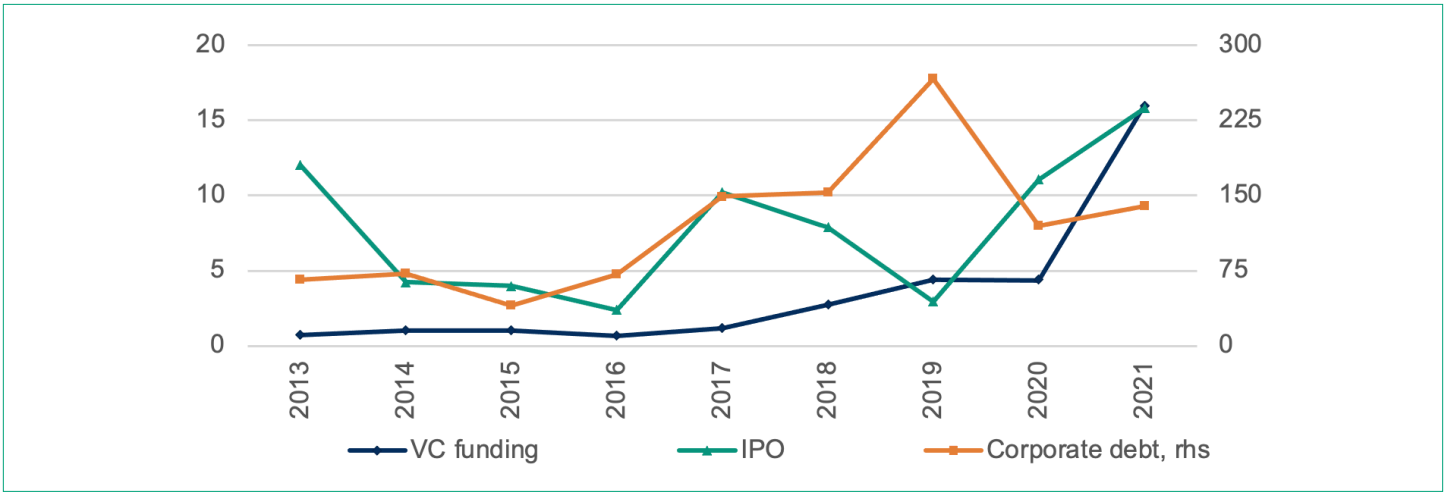
Figure 3. Value of VC and Public Markets Funding in LAC's 6 Biggest Countries, US$ billions



Source: Authors' elaboration based on PitchBook.
Note: The six countries include: Argentina, Brazil, Chile, Colombia, Mexico, and Peru.

This spectacular growth was driven by larger, rather than more numerous rounds. The region saw a significant number of super-sized (US$100 million+) rounds for the first time, with 43 such rounds totalling almost US$12 billion in value in 2021. Although found across the globe in 2021, these rounds were particularly common in LAC (Figure 4).

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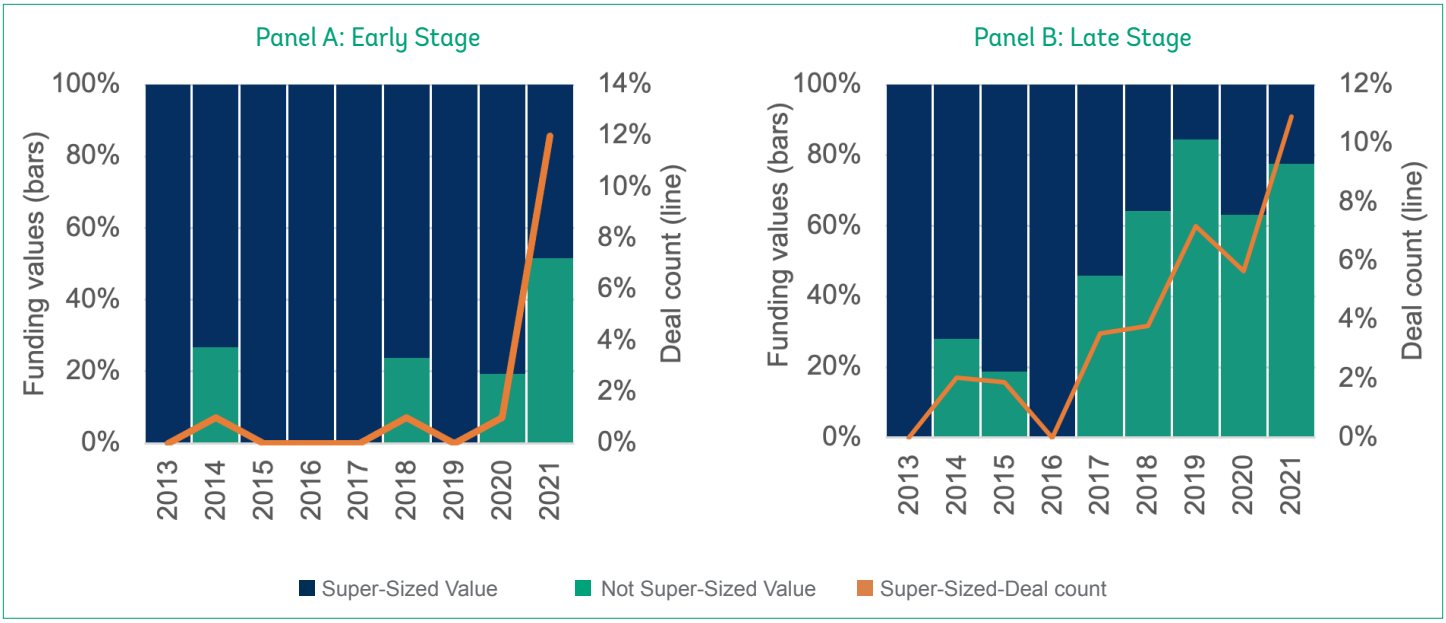
Figure 4. LAC's Super-Sized Deals (US$100 million+) by Stage, 2021



Source: Authors' elaboration based on PitchBook.
Note: The bars show the percentage of total early and late VC funding in LAC that went to either super-sized or non-super-sized deals. For example, in 2021, around 50 percent of total early-stage VC funding went to super-sized deals. The black line shows the percentage of early and late deal counts that went to super-sized deals. For example, around 11 percent of the number of late-stage deals in 2021 went to super-sized deals.

Notably, early-stage deals comprised roughly a third of these super-sized rounds in LAC. There were 12 early-stage, super-sized deals totalling US$3 billion in value. However, half of that value (US$1.4 billion) is explained by only two Series B rounds in 2021. These were raised by FTX, the once-renowned cryptocurrency platform led by Sam Bankman-Fried. In November of 2022, the company filed for bankruptcy protection in the US after allegations of financial misconduct.[6] Other examples of super-sized, early-stage deals in the region include EBANX, a payment technology provider that raised US$430 million in a Series B round, and Merama, a Mexico-based, e-commerce brand aggregator that raised US$345 million in Series A and B funding in 2021.

Super-sized deals were also unusually common in late-stage funding to startups in the region. Examples include Nubank, the Brazil-based Fintech that raised US$1.150 million in July 2021, and Rappi, a Colombia-based provider of fast delivery services across much of Latin America that raised US$500 million in a Series F round in July 2021.

Super-sized rounds in 2021 were not equally distributed across LAC countries. Brazil and Mexico had 42.8 and 23.0 percent of all the value of US$100 million+ deals, respectively, in the region (Figure 5). Indeed, the concentration of super-sized rounds in Brazil and Mexico reflects the overall concentration of VC funding in these countries, especially at the late stage of financing. Brazil's prominence is linked to the size of its local economy (Figure 6), which is especially important for the product scalability of startups operating within the Business-to-Consumer sector.

6. In December 2022, the United States Department of Justice, the Securities and Exchange Commission, and other government agencies charged the FTX founder with defrauding investors, among other allegations.

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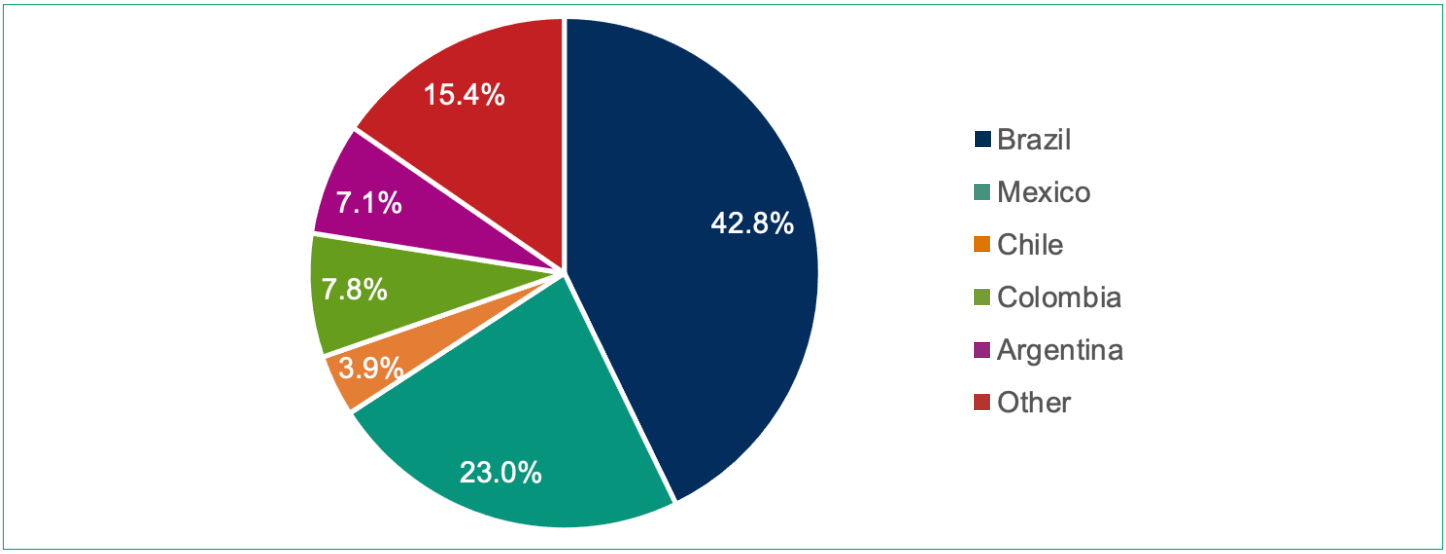
Figure 5. Super-Sized Deals (US$100 million+) across LAC Countries, 2021



Source: Authors' elaboration based on PitchBook.
Note: "Other" includes the Bahamas, the British Virgin Islands, and Curaçao. Among the Caribbean islands, the Bahamas stands out in terms of its participation in supersized deals with US$1.4 billion of investment value. Indeed, it represented more than a third of Brazil's in 2021. However, in contrast to the 20 deals in Brazil, the 2021 investment in the Bahamas was concentrated in 2 Series B deals.

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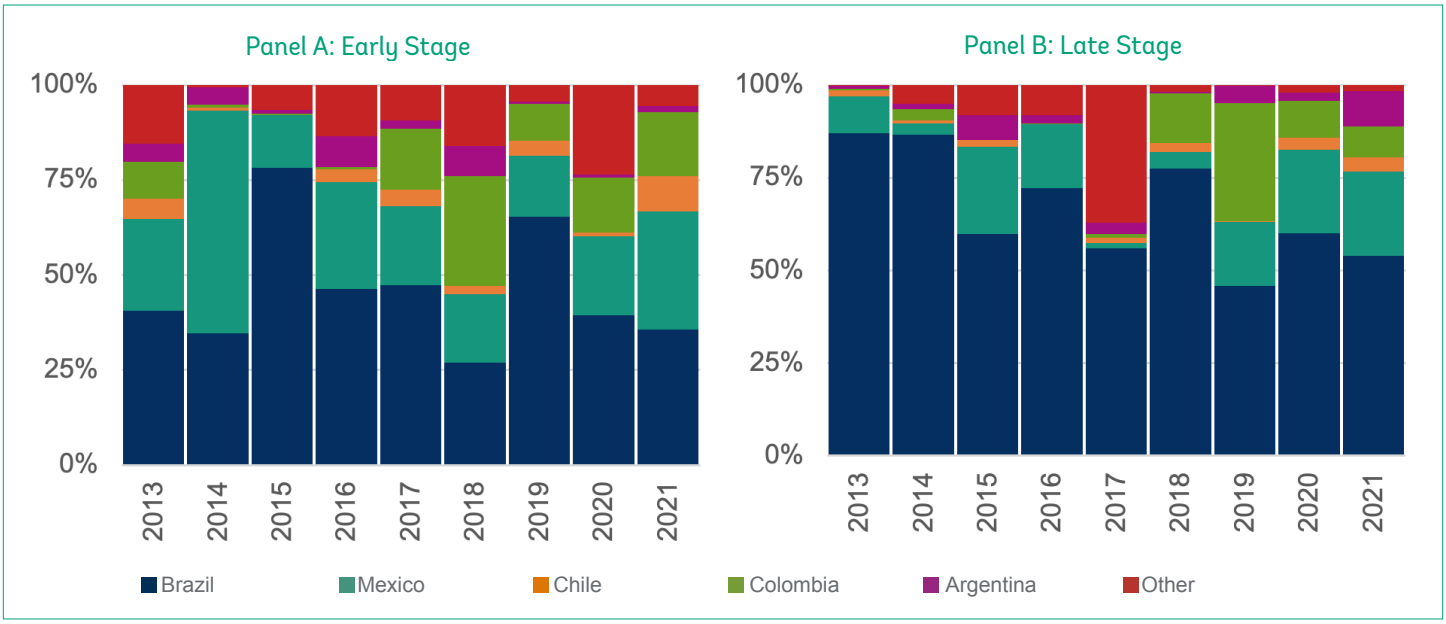
Figure 6. VC Overall Funding in LAC by Stage and Country



Source: Authors' elaboration based on PitchBook.
Note: "Other" includes the Bahamas, the British Virgin Islands, and Curaçao.

With larger fundraising comes higher valuations. As of September 2022, LAC has 52 "unicorn" companies, loosely defined as VC-backed companies with valuations of US$1 billion or more.[7] However, relative to the 7 World Bank regions, LAC still ranks second to last in terms of average and total unicorn valuation to gross domestic product (GDP) (Table 1).

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Table 1. Unicorns and GDP by World Region

Region	Number of Unicorns	Average Unicorn Valuation (US$ billions)	Total Valuation (US$ billions)	GDP (US$ billions)	Average Valuation / GDP (%)	Total Valuation / GDP (%)
Latin America*	31*	2.3	71.6	5,397.8	0.04%	1.3%
East Asia & Pacific	236	3.6	849.3	30,880.8	0.01%	2.8%
North America	664	3.2	2,125.3	24,993.9	0.01%	8.5%
Europe and Central Asia	156	3.1	487.3	25,046.9	0.01%	1.9%
South Asia	70	2.9	202.9	4,087.8	0.07%	5.0%
Sub-Saharan Africa	5	3.3	16.3	1,917.9	0.17%	0.8%
Middle East and North Africa	25	2.1	53.1	3,636.7	0.06%	1.5%
World (total)	1191	3.2	3,853.6	96,100.1		4.0%

Source: CBInsights, International Monetary Fund World Economic Forum, October 2022 Database.
Note: For this cross-country comparison, the authors use CBInsights, a database that compares unicorns across the globe. Although it allows for a fair comparison across regions (same methodology), it shows a lower number of unicorns for LAC than the 52 the authors identified in this study.

The characteristics of the LAC unicorn companies mirror the characteristics of the VC LAC market. Most of the LAC unicorn companies were founded in Brazil (50 percent; 26 companies). Tied for second place are Mexico (17 percent; 9 companies) and Argentina (17 percent; 9 companies). The following companies deserve special mention, as Argentina was the country with the first unicorn companies, including: Mercado Libre, the online marketplace giant, and Despegar.com, the online travel agency, both founded in 1999 (Figure 7).

Many of the LAC unicorns also operate in other countries in the region. For example, Rappi, which was founded in Colombia, has operations in 9 LAC countries. Mercado Libre also has a presence in 18 LAC countries. Both Ecuador and Colombia also deserve special mention, as they rank first and second, respectively, in terms of average unicorn valuation to GDP.

7. See Appendix 3 for more details concerning the definition of unicorn companies, as defined for the purpose of this paper.

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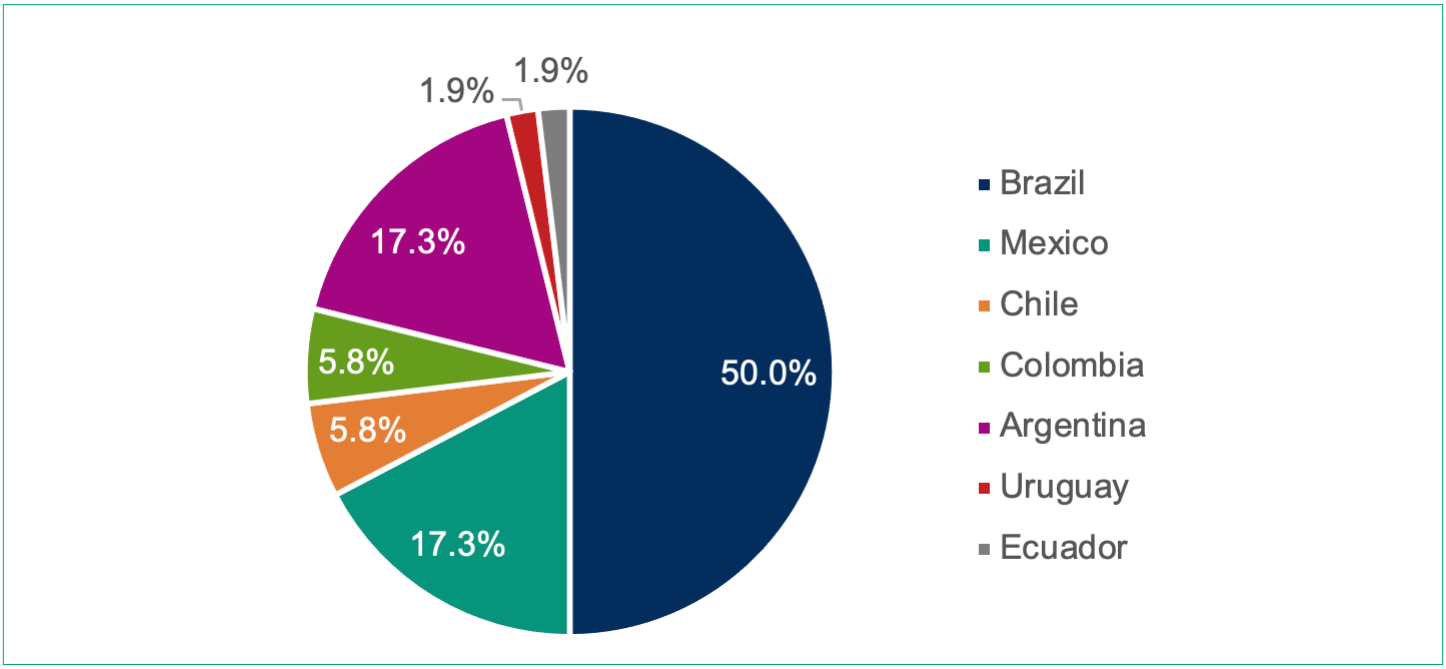
Figure 7. Share of LAC Unicorn Companies by Country



Source: Authors elaboration based on PitchBook.
Note: The country where LAC unicorn companies were founded, n = 52. The numbers of the labels represent the number of unicorn companies, and the percentage represents the share of the total number of unicorn companies in LAC.

We analysed LAC unicorns and the characteristics of their founders. We summarize our findings here and present the full analysis in Appendix 1. It is interesting to note that two-thirds of LAC unicorn founders have had significant international exposure through their university studies (almost 45 percent studied in the US) or work experience (Figure 8). In terms of the university studies of unicorn LAC founders, Harvard University and Stanford University are hubs for networking, with 23 co-founders attending one of the two schools. For Brazilian universities, the Universidade de São Paulo and the Fundação Getulio Vargas have 19 and 16 co-founders, respectively. In terms of unicorn founders, the vast majority come from Argentina, Brazil, and Mexico.

The founders' networks seem to be an important driver of success in companies with high valuations. Unicorn founders in the LAC region typically build their networks during their studies, as well as through their early work in companies that foster innovation and knowledge—including Microsoft, McKinsey, and Boston Consulting Group—or other companies that operate in competitive environments, such as large banks. The prominence of academic- and work-related networking is even more distinctive when compared with US unicorns, as documented by Strebulaev (2021). Thus, 79 percent and 69 percent of LAC and US unicorn co-founders, respectively, met at university or worked for the same company (Figure 9).

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Figure 8. LAC Unicorn Founders with International Exposure

Source: Authors' elaboration based on PitchBook, LinkedIn, and other sources (see Data Appendix 3).
Note: International exposure is defined as having worked or completed an undergraduate or graduate degree abroad before founding the unicorn, or having worked for an international multinational company in LAC. n=146.

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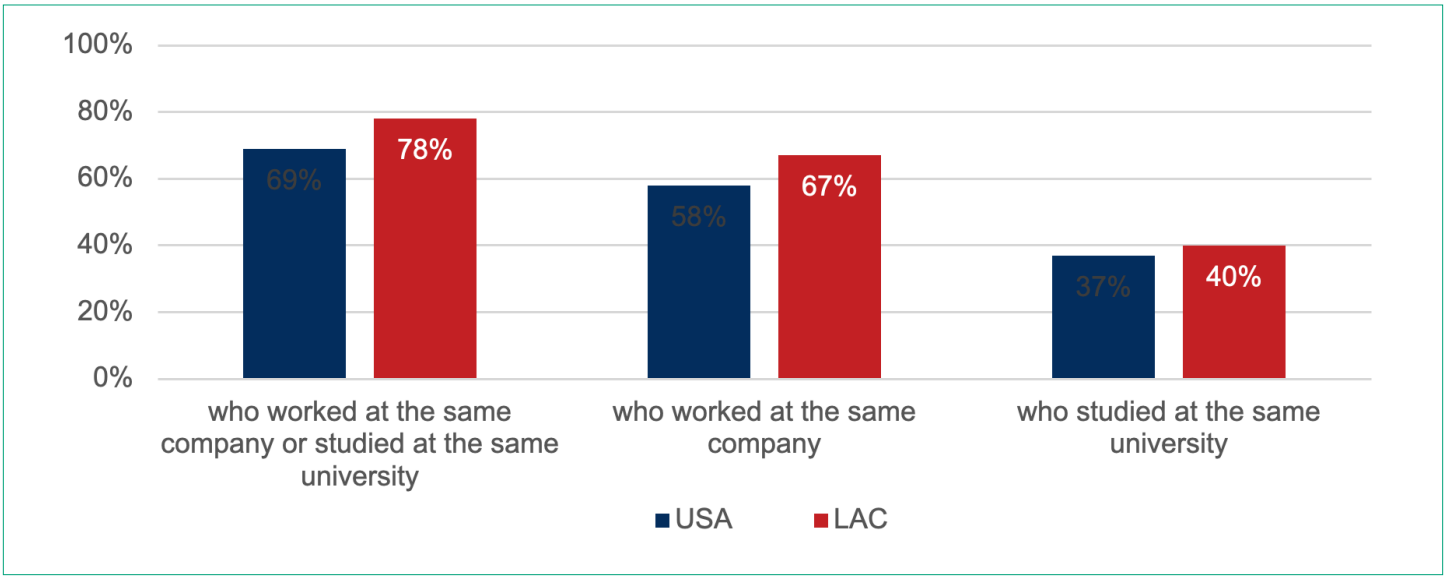
Figure 9. LAC Unicorn Co-Founders, Coincidence in Studies or Work



Source: Authors' elaboration based on PitchBook, LinkedIn, and other sources (see Appendix 3).
Note: Data for the US covers 421 US companies that became unicorns between 1997-2019 and have 2 or more co-founders, as well as 1,246 of their founders. Source for the data about the United States includes Strebulaev (2021). For LAC, the data are derived from 47 unicorn companies that have 2 or more co-founders or 148 founders.

In terms of verticals, 34.6 percent of LAC unicorn companies operate in the Fintech space, reflecting the importance of the Fintech vertical, as well as the financial services industry in the region. In terms of the share of total VC funding value, Fintech is the most popular vertical in LAC (Figure 10). Indeed, almost 20 percent of all VC funding to the region in 2021 went to startups tagged to this vertical.[8] In terms of industries, the financial services industry corresponds to roughly 19 percent of all VC funding in LAC, after information technology (41 percent), and the Business-to-Consumer (B2C) industry (29 percent). Globally, VC funding in LAC ranks first in terms of its concentration in financial services, and second in terms of the relevance of the Fintech vertical. In the case of countries with low financial access, such as Ecuador, El Salvador, and Venezuela, the participation of Fintech in total VC funding is close to 100 percent.[9]

8. Given that verticals such as Fintech cut across industries, each company is tagged to multiple verticals. In order to calculate a participation rate for each vertical, the sum of deal values associated with that vertical is divided by the sum of deal values of the entire vertical space. The "vertical space's values" are calculated by weighting the value of each company's deals based on the number of verticals that company is tagged to. See Appendix 3 for additional details.
9. Financial access is measured by the Financial Markets Index (https://data.imf.org/?sk=f8032e80-b36c-43b1-ac26-493c5b1cd33b).

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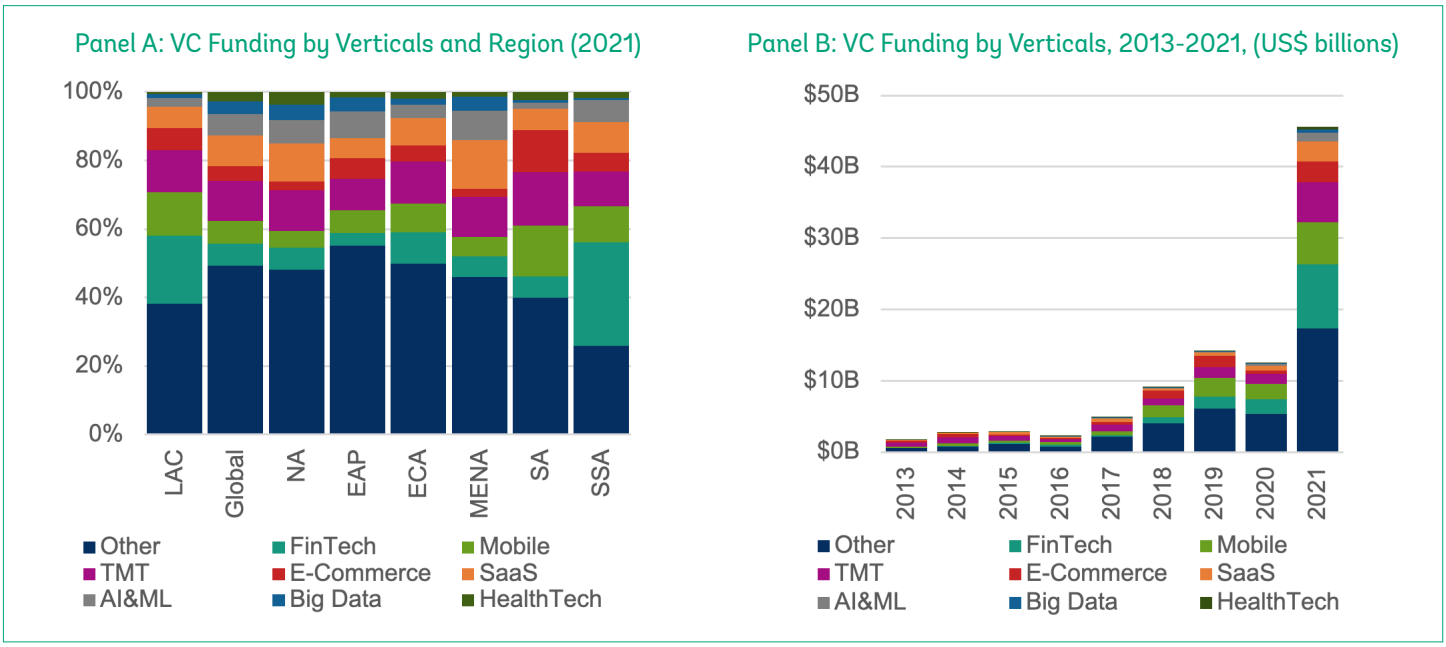
Figure 10. LAC VC Funding Verticals



Source: Authors' elaboration based on PitchBook.
Note: AI&ML = Artificial Intelligence and Machine Learning; B2B = Business-to-Business; B2C = Business-to-Consumer; ECA = Europe and Central Asia; EAP = East and Asia Pacific; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa; NA = North America; SA = South Asia; SaaS = Software as a Service; SSA = Sub-Saharan Africa; and TMT = Technology, Media, and Telecommunications.; .

In 2021, Nubank—the most valuable Fintech unicorn in LAC—helped propel LAC-born VCs into the annual rankings of best-performing VCs for the first time, including the "Midas List" compiled by Forbes. Nicolás Szekasy, an Argentinian-born, managing partner at Buenos Aires-based Kaszek Ventures who led Nubank's seed round in 2013, was one of the three LAC-born VCs to made it on to the Forbes VC list in 2021. The other two LAC-born VCs that made it on to the renowned list were Meyer "Micky" Malka, a Venezuelan-born, managing partner at Ribbit Capital that led the Series A investment into the crypto trading platform Coinbase in 2013, and Santi Subotovsky, an Argentinian-born, general partner at Emergence Capital who led the Series C investment into a videoconferencing company Zoom in 2015.

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Drivers of VC Funding Growth in LAC

Three drivers for the growth of VC funding in LAC were identified during 2021, including: (i) higher demand for online services triggered by the COVID-19 pandemic; (ii) the participation of a few deep-pocketed, non-domestic investors and the surge of profitable exit opportunities; and (iii) the existence of a local, enabler ecosystem for startups, thanks to capital and talent recycling by the alumni of successful startups, as well as the emergence of local business accelerators and other support institutions for early-stage entrepreneurs.

The pandemic as a demand shock for local startups

A first important driver of the 2021 growth of VC funding in LAC was the global pandemic, which exacerbated the demand for online services typically provided by local startups.

Quarantine conditions compelled millions of consumers to adopt digital behaviors for the first time, including e-commerce. Thus, large swaths of LAC's citizens began transacting digitally for the first time in their lives during the pandemic. In addition, many LAC governments responded to the pandemic with economic relief provided via digital channels.[10] As traditional financial services were still heavily reliant on in-person interactions, the demand for digital financial services increased, thereby propelling the growth of Fintech companies in the region. This growth contributed significantly to the improvement of account ownership, as shown in the Findex 2021 Global Database. The LAC region reported the largest three-year increase during 2021, with 18.5 percentage points as compared to the world average of 7.7 percentage points (Table 2).

10. According to Gentilini and others (2022), during the COVID-19 pandemic, 203 countries in the world designed social transfer programs for their most vulnerable populations. As a consequence of the mobility restrictions and the need for speedy delivery of money to the targeted populations, governments across the world addressed the issue through the "digital first" approach. For instance, the Ingreso Solidario program in Colombia delivered COVID-19 emergency financial support to over 3 million households, including the opening of millions of new mobile wallets (37 percent of beneficiaries opened their first account via this program).

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Table 2. Account Ownership by Region (% of adults aged 15+)

Region	2017	2021	Change (in percentage points)
Latin America and Caribbean (excluding high income)	54.5	72.9	+18.5
Europe and Central Asia (excluding high income)	65.1	77.8	+12.7
East Asia and Pacific (excluding high income)	70.4	80.8	+10.4
Middle East and North Africa (excluding high income)	43.4	48.1	+4.7
South Asia	69.5	67.9	-1.6
Sub-Saharan Africa (excluding high income)	42.6	55.1	+12.4
World	68.5	76.2	+7.7
World (total)	1191		3.2

Source: Global Findex Database.

As the whole world was accelerating its digital adoption, the pace in LAC exceeded that of other regions. The pace was faster partly because the gap during the pre-pandemic period was so large; indeed, LAC's tech market cap as a percentage of GDP had been growing at an average annual rate of 65 percent since 2003, as compared to 11 percent for the US and 40 percent for China. Overall, the combination of digital identification programs, together with government support programs to targeted segments of the population through cash transfers, opened an opportunity for the VC industry.

Another reason for the faster pace of digital adoption was that several local businesses had already begun tackling this gap. Thus, they were ready to serve the growing population in making such online transactions. In 2021, LAC surpassed all other regions in terms of the share of VC funds channelled to the financial services sector, and it was a leader in the Fintech and mobile vertical spaces. Moreover, in contrast to most other regions where funding to early-stage startups contracted during the pandemic (see Howell and others 2020), early-stage investments increased by 22 percent in value, and by 9 percent in number in LAC during 2020.

The digital adoption that had increased during the pandemic does not appear to have faded away in LAC the way it has to some extent in the US and other developed markets. Others have commented on the seemingly permanent gain in a wide range of technology adoption indicators in the LAC region (Alcedo and others 2019). For example, e-commerce penetration, grocery delivery volumes, and the usage of digital banking and telemedicine have all continued to grow rapidly beyond the step-function gains in the 2020 decade. Moreover, after 2020, the share of VC in both Fintech and technology, media, and telecommunications (TMT) businesses has continued to increase more rapidly in LAC than in the US (Figure 11).

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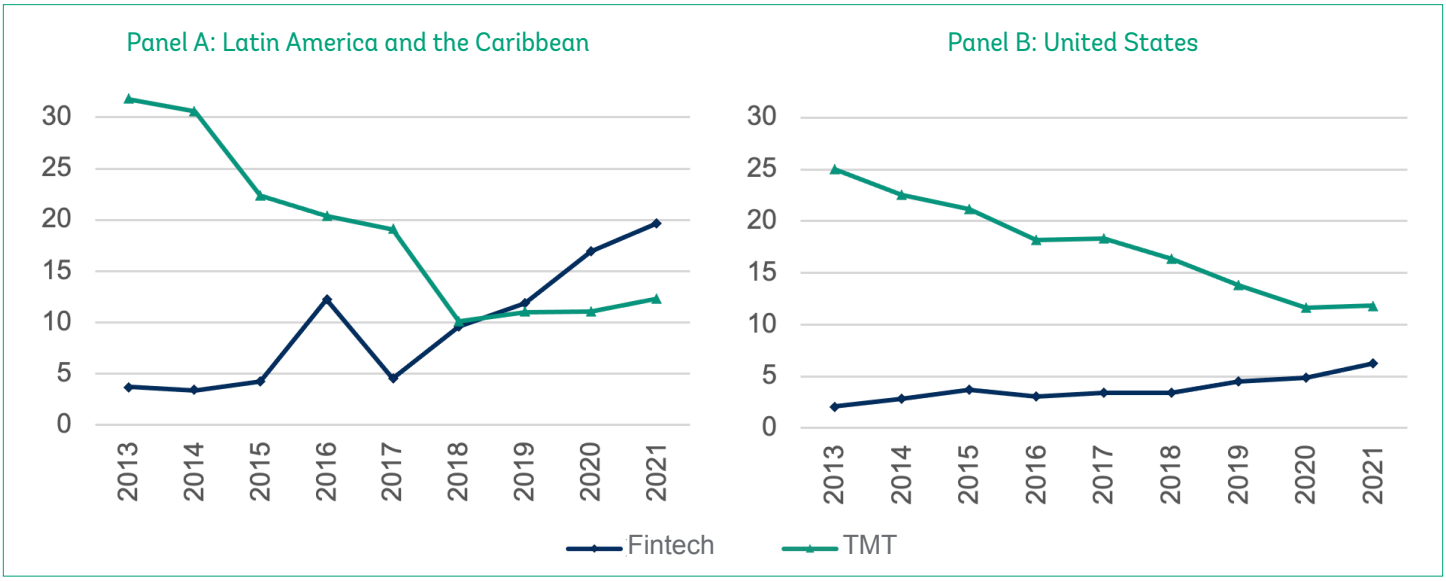
Figure 11. Fintech and TMT Participation in VC Funding



Source: Authors' elaboration based on PitchBook.

Thus, it would seem that the pandemic accelerated the maturity of the VC market in LAC by several years. It did so by greatly exacerbating the demand for digital services in the region, thereby increasing the LAC startup market to high enough levels to attract VC funding.

Supply of VC: The Big 4 and the role of startup exit opportunities

A second group of important drivers of the growth of VC funding in LAC includes the participation of a few deep-pocketed, non-domestic investors, as well as the surge of profitable exit opportunities.

The VC market in the LAC region has a long-standing connection to non-domestic-based investors. On average, non-domestic-based investors participated in about 90 percent of the value of the deals conducted during 2013-2021 (Figure 12). This type of investor has also been important in terms of deal counts, but less dramatically so, with deals comprised of only domestic investors comprising about half of the deals in the region across both early- and late-stage investment rounds.

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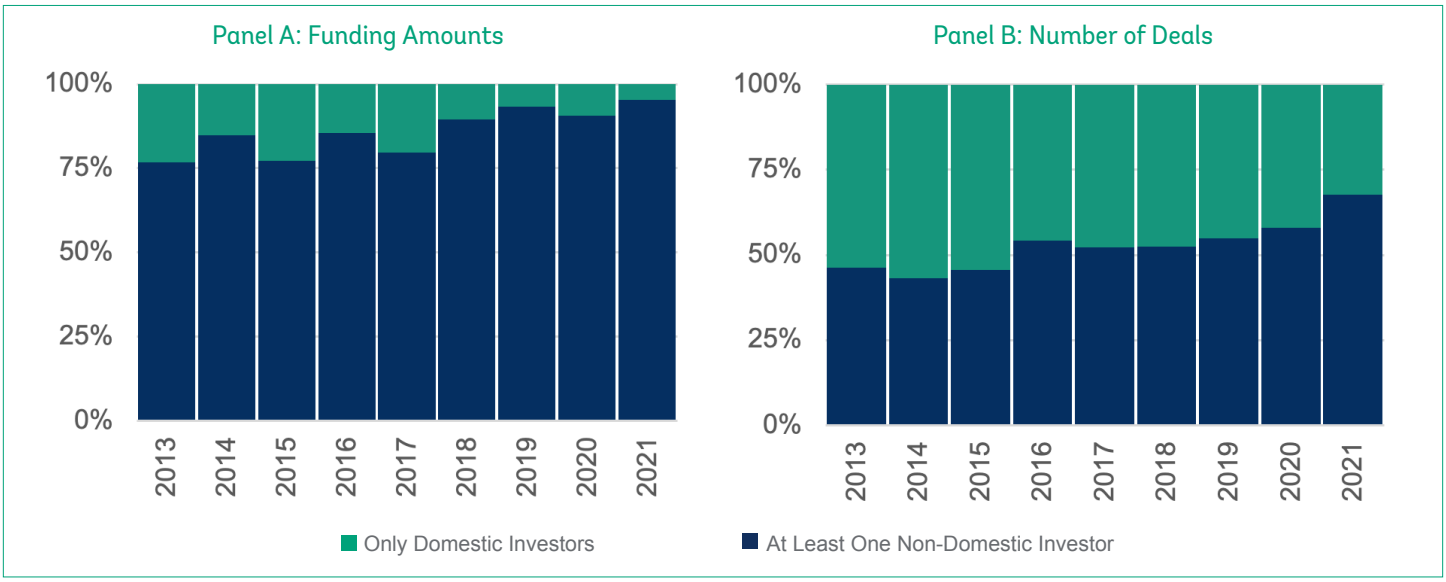
Figure 12. Non-domestic Participation versus Only Local Investors in LAC



Source: Authors' elaboration based on PitchBook.

However, not all non-domestic investors are equally important in the region. Notably, almost 70 percent of the surge in non-domestic-based VC investment since 2019 can be attributed to deals that involve four investors—that is, the "Big 4", namely:): (i) SoftBank, the Japanese multinational with investment funds headquartered in Hong Kong, the UK and the US; (ii) Tiger Global from the US; (iii) DST Global from the US; and (iv) Ribbit Capital from the US (Figure 13).

The importance of these Big 4 investors is particularly tied to the supersized deals. Since 2019, they have participated in less than 3 percent of VC deal counts on average. However, they are overrepresented in the list of LAC unicorn investors. SoftBank leads the list, having backed 23 LAC unicorns, followed by Tiger Global Management, DST, and Ribbit Capital, with 16, 8, and 5 unicorns, respectively.

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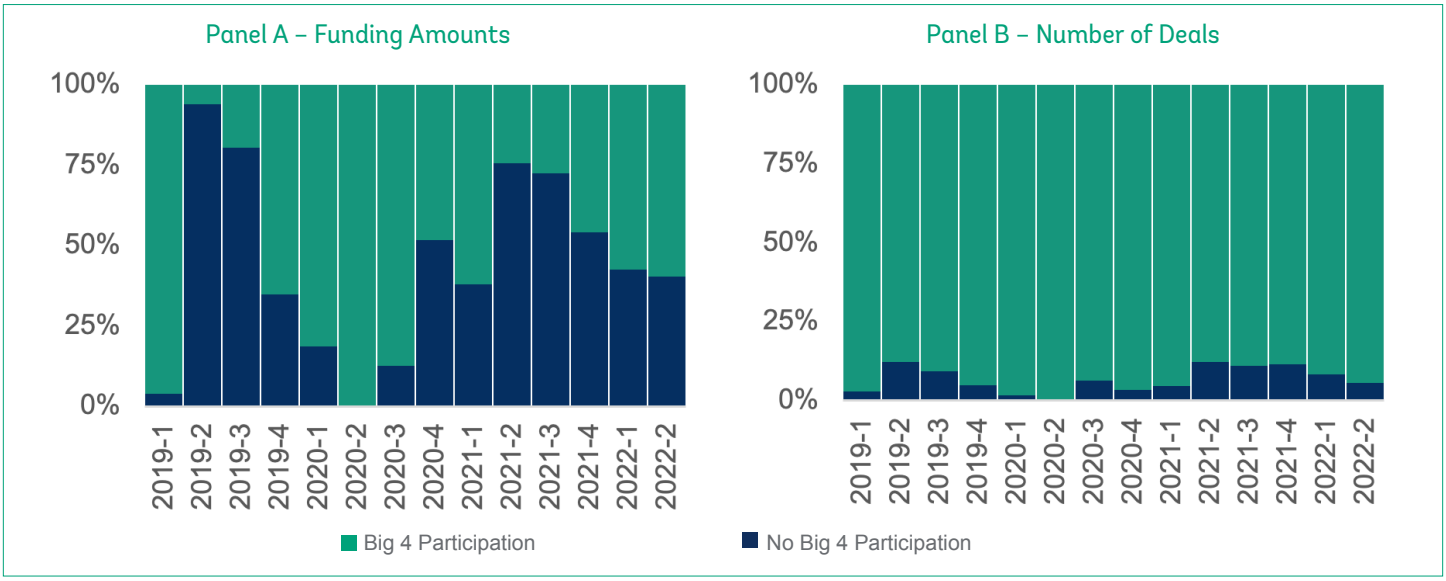
Figure 13. Participation of the 4 Most Active Investors in LAC



Source: Authors' elaboration based on PitchBook.

Of the Big 4 investors, special mention is warranted for the global investor, SoftBank, which participated in 45 deals worth more than US$7 billion in 2021. Although SoftBank invests globally, it also raised regional-focused funds for Latin America. These funds were launched in 2019, totalling US$8 billion. Until 2022, they were operated from São Paulo and Mexico City, from which most of its portfolio companies are based (about 50 and 20 percent respectively, consistent with the well-documented local preference of VC investors) (Bernstein and others 2016). Some of the most prominent companies in SoftBank's portfolio include real estate specialist QuintoAndar (Brazil); Fintech lender Creditas (Brazil); and car marketplace Kavak (Mexico)—currently the most valuable, non-publicly listed unicorn in LAC (valued at US$8.7 billion in October 2022).

The sheer fund size of SoftBank has also had an important influence on the scale of investments and size of funds in the LAC region. In 2019, SoftBank's Latin American Fund was the largest fund the region had ever seen. Since then, large deals have become more popular, even at the early stage. This is a testament to SoftBank's unique strategy in LAC, which spans the venture lifecycle, rather than focusing on the late stage, as is the investor norm in other regions. Fund sizes of domestic investors have also increased. An example is the São Paulo-based venture capital firm, Kaszek, the most prominent local VC fund. It has invested in more than 80 domestic startups and backed 13 of the LAC region unicorns. In 2021, Kaszek closed the largest ever domestic, early-stage fund in the region, namely, Kaszek Ventures V, a US$475 million fund[11].

It also more than doubled its commitment to later-stage investments with its Opportunity Fund II, valued at US$525 million. This second late-stage fund was launched shortly after Kaszek's first-ever fund dedicated to later-stage investment in 2019, namely the Opportunity Fund, valued at US$225 million.

The incursion of the Big 4 investors into the market was disruptive for the VC industry in several ways. However, it is too soon to draw conclusions about its long-term effects. To date, it has been a game changer for the rest of the VC industry, which saw that in order to remain relevant and not dilute its participation, it needed to increase the stakes. Whereas some VC competitors may have seen some valuation exuberance, the participation of the Big 4 did not deter others from supporting companies in the LAC region. As the valuation adjustments of VC portfolios in the LAC region that took place in 2022 have not yet been fully studied, it is still too early to comment on the price rationality of some of those big transactions. However, the participation of the Big 4 was definitively an eye-opener for the VC global funds to consider investment opportunities in the LAC region.

EXITS

Another important factor that has led to an increase in the supply of VC to the region has been the rising number of exits by companies based in LAC. The most celebrated example is the 2021 IPO of Nubank, the Brazilian neo bank, which raised US$2.6 billion, thereby becoming LAC's most valuable bank at that time — and generating the largest VC-backed exit by a LAC-based company to date.

Yet, Nubank's success story overshadows the more than 500 merger and acquisition (M&A) LAC exits and 17 IPO exits that occurred during 2021, according to data from CBInsights.[12] Several of the exits have been for values of over US$1 billion, including Auth0 (an Argentinian company acquired by Okta), Cornershop (a Chilean company acquired by Uber), and dLocal (an Uruguayan company that went public in the US).

Although VC investments in LAC are dominated by non-domestic-based investors, LAC startups are often acquired by domestic-based companies. According to PitchBook data, more than 50 percent of LAC M&A deals include a Brazilian acquirer (Figure 14). Moreover, domestic-based serial acquirers are becoming increasingly common. For example, since 2001, Mercado Libre has acquired more than 15 companies, including Reldecom (Chile) and Kangu (Brazil). Other active, domestic-based serial startup acquirers include the Brazilian companies Ifood, Linx, Locaweb, and Magalu.

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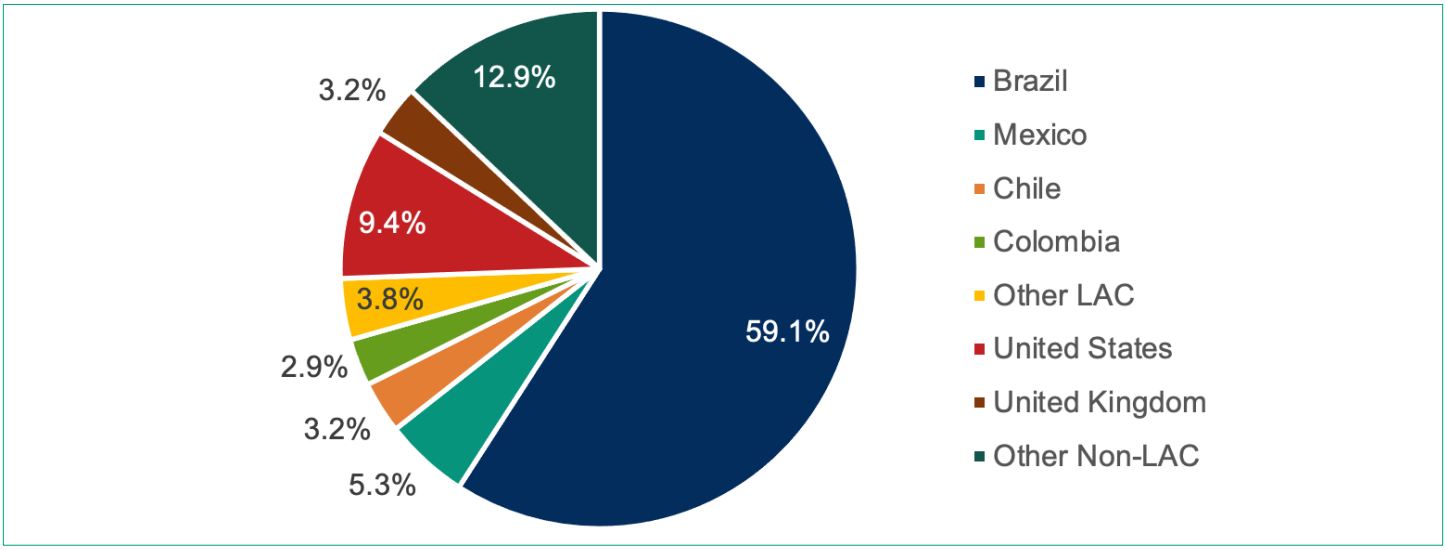
Figure 14. Distribution of the Number of Acquiring Companies (2013-2021)



Source: Authors' calculation based on PitchBook data and desk research completing the country information for acquirers.

11. https://techcrunch.com/2021/05/24/the-latam-funding-boom-continues-as-kaszek-raises-1b-across-a-duo-of-funds/
12. https://www.form3.tech/_prismic-media/76591ada5721500414bdf40b05cf2315db7947b43d0148bcf4cce261f0197e01.pdf

The exit strategy in the Fintech industry in the region is linked to the symbiotic relationship with incumbents. In 2021, according to CB-Insights (2022),[13] the number of M&A transactions with Fintech at the global level was twelve-fold the number of IPOs, suggesting that trade sales are the most common exit strategy for Fintech companies. In the case of the Latin American region, a recent survey performed by the Inter-American Development Bank (IDB) suggests that 45 percent of the Fintech companies in the survey had a commercial relationship with clients and suppliers of financial institutions, and 15 percent of them are engaged in pilot programs with corporate financial services companies (IDB 2022). In order to remain competitive, incumbents — such as banks, payment system providers, and insurance companies — will need to monitor the Fintech market, both as competitors and as potential investment opportunities.

Incumbent financial institutions in the region use different corporate strategies to deal with the Fintech industry. Whereas some financial groups run independent corporate VC arms with portfolios that can potentially be sold to a bank at a later stage through M&A, others make strategic investments in companies that subsequently integrate them within the operations of the group. Also, some financial groups maintain commercial relationships with Fintech companies through specific lines of business.

The presence of competitive environments in the financial sector creates a resilient demand from incumbent institutions for financial innovation. Therefore, startups in the Fintech sector are well positioned for diversified exit opportunities compared with other verticals. The idea of outsourcing innovation in highly regulated and competitive industries is common in other industries; for example, this is the case for the pharmaceutical industry, where about one-third of the drugs in the pipelines of the top ten pharmaceutical companies is initially developed outside of these companies.[14] Due to the high cost of reporting and other corporate concerns, business models for the financial sector relying on open innovation strategies (that is, innovations from startups) might become more mainstream.

Demand for VC: Local startups at the ready

A third driver of the growth of VC funding in the LAC region during 2021 was the existence of "investment-ready" startups, which resulted from several forces that helped to develop the local ecosystem.

RECYCLING SUCCESS

A notable force behind the development of the local ecosystem is the capital and talent recycling by alumni—that is, the founders, employees, and investors—of successful startups, which has been reinforced by recent exits.

It is well known that a large part of the ecosystem dynamism in successful clusters like Silicon Valley is predicated on startup alumni going on to launch and fund a new generation of ventures after successful exits. An example is PayPal, one of the first technology firm exits, whose alumni went on to launch a series of ventures, including Pinterest, Tesla, and Yelp, to name but a few. This gave birth to the "Startup Mafia" concept.

In LAC, this type of alumni dynamics first started occurring in Buenos Aires back in 2013 after the success of Mercado Libre as documented by Fernando Fabre,[15] former President of Endeavor and now managing partner at an early-stage Latin VC called Matterscale. Others have noted that this type of alumni dynamics are already in place in other high-growth clusters in LAC, reflecting the growing maturity of the local ecosystem. Recent reports by ALLVP,[16] TechCrunch,[17] and Forbes[18] have identified several local "Startup Mafias."

One example is the ecosystem surrounding Domicilios.com, the first-ever Colombian startup to go public on a stock exchange in 2017 (through the IPO of its acquirer, Delivery Hero). Since then, its founders, Jose Guillermo Calderon, Miguel McAllister, and Sebastian Noguera, have funded several other successful Colombian startups, including Merqueo and Robin Food (which have valuations above US$100 million), and Habi, the PropTech startup that is one of the three current unicorn companies in Colombia (as of

13. https://www.cbinsights.com/research/report/fintech-trends-2021/
14. See https://www.biopharmatrend.com/post/30-pharma-rd-outsourcing-is-on-the-rise/.
15. https://www.youtube.com/supported_browsers?next_url=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DvdUYb7J3Mow
16. https://mexicobusiness.news/entrepreneurs/news/first-take-latam-startup-mafias
17. https://techcrunch.com/2017/12/29/latin-americas-groupon-mafia/?guccounter=1&guce_referrer=aHR0cHM6Ly9tZXhpY29idXNpbmVzcy5uZXdzLw&guce_referrer_sig=AQAAAHPCtRxhbqQ260OqyI6-YiMc1vdk-A5iDIE3o0RD-KixZ79-Wh9C4mWueaWX8yKeIcwWkK8x0lBFT-nRTEDQ9B_AQkQXn5v-1uGDs_8s7pc57WOWEP-wuaOEHVcjgtT4OQ7jcHcnJkioflvsHfw2g2uo8HOW4NSuh1-LOtD8ZOT1A
18. https://forbes.co/2022/04/25/red-forbes/como-rappi-cataliza-un-ecosistema

September 2022). Another example is the VC firm Kaszek Ventures, which raised its first funding round in 2011. The VC firm's founders are Hernan Kazah and Nicolas Szekasy, former Mercado Libre founders, who founded the fund after Mercado Libre's IPO in 2007.

A more recent and notable example is the ecosystem surrounding Rappi, one of the Colombian unicorns. It has created a vibrant community, despite not having yet gone through an exit. Rappi was launched in 2015 in Colombia with the ambition to become the region's super-app—an all-encompassing, self-contained commerce and communication online platform. Since then, Rappi's growth has been exponential: the company ranks seventh in the list of top Colombian firms, with a valuation comparable to publicly listed companies in the country. In April 2022, Marathon Ventures estimated that Rappi's alumni had founded more than 110 companies (and invested in a further 40). They have raised more than US$2.1 billion in VC and now employ more than 14,000 people (excluding Rappi's employees) in the LAC region. Rappi has been described as a "great school" with a deep-rooted entrepreneurial culture.[19] It has also played a role in training (through employment). In addition, it has also funded new, high-profile founders. Indeed, several of Rappi's[20] "offspring" have entered Y-Combinator, including Houm, Laika, Ontop, Tributi and Truora.

Successful founders and their reinvestments in the region are another factor behind the growth of VC funding in LAC in 2021. Indeed, they are crucial, as the backing from successful founders has had multiplier effects in that they provide capital, as well as connections, know-how, and legitimacy to domestic startups with less experience.

SUPPORTING EARLY-STAGE ENTREPRENEURS

A second notable force behind the development of the local ecosystem was the emergence of local business accelerators and other support institutions for early-stage entrepreneurs. Although the region is home to a large, young, tech-savvy population, the startup ecosystem only began to develop more quickly with the spread of support programs for early-stage entrepreneurs.

The LAC region was an early adopter of accelerators during the 2000s. According to PitchBook data, at least 80 programs have been created in the region since 2003.[21] A prominent example is Start-up Chile (SUP), which was launched in 2010 as a business policy response to Chile's earthquake and tsunami that year. It quickly became an important reference for the region, as well as for government-backed programs elsewhere. The LAC region was also home to the first local office of Endeavor, the leading non-profit organization supporting high-impact entrepreneurship globally. Endeavor started with local offices in Chile and Argentina in 1997 and 1998, respectively. By 2001, it had extended operations to Brazil, Mexico, and Uruguay. Today, Endeavor operates in more than 33 markets worldwide.

Support programs by local accelerators for early-stage entrepreneurs are some of the most active investors in the region, according to a recent report by SlingHub. Topping the list is SUP, with nearly 1 percent (250) of all LAC startups receiving funds from this accelerator. Another active accelerator program is Wayra—Telefonica's corporate investment arm that started out as an accelerator—which ranks third on the list with 164 invested startups. Nondomestic accelerators topping the list include 500 Startups and Y-combinator, which rank fifth (114 invested companies) and eighth (91 invested companies), respectively. Notably, Endeavor's Catalyst Fund has backed 22 of the LAC unicorns, and selected Argentinian "decacorn"[22] Mercado Libre in 1999 as one of its first investments.

These support programs helped to create demand for VC in the region by selecting and training large pools of participants before they go on to raise venture capital. For example, more than one-third of LAC unicorn companies are the alumni of accelerators. By several accounts, these programs have also spawned domestic entrepreneurs. For example, Appendix 2 details how SUP led to higher business creation rates in the industries targeted by the program, as well as in areas close to the program's headquarters in Santiago de Chile.

The potential of these programs in attracting VC, however, appears more limited in the region. Despite the region's early adoption of accelerators, it took years for LAC to attract substantial VC funding. Others have noted that SUP was less successful at attracting sufficient VC, and that this gap led it

19. https://mexicobusiness.news/entrepreneurs/news/first-take-latam-startup-mafias
20. https://contxto.com/en/startups/rappi-does-everything-including-new-startup-founders/#:~:text=In%20addition%20to%20being%20founders,former%20Rappi%20employees%20have%20founded.https://contxto.com/en/startups/rappi-does-everything-including-new-startup-founders/
21. This estimate is most likely a lower bound, given that PitchBook traces investments and many of the accelerator programs in the region provide no capital.
22. Commonly known as a private, venture-backed company with a value greater than $10 billion

to launch a follow-on fund — Start-Up Chile SCALE — to fund its participants.[23] In Box 2, the experience of more recently launched accelerators is examined. Similarly, it finds no correlation between their operations and local VC investments.

This limited role of accelerators as anchors for VC stands in contrast to the US and UK experiences, where local accelerator programs have usually helped attract VC to their regions (Gonzalez-Uribe and Hmaddi 2022). Structural factors may have affected the ability of the early support programs to attract VC, including the regional fragmentation and limited participation of local investors. This is not to say that a flurry of local investors did not also see the opportunity to bridge the Series A crunch in the region in the early 2000s. Some of the most active domestic investors today were founded close to a decade ago. According to PitchBook, these include the following (by year of foundation and portfolio size): Monashees (2005; US$ 229 million), Angel Ventures Mexico (2008; US$158 million), Bossa Nova (2011; US$464 million), Kaszek (2011; US$217 million), NXTP Ventures (2011; US$329 million), Spectra (2011; US$289 million) and Redpoint Ventures (2012, US$116 million).

Support programs for early-stage entrepreneurs in LAC appear to have been important screeners, trainers, and spawners of early-stage startups. Their cumulative effect in the last decade helps to explain how, by 2021, several LAC startups were ready to receive VC funding (considering that the average business age of LAC unicorn companies is 10 years).

In sum, it would appear that the story behind the startup rush in LAC is a powerful combination of capital and talent,[24] what the US-based VC fund Sequoia recently called in an open letter, the “Latin American Startup Opportunity.”

23. https://techcrunch.com/2015/01/19/start-up-chile-launches-follow-on-fund-to-boost-local-growth/
24. https://medium.com/sequoia-capital/the-latin-american-startup-opportunity-46ace259777f

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The Future of VC in LAC

Looking ahead, there are several opportunities for VC in LAC, including: (i) focusing on the increased technological content of startups; (ii) placing a greater emphasis on environmental, social, and governance issues by fostering higher investments in solutions to tackle the United Nations Sustainable Development Goals (SDGs); (iii) promoting higher female participation for both investors and founders; and (iv) attracting other key investors as alternative champions to lower the VC industry's dependence on SoftBank.

The technological frontier

Despite the substantial growth of VC in LAC over the past decade, LAC startups backed by VC are mostly far from the technological frontier. Others have noted the untapped opportunity for deep technology in LAC, with less than 7 percent (less than 3.27 percent according to PitchBook data) of LAC VC funding directed to sectors such as artificial intelligence, cybersecurity, the Internet-of-things, automotive and other robotics, biotech, advanced materials, and nanotech.

Part of the reason has to do with the region's lack of legitimacy in the eyes of foreign investors, which has steered founders toward safer bets, such as importing "X for LAC" ideas from the United States or other advanced economies. Other factors include the costly bureaucracy and red tape underlying personal and commercial transactions in some countries in the region. These frictions act as a tax on local innovation. Therefore, alleviating them is often a precondition for further innovation. The distance from the technological frontier is not tantamount to low innovation. In this context, exporting ideas and alleviating basic frictions requires creative thinking and feats of implementation.

The digital transformation of financial services in LAC is a good example of how far the regional startups are from the technological frontier. Fintech began with B2C models aimed at increasing access rather than at designing new products. A more recent second wave has been applying the same playbook to the B2B space. However, although VC investment in Web3 companies is currently *de jure* in the US, there are limited offerings in this sector in the LAC region.[25] In the future, greater regional legitimacy and the success of a first generation of innovators may augur more LAC VC-backed startups closer to the technological frontier.

25. Web3 refers to Internet services built using decentralized blockchains.

Environmental, social, and governance (ESG) issues

Despite the increasing emphasis on ESG both globally and in the region, VC funding for the LAC region has room to accelerate its contributions for several reasons.

The LAC region lags in terms of investments in solutions to environmental problems globally, as measured by funding in climate-tech.[26] Compared to 2013, the relative participation of LAC in climate-tech investments dropped over time (Figure 15). Although the tendency reversed slightly in 2020 and 2021, LAC continues to lag other regions globally. In the LAC region, the main sectors of climate-tech investments include automotive and food products. Whereas the automotive sector is a common destination for climate-tech investments across regions, the emphasis on food products is very particular to LAC. The importance of these sectors can be traced to two specific countries: Brazil, which leads in automotive investments,[27] and Chile, which leads in food products — particularly Notco, the Chilean food-tech unicorn that produces plant-based alternatives to animal-based products.

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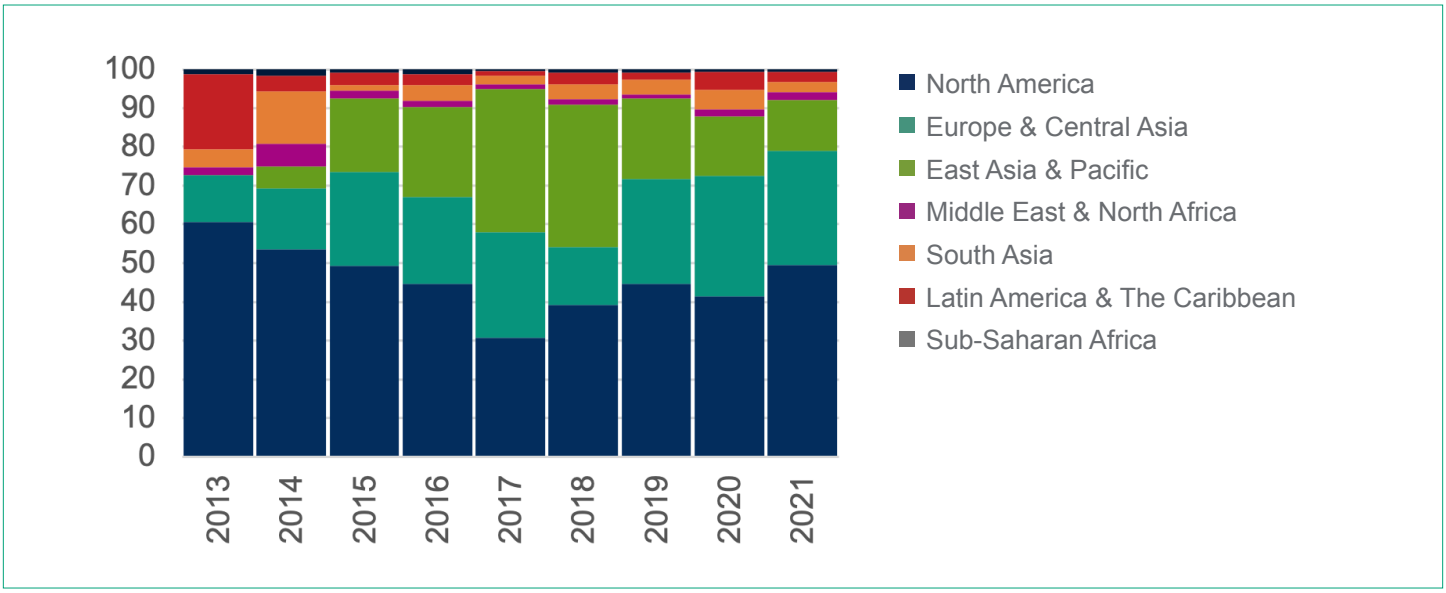
Figure 15. Climate-Tech: Share of Investments by Region



Source:Authors' elaboration based on PitchBook.

26. The PitchBook definition of climate-tech is used here. It includes any new business model and technology that has a core focus on mitigating the impacts and drivers of global greenhouse gas emissions.
27. Although Brazil is the VC market frontrunner in LAC, its VC climate-tech firms are incipient. According to PitchBook, as of December 2021, of the 3,628 companies headquartered in Brazil that have received VC funding (with a total of US$ 18.7 billion raised), only 13 are classified as climate-tech (with a total of US$ 322 million raised, or 2 percent of the total). Most of them only completed their VC deals during the last four years. One firm explains almost 50 percent of the capital raised, namely, Yellow. It is an urban mobility service platform designed to make bike transportation affordable. Notably, foreign investors funded US$ 150 million of the US$ 159 million raised by Yellow.

In terms of diversity, VC funding in the LAC region is also missing the mark. Women are underrepresented both as investors and founders in the region. Only 7 percent of VCs with check-writing ability in LAC are women, as compared to the US average of 12 percent (Figure 16)[28]. According to IDB (2021), only 10 percent of LAC startups have at least one female founder — a figure that is on par with Israel, but significantly smaller than in the US (22 percent). However, diversity is improving in the case of Fintech companies. A survey by the IDB (IDB, 2022) shows that between 2018 and 2020, the average number of Fintech startups with a female founder or co-founder grew from 35 to 40 percent. Focusing on LAC unicorn companies, less than 6 percent of founders are female, and less than 14 percent of startups have at least one female founder.

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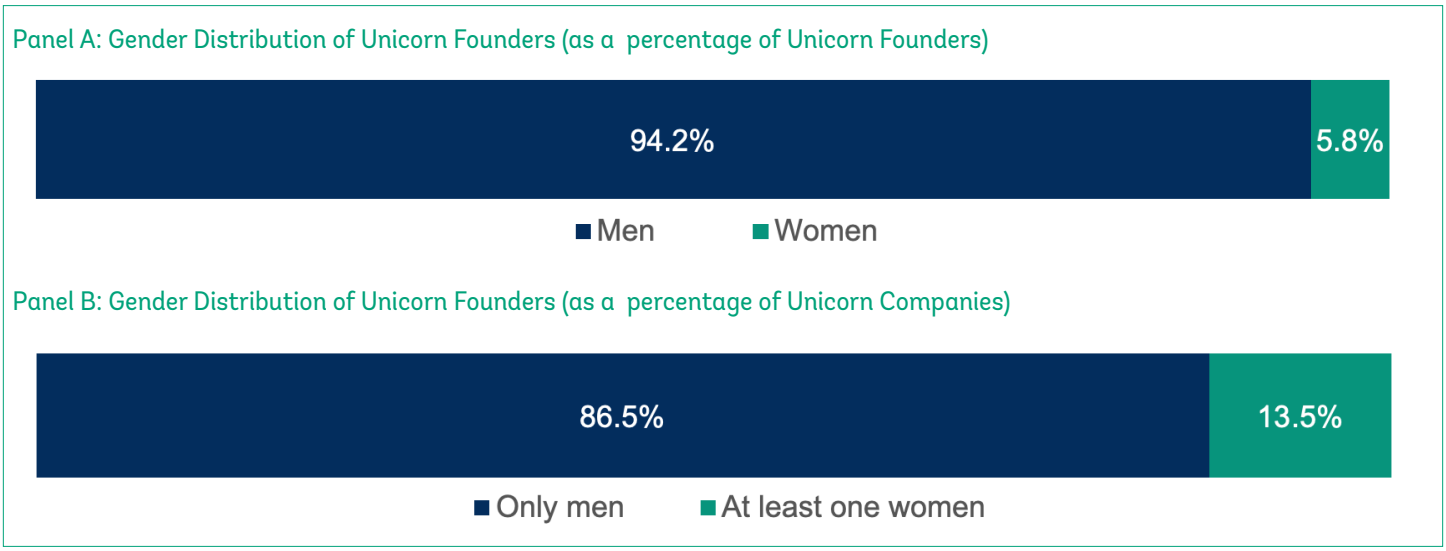
Figure 16. Share of Women Among Founding Teams in LAC

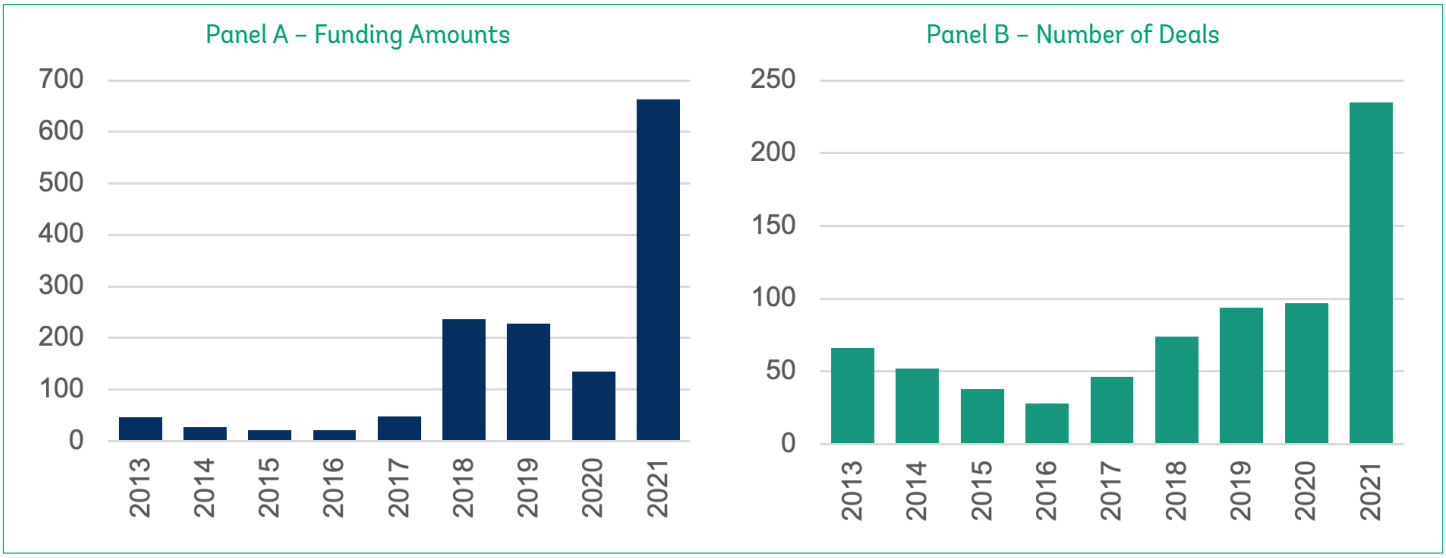


Source: Authors' elaboration based on PitchBook, LinkedIn, and other sources (see Appendix 3).
Note: For Panel A, n = 155. For Panel B, n = 52.

In terms of governance, one potential concern is the increasing participation of disengaged investors in seed and angel financing rounds in LAC. These investors doubled their participation from 97 deals in 2020 to more than 200 in 2021 (Figure 17). However, it should be noted that VC investors in seed rounds who follow a "spray and pray"[29] investment strategy at the seed stage of financing have come under scrutiny recently, given their limited incentives to govern early-stage startups (Lerner and Nanda 2020). The VCs following this strategy spend more resources learning about the potential of many companies through due diligence, albeit at the cost of decreased governance post-investment. However, a potential advantage is that these investors can have a positive externality on the start-up ecosystem by boosting the performance of the larger pool of early-stage businesses, while going through their due diligence processes (Gonzalez-Uribe and others 2023).[30]

28. https://techcrunch.com/2020/02/06/women-are-the-secret-ingredient-in-latin-americas-outsized-returns/
29. Refers to a strategy where VCs invests in a large number of startups, hoping that a few will be successful enough to generate significant returns and offset the losses incurred by the failures.
30. The presence of a more diverse source of VC investors in the region with expertise and dedication to support their companies helps to mitigate this risk in the subsequent rounds of financing.

Figure 17. Non-domestic Participation in Angel/ Seed Rounds in LAC



Source: Authors' elaboration based on PitchBook.

Going forward, a greater emphasis on improving ESG measures, as well as diversity, equity, and inclusion (DEI), in VC funding in the LAC region would be welcome. Several initiatives are already underway by local venture capital associations, such as the awareness reports published by the Peruvian (PECAP, 2022) and Argentinian (ARCAP, 2022) associations and the Mexican diversity toolkit. International organizations have also turned their attention to the LAC region, with institutions like DiversityVC[31] recently opening a chapter devoted to Latin America, and undertaking market-wide surveys to measure diversity, equity, and inclusion in the region's VC industry.[32] Another trend is the rise in private equity and venture capital managers active in Latin America that are raising dedicated impact funds to manage alongside their traditional private equity(PE)/VC structures.

VC decline in 2022 and SoftBank's changes

Since its peak in 2021, VC investment in LAC declined in 2022. The decline has been more pronounced than that of more well-established regions, such as the US. Also notable is SoftBank's restructuring of its Latin American funds, which have now been absorbed by the Vision Fund Group (Figure 18).

SoftBank's strategy change is partly explained by idiosyncratic factors. SoftBank's Latin American funds lost key personnel who oversaw the firm's strategy in the region. Notably, most of its key personnel have left to start their own LAC dedicated funds, rather than exiting the region altogether, thus indicating their continued commitment to the region.

31. https://diversity.vc/about-us/
32. Diversity VC is a global non-profit organization closing market-specific gaps in diversity, equity, and inclusion knowledge to help build locally representative ecosystems through four pillars: research/data, a benchmark for DEI (diversity, equity, and inclusion) standards, future VC, and an engaged international community.

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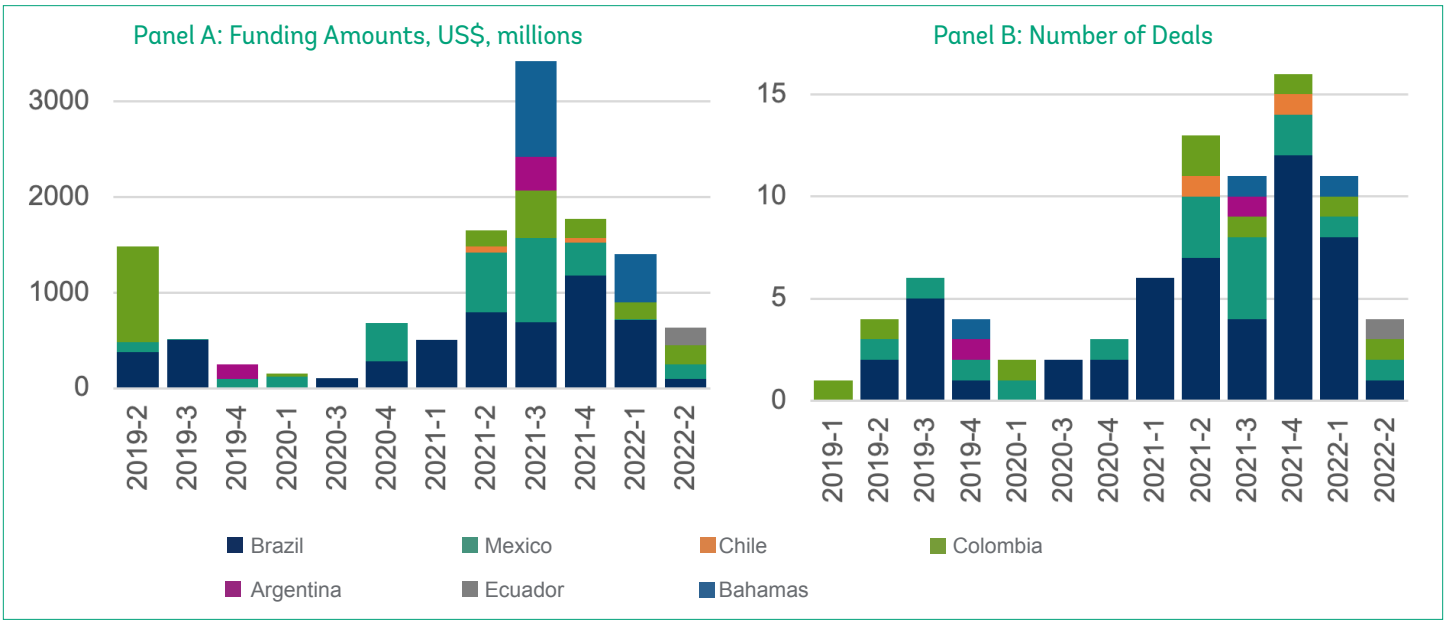
Figure 18. SoftBank – Quarterly Funding and Number of Deals in LAC



Source: Authors' elaboration based on PitchBook.

Given the important role of SoftBank in the LAC region — both in terms of capital invested and as a champion validating LAC as a destination for other global VCs — it is hard to know what impacts SoftBank's change of strategy will have on the future development of VC funding in the region. The absorption of the Latin American funds by the Vision Group may imply a concentration of new investments by SoftBank in late-stage companies, rather than a more active participation in early-stage deals. It also may lead to other investors pulling back their regional investments; indeed, non-domestic investors, such as Tiger Global Management and domestic investors such as Kaszek and Monashees, sharply reduced their deal count during 2022. Yet, the change in the scale of LAC investments precipitated by SoftBank is likely to continue. In the short-term, some valuation adjustments in the LAC VC portfolios might take place to reflect the pass through from price adjustments in public markets. Looking to the future, it can be important for the region to grow more organically and attract other key investors as alternatives, thus reducing its potential dependence on SoftBank.

Policy Research Agenda

As policymakers and academics continue to study VC markets in LAC, several key policy research areas will require attention.

Venture capital investments, by their very nature, are long-term investments. VC funds typically take years to deploy capital, and ten-year horizons make them relatively resilient to the volatility of economic conditions. Still, the compounded effect of continued COVID-19 variants and the war in Ukraine on economic growth may mean that a correction from the 2021 over-optimism about LAC startups by non-domestic VC investors is inevitable — as evidenced by the declining VC activity in the region during 2022.

Understanding the limited participation of local VC investors seems crucial to assessing the long-term sustainability of the LAC region's VC market. One of the most striking findings from research is that foreign VC firms are behind the most valuable deals in the region. Although some of the countries in the region have sizable institutional investors, including pension funds and annuity companies, they have been largely absent in supporting the VC industry. This finding contrasts with the case of the United States, where one of the most important capital providers to the VC industry are pension funds. Changes to these funds' investment regulations help explain a large part of the industry's growth in the last decades (Gonzalez-Uribe 2020; Kortum and Lerner 2001). Interestingly, most pension funds in LAC have limited exposure to alternative investments. Instead, their resources are concentrated in alternative assets abroad (Mercer, 2022). Research efforts in understanding how to design and implement a strategy to responsibly increase LAC pension fund investments in local VC will help to increase the sustainability of the LAC region's VC markets.

Creating profitable exit opportunities in LAC is likely to be a part of that strategy. An important obstacle is the limited size of local public equity markets, and the listing frictions, as evidenced by the recent example of Nubank's delisting from the São Paulo's stock exchange. After having initially decided to proceed with a dual listing in both the São Paulo and New York stock exchanges in November 2021, the bank decided to shut down its listing on the São Paulo market less than a year after the initial offering. An opportunity lies in current unicorns providing a future exit

vehicle through M&As, as in the same spirit as Mercado Libre. It is still early days for many of the unicorn companies in the region. However, as these companies mature, the hope is that their founders will look toward local markets to buy innovation. Thus, research on how to activate the IPO and M&A markets in the region seems crucial to understanding the challenges of the local industry's development. As noted, understanding the dynamic of the exit strategies in the Fintech startups would provide a good starting point.

Another area that deserves more policy research concerns diversity. Others have noted that the non-representative nature of the decision makers at VC firms is important because of the growing evidence that a lack of diversity among VCs has an impact on which businesses get funded (Lerner and Nanda 2020). For example, Ewens and Townsend (2020) document that male and female investors appear to have gender preferences in terms of the companies they back. In the case of LAC, the findings indicate that the majority of LAC unicorn founders have "background similarity," and only a small minority are female.

Finally, policy research may further delve into policies to broaden the base of innovative entrepreneurs in startup companies. A constant across the startup ecosystems, both in the LAC region and worldwide, is the networks-based model of growth they exhibit, whereby new generations of startups are linked to the investment and talent recycling of successful entrepreneurs that exit their previous startups. This type of growth is optimal for mitigating the information problems inherent in early-stage investment, thereby allowing startups to flourish at an organic pace. However, it would be useful to understand whether this model creates potential entry barriers. The LAC region could use the networks-based growth dynamic of startup clusters to ensure that future startups are more diverse. Although there is no clear evidence of the impact of the presence of accelerators in fostering VC investments, there is room for further policy research. Prior work has emphasized the importance of capability gaps among high-growth companies in the region, as well as the potential role for accelerators and other early-stage investors and support institutions in helping to fill those gaps (Gonzalez-Uribe and Reyes 2021).

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Conclusion

The VC industry in the LAC region has become an important source of capital for companies, with volumes that relate closely to capital raised by traditional companies through IPOs or corporate debt. Although the growth of the VC industry in the LAC region has been exponential, growing from approximately US$1 million to almost US$20 billion between 2015 and 2021, the industry is far from entering a stage of consolidation. Among the drivers behind this growth are: (i) permanent changes in digital inclusion during the pandemic; (ii) the participation of deep-pocketed investors; and (iii) the reinvestment of successful founders in the region.

Policymakers can play an important role in fostering the development of the VC industry by supporting a diverse entrepreneurial base and facilitating an enabling environment for domestic and international investors to provide financing to promising startups. Although VC transactions largely operate though private markets, the engagement of policymakers is essential for ensuring a sound regulatory framework. As local institutional investors, including pension funds, are encouraged to participate in the VC industry, the regulatory and supervisory framework should have mechanisms in place to prevent financial misconduct that could damage the credibility of the market.

This study confirms that networking has been a key component in the most successful companies by valuation in the LAC region. Learning lessons on how to leverage those networks to create inclusion and diversity should be a part of the future policy agenda. Although the role of local accelerators in fostering VC investments remains inconclusive, some flagship acceleration programs in the region, including Start-up Chile, have been highlighted as enablers for the development of the VC industry in the country.

Although startups can play an important role in bringing efficiency to the economy, as well as in unlocking competition, exit strategies remain uncertain, especially in smaller economies. The incursion of Fintech startups in the financial sector offers the opportunity to increase efficiency and enhance competition in a context where there is a natural demand for these companies through M&As. Since banks and other financial institutions need Fintech companies to remain competitive, they also become potential buyers of successful Fintech companies.

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References

Alcedo, J., Cavallo, A., Dwyer, B., Mishra, P., & Spilimbergo, A. 2022. "E-commerce during COVID: Stylized facts from 47 economies". National Bureau of Economic Research, No. w29729.

Asociación Argentina de Capital Privado, Emprendedor y Semilla (ARCAP). 2020. "Reporte de género en Capital Emprendedor".

Baker, M., and P.A. Gompers. 2003. "The determinants of board structure at the initial public offering." The Journal of Law and Economics 46(2): 569 –598.

Bernstein, S., X. Giroud, and R.R. Townsend. 2016. "The impact of venture capital monitoring." The Journal of Finance 71(4): 1591–1622.

Bone, J., J. Gonzalez-Uribe, C. Haley, and H. Lahr. 2019. "The impact of business accelerators and incubators in the UK." BEIS Research Paper No. 2019/009. Nesta, London.

Cornelli, F., and O. Yosha. 2003. "Stage financing and the role of convertible securities." The Review of Economic Studies 70(1): 1–32.

Eslava, M., J. Haltiwanger, and A. Pinzon. 2019. "Job creation in Colombia vs the US: "Up or Out Dynamics" meets "the Life Cycle of Plants." NBER Working Paper Number 25550.

Ewens, M., and N. Malenko. 2020. "Board dynamics over the startup life cycle." Working Paper No. 27769. Washington, DC: National Bureau of Economic Research.

Ewens, M., R. Nanda, and C. Stanton. 2020. "The Evolution of CEO Compensation in Venture Capital Backed Startups." NBER Working Paper No. 27296. Washington, DC: National Bureau of Economic Research.

Ewens, M. and R.R. Townsend. 2020. "Are early stage investors biased against women? Journal of Financial Economics 135(3): 653–677.

Gentilini, U., M. B.A. Almenfi, T.M.M. Iyengar, Y. Okamura, J. A. Downes, P. Dale, P. and S. Aziz. 2022. "Social protection and jobs responses to COVID-19: A real-time review of country measures." Washington, DC: World Bank.

Gompers, P.A, W. Gornall, S.N. Kaplan, and I.A. Strebulaev. 2020. "How do venture capitalists make decisions?" Journal of Financial Economics 135(1): 169–190.

Gompers, P. A., and J. Lerner. 1995. "The use of covenants: An empirical analysis of venture partnership agreements." The Journal of Law and Economics 39 (2): 463–498.

González-Uribe, J. 2020. "Exchanges of innovation resources inside venture capital portfolios." Journal of Financial Economics 135(1): 144–168.

Gonzalez-Uribe, J. and O. Hmaddi. 2022. "The multi-dimensional impacts of business accelerators: What does the research tell us?" London School of Economics and Political Science.

>>>

References

Gonzalez Uribe, J., R. Klingler-Vidra, S. Wang , and X. Yin. 2023. “The Broader Impact of Venture Capital on Innovation: Reducing Entrepreneurial Constraints Through Due-diligence”.

Gonzalez-Uribe, J. and M. Leatherbee. “The Effects of Business Accelerators on Venture Performance: Evidence from Start-Up Chile.” The Review of Financial Studies31(4): 1566–1603.

González-Uribe, J. and S. Reyes. 2021. “Identifying and boosting “Gazelles”: Evidence from business accelerators.” Journal of Financial Economics 139(1): 260–287.

Gornall, W. and I.A. Strebulaev. 2015. “The Economic Impact of Venture Capital: Evidence from Public Companies.” Stanford Graduate School of Business Working Paper No. 3362.

Asociación Peruana de Capital Semilla y Emprendedor (PEPCAP). 2022. “1er Censo de Startups Peruanas.”

Hellman, T. 1998. “The Allocation of Control Rights in Venture Capital Contracts.” RAND Journal of Economics 29(1): 57–76.

Hellmann, T. and M. Puri. 2002. “Venture capital and the professionalization of start-up firms: Empirical evidence.” The Journal of Finance 57(1): 169–197.

Howell, S. T., J. Lerner, R. Nanda, and R.R. Townsend. 2020. “Financial distancing: How venture capital follows the economy down and curtails innovation.” Washington, DC: National Bureau of Economic Research.

Inter-American Development Bank. 2022. “Fintech in Latin America and the Caribbean: A consolidated ecosystem for recovery”. Washington, DC: Inter-American Development Bank.

Jovanovic, B. 1982. “Truthful disclosure of information.” The Bell Journal of Economics 13(1): 36–44.

Kaplan, S. N., B.A. Sensoy, and P. Strömberg. 2009. “Should investors bet on the jockey or the horse? Evidence from the evolution of firms from early business plans to public companies.” The Journal of Finance 64(1): 75–115.

Kaplan, S. N., and P. Strömberg. 2003. “Financial contracting theory meets the real world: An empirical analysis of venture capital contracts.: The Review of Economic Studies 70(2): 281–315.

Kerr, William and Ramana Nanda. 2015. “Financing Innovation.” Annual Review of Financial Economics 7: 445–462.

Klingler-Vidra, R. 2018. “The venture capital state: The Silicon Valley model in East Asia.” Cornell University Press.

Kortum, S. and J. Lerner. 2001. Does venture capital spur innovation? Entrepreneurial Inputs and Outcomes: New Studies of Entrepreneurship in the United States. Emerald Group Publishing Limited.

Lerner, J. 1995. “Venture Capitalists and the Oversight of Private Firms.” The Journal of Finance 50(1): 301–318.

>>>

References

Lerner, J. 2009. “The Boulevard of Broken Dreams: Why Public Efforts to Boost Entrepreneurship and Venture Capital Have Failed--and What to Do about It”. Princeton: Princeton University Press.

Lerner, J., and R. Nanda. 2020. “Venture capital’s role in financing innovation: What we know and how much we still need to learn.” Journal of Economic Perspectives 34(3): 237–61.

Lindsey, L. 2008. “Blurring firm boundaries: The role of venture capital in strategic alliances.” The Journal of Finance 63(3): 1137–1168.

Mallaby, S. 2022. “The power law: Venture capital and the art of disruption”. Penguin UK.

Mercer. 2022. Asset Allocation Insights. “Pension allocation trends in Asia, the Middle East, Africa and Latin America”.

Retterach A. and R. Braun. 2020. “Benchmarking Venture Capital Databases”.

Sahlman, W. A. 1990. “Why sane people shouldn’t serve on public boards.” Harvard Business Review 68(3): 28–32.

Strebulaev, I. A. 2021. “What do we know about unicorns? Let’s look at some evidence”. Graduate School of Business, Stanford University and National Bureau of Economic Research, 2021.

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Appendix 1. A Look into LAC Unicorn Companies

In 2022, there were 52 unicorn companies in the LAC region. We looked for LAC unicorns using PitchBook data and other sources. LAC unicorns are defined following the criteria in Strebulaev (2021), which include VC-backing and a valuation of at least US$1 billion. See Appendix 3 for a full description of the criteria and sample construction.

The number of LAC unicorn companies in 2022 is impressive for a region that only five years prior had a mere four companies, namely: (i) Mercado Libre, the Argentinian online marketplace founded in 1999 that achieved unicorn status in 2007; (ii) TOTVS, the Brazilian software company founded in 1983 that became a unicorn company in 2009; (iii) Despegar.com, the online travel agency founded by Argentinian entrepreneurs in 1999 that became a unicorn in 2015; and (iv) LifeMiles, the Colombian company founded in 2011 that joined the unicorn club in 2017. However, LAC still trails most other world regions in terms of total unicorn valuation by GDP—only exceeding that of Sub-Saharan Africa.

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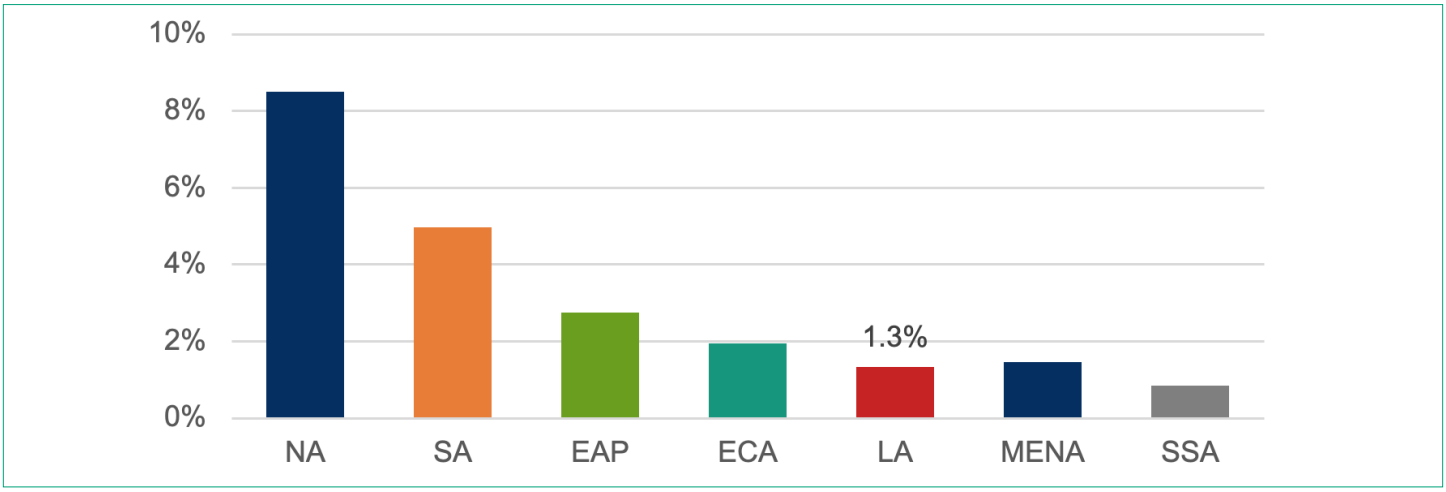
Figure A1. Total Unicorn Valuation to GDP by Region



Source: CBInsights, International Monetary Fund, World Economic Forum, October 2022 Database.
Note: EAP = East and Asia Pacific; ECA = Europe and Central Asia; LA = Latin America; MENA = Middle East and North Africa; NA = North America; SA = South Asia; SSA = Sub-Saharan Africa.

The big breaks for unicorn companies in the region came in 2018, when the number of new annual unicorns increased seven-fold. The trend continued in 2021, with a record number of 17 LAC startups becoming unicorn companies that year.

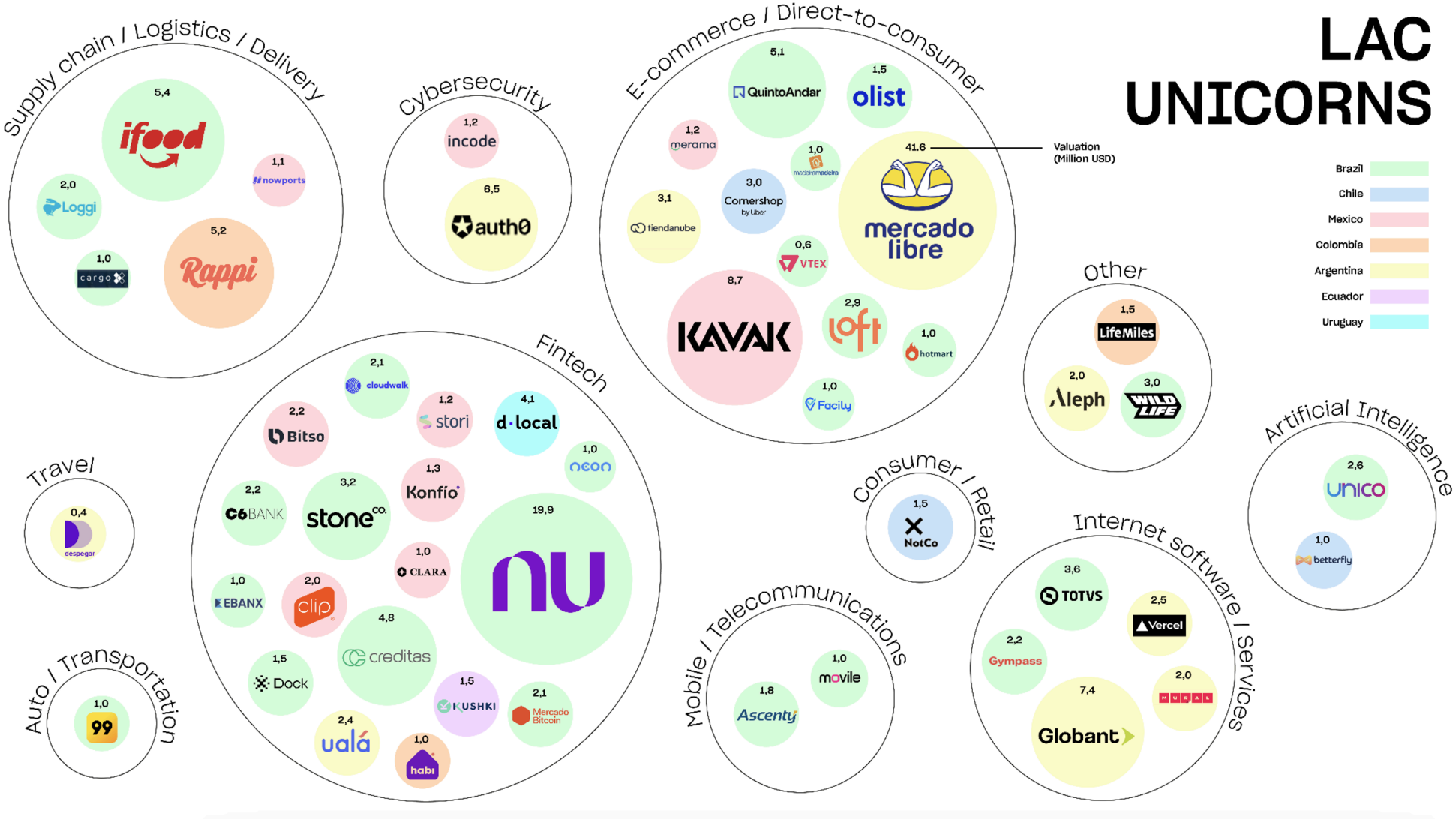
Figure A2 below depicts an infographic of the 52 LAC unicorn companies that are part of the sample, classifying them according to their valuation in October 2022 (size), country of foundation (color), and main vertical of operation (group).

In terms of size, the top five unicorn companies in LAC according to the latest valuation data are: MercadoLibre, Nubank, Kavak, Globant, and Auth0.

Half of LAC unicorn companies hail from Brazil (26 companies; 50 percent). Mexico and Argentina tie in a distant second place with 9 each (17 percent). Colombia and Chile come in third place with three each (6 percent), followed by Uruguay and Ecuador, which each have one unicorn company. The concentration of unicorn companies in a few LAC countries mirrors the equally concentrated distribution of VC funding to LAC startups (see Section 2).

In terms of verticals, the most common one is Fintech, with 34.6 percent of companies operating in this space; followed by e-commerce and direct-to consumer (23.1 percent); supply chain, logistics, and delivery (9.6 percent); and Internet software and services (9.6 percent). The distribution across verticals largely reflects the distribution of VC funding to LAC startups (see Section 2).

Figure A2 – LAC Unicorns



Source: Authors' elaboration based on PitchBook.

How do unicorn companies in the LAC region compare with unicorn companies elsewhere?

LAC unicorn companies are compared here to unicorn companies in other regions using CBInsights data.[33]

In terms of verticals, LAC unicorn companies are more concentrated in Fintech (with 34.6 percent versus 21.0 percent) than global unicorn companies. The same is true of e-commerce and direct-to consumer companies (with 23.1 percent versus <8.0 percent). However, Internet software and services (9.6 percent versus 19.1 percent) and health (0 percent versus 8.1 percent) companies are comparatively underrepresented in LAC as compared to other regions.

LAC unicorn company founders are also compared here to those in the US (figure A3). For this comparison, data from Strebulaev (2021) are used. LAC unicorn founders are on average younger than US unicorn founders. Indeed, more than 47 percent were younger than 30 when they founded their company, compared to less than 28 percent of founders in the US.

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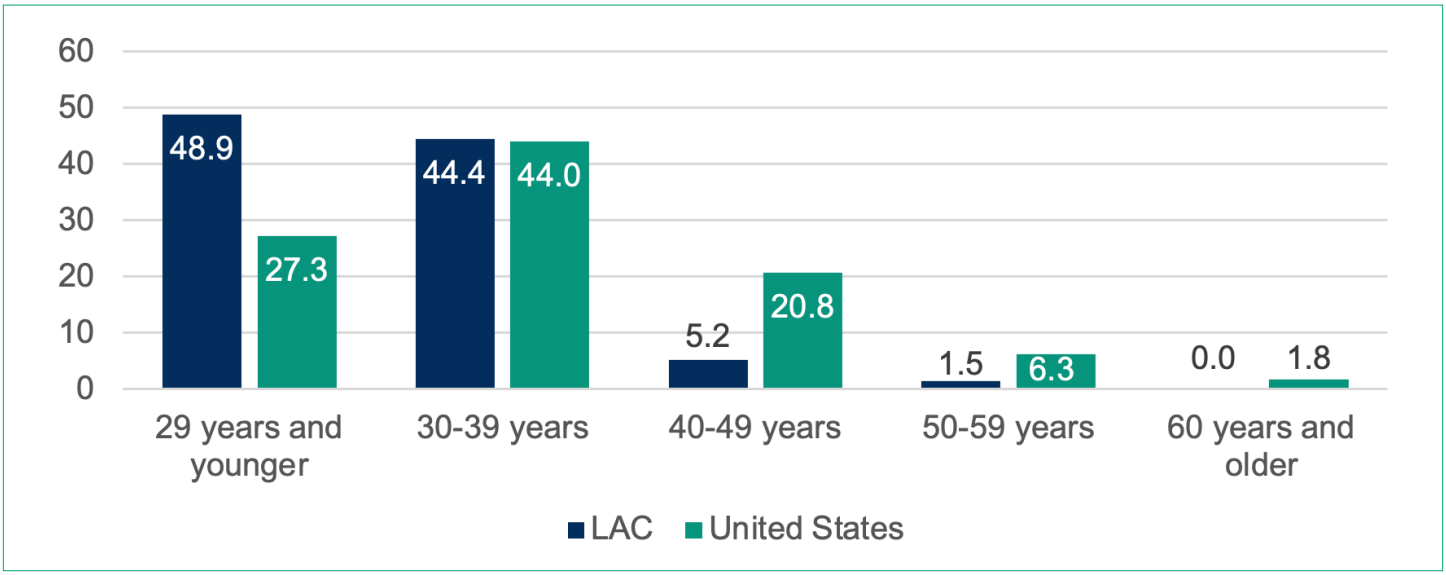
Figure A3. Comparing Age of Unicorn Founders (%) at Company Founding



Source: Strebulaev (2021) is used for US data. The source of the data for the LAC unicorn founders is the subgroup of founders with LinkedIn profiles that report information regarding the years of their undergraduate studies.
Note: n = 135.

In terms of nationality, LAC unicorn company founders are much less diverse than those in the US (figure A4). Fewer than 14 percent hail from outside of the LAC region, whereas more than 44 percent of founders of US unicorn company founders are not US-born.

33. https://www.cbinsights.com/research/unicorn-startup-market-map/

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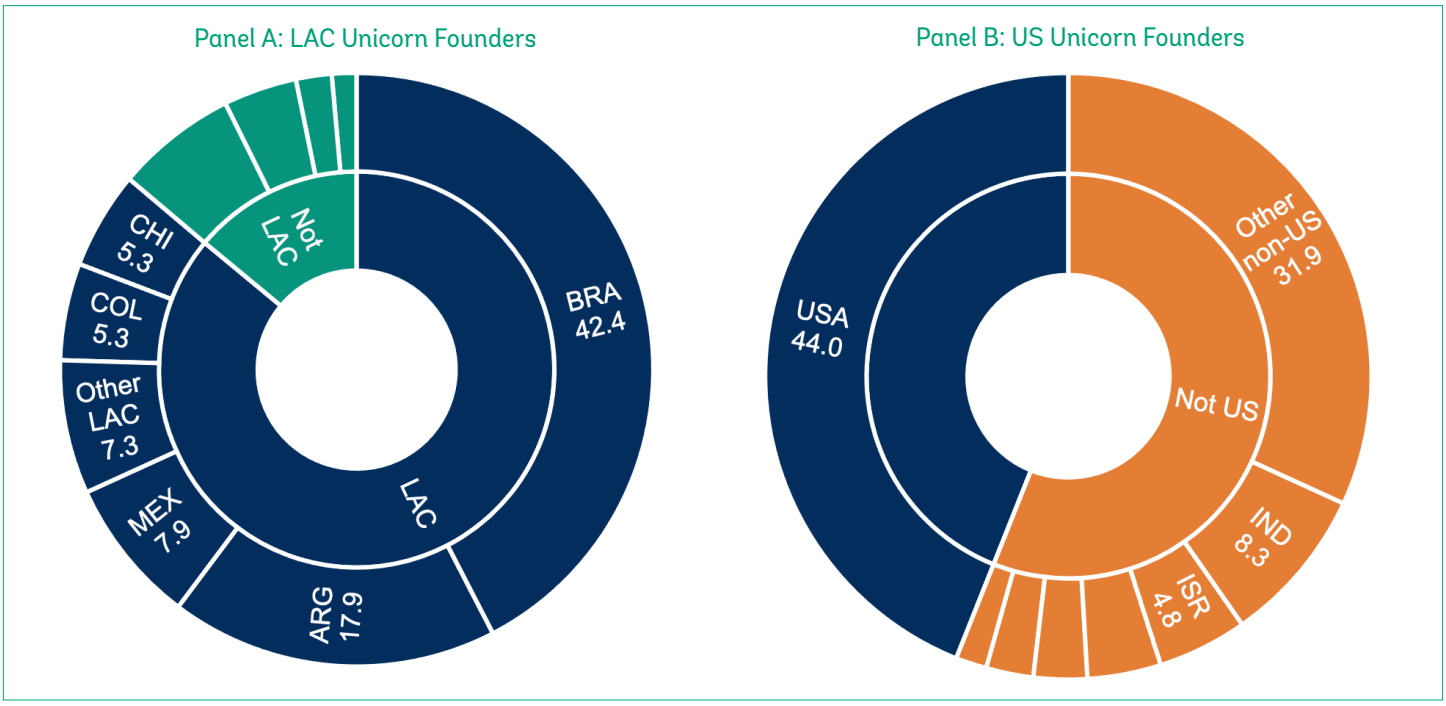
Figure A4. Nationality of LAC Unicorn Founders Compared to the US



Source: Strebulaev (2021) for the US data.
Note: For LAC, n = 151.
ARG= Argentina; BRA= Brazil; CAN= Canada; CHI= Chile, COL= Colombia; CHN= China; GBR= Great Britain; IND= India; ISR= Israel; MEX= Mexico; USA= United States of America.

Main features of LAC unicorn companies

Three important characteristics of LAC unicorn companies emerge from the data and are highlighted here.

First, the characteristics and backgrounds of LAC unicorn founders are far from representative of the general LAC population. However, as detailed in Section 4, the sticking points in this regard include the underrepresentation of female founders and the significant international exposure through their university studies or work experience. In terms of formal education, the overwhelming majority of LAC unicorn company founders have earned undergraduate degrees, with most majoring in Economics and Business Administration (42 percent), followed by Engineering (22 percent) and Computer Science (20 percent) (figure A5). Moreover, most founding teams (60 percent) have at least one member with a Master's Degree in Business Administration (MBA) (figure A6), with a significant fraction of LAC unicorn company founders having studied at a top university and/or in the US (figure A7). Finally, in terms of work experience, almost half of the founders of LAC unicorn companies have prior entrepreneurial experience (figure A8).

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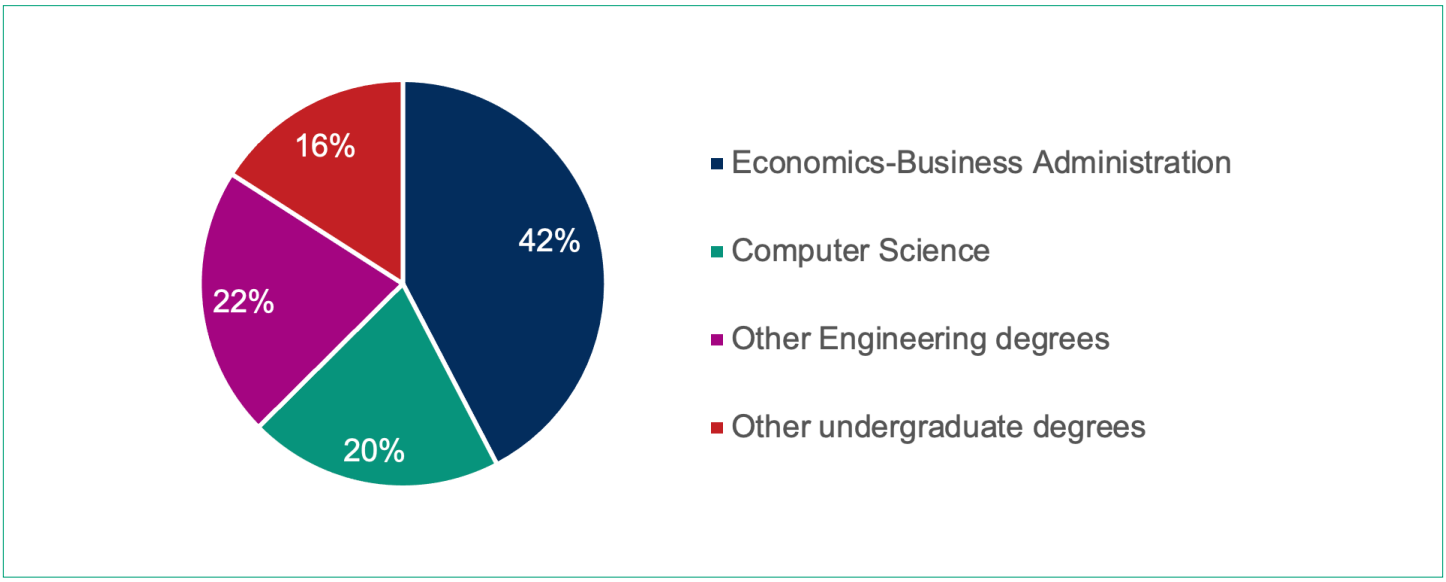
Figure A5. Undergraduate Studies of LAC Founders



Source: Authors' elaboration based on PitchBook, LinkedIn, and other sources.
Note: Other engineering degrees refers to engineering degrees other than computer science.

n=163. This represents the degree field for LAC founders who completed undergraduate studies. Two founders do not have an undergraduate degree, and there is no information about the undergraduate studies for nine founders.

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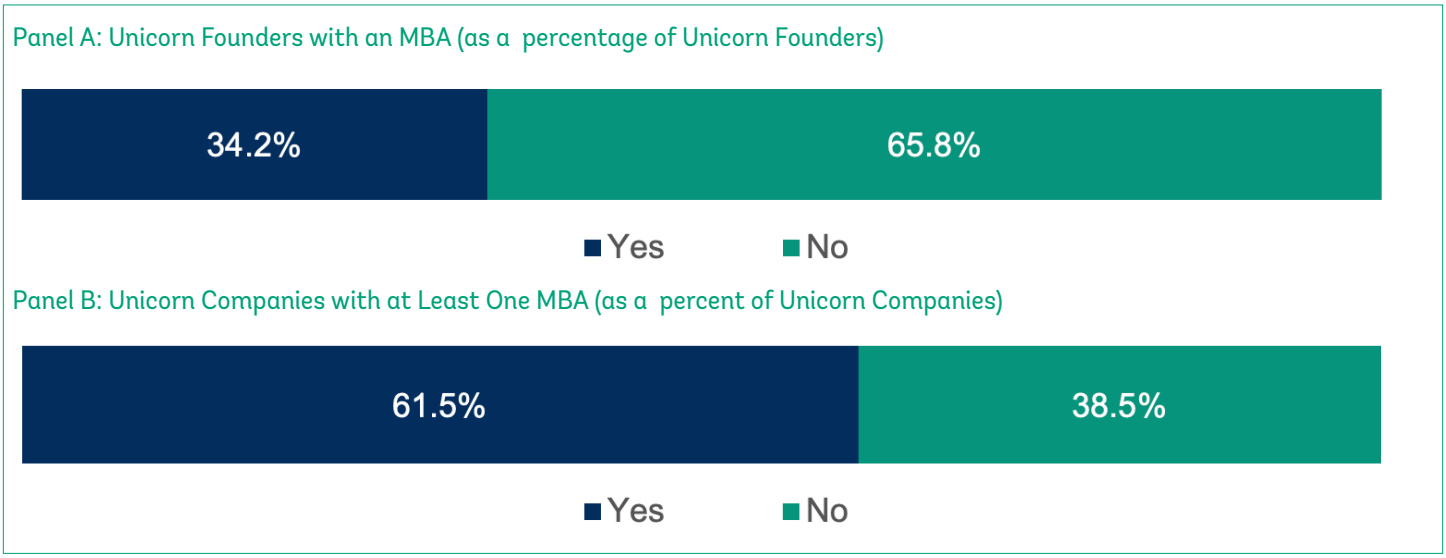
Figure A6. Share of MBAs Among Founding Teams



Source: Authors' elaboration based on PitchBook, LinkedIn, and other sources
Note: For Panel A, n = 146. For Panel B, n = 52.

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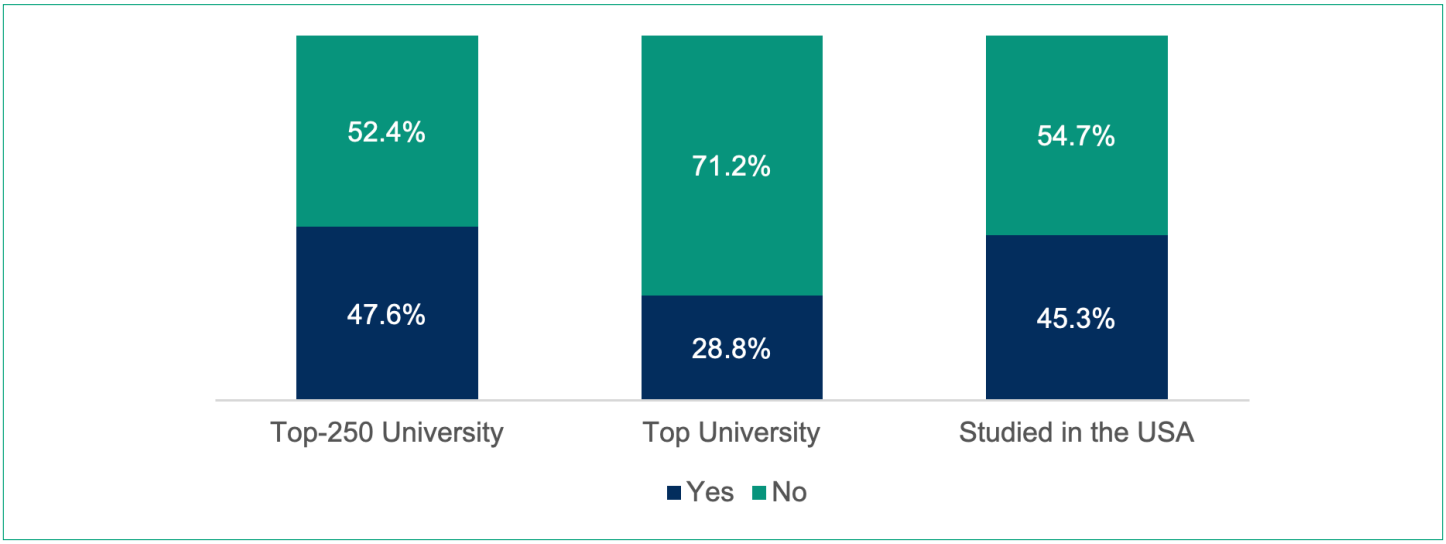
Figure A7. Unicorn Company Founders Who Studied at a Top University and/or in the US



Source: Authors' elaboration based on PitchBook, LinkedIn, and other sources.
Note: Top-250 University includes universities in the top 250 ranking for 2023 from TopUniversities.com and their affiliated schools, as well as those in the QS WUR by degree. Top university includes the top 50 universities in the world. This includes undergraduate and post-graduate degrees, and does not include executive education courses. n = 146.

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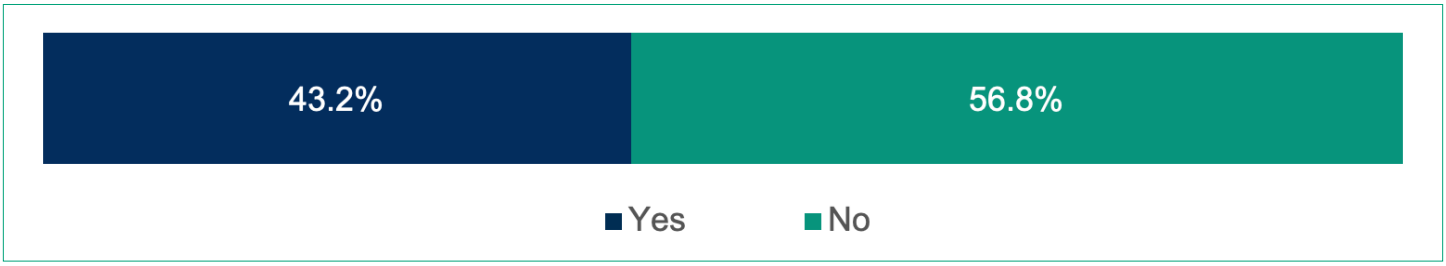
Figure A8. Previous Experience as Founders



Source: Source: Authors' elaboration based on PitchBook, LinkedIn, and other sources.
Note: n = 148.

The second feature of LAC unicorn companies is that most of their investors are non-domestic-based (table A1). The presence of non-domestic-based investors is a constant across LAC unicorn companies. By contrast, it is not concentrated among unicorns with international exposure. This constancy mirrors the importance of non-domestic-based investors for LAC startups, especially in large deals, which were highlighted in Section 2. The top 10 investors in LAC unicorn startups in terms of number of deals hail mostly from the US and include only two domestic-based investors, namely: Kaszek (Argentina) and Monashees (Brazil) (Figure A9).

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Table A1. Top 10 Investors in LAC Unicorn Companies

Rank	Investor	Country	Number of LAC Unicorn Companies
1	SoftBank Latin America Fund	United States	23
2	Endeavor Catalyst	United States	22
3	Tiger Global Management	United States	17
3	Kaszek	United States	13
5	Monashees	Argentina	11
5	General Atlantic	United States	11
7	Valor Capital Group	Brazil	9
7	Spectra Investments	United States	9
9	DST Global	United States	8
9	QED Investors	United States	8
9	Google for Startups Accelerator	United States	8

Source: PitchBook.

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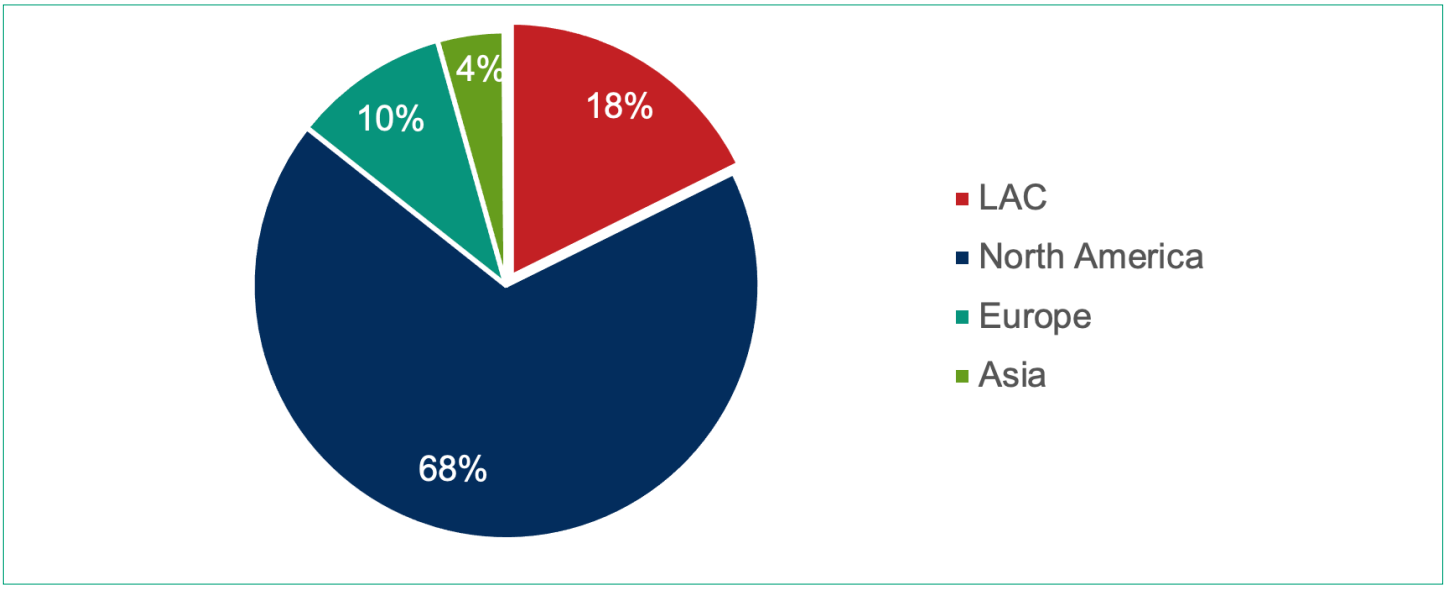
Figure A9. Investors in LAC Unicorn Companies by Region



Source: Authors' elaboration based on PitchBook.
Note: n=780. The investors include current and former investors in LAC unicorn companies according to PitchBook. These were retrieved by creating a list of unicorn companies and downloading the data for the investors identified by PitchBook under its "investors" section, and corroborating that they are included in the "former investors" and "current investors" variables for each unicorn.

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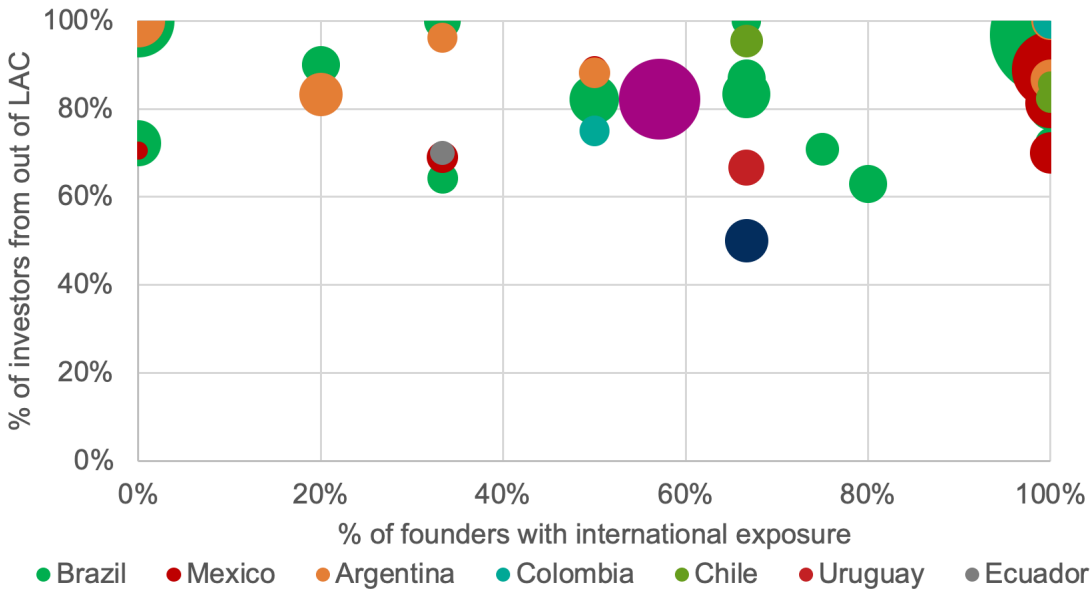
Figure A10. International Exposure of Founders versus percentage of Investors from Out of the LAC Region



Source: Authors' elaboration based on PitchBook.
Note: International exposure is defined as having worked or studied for an undergraduate or graduate degree abroad before founding the unicorn, or having worked for an international multinational company in LAC. The size of the circles represents the total amount raised by the unicorn as of September 30, 2022.

The third distinguishing feature about the LAC unicorn companies is their active participation in business accelerator programs. More than a third of LAC unicorns have participated in accelerator programs. In fact, some LAC unicorns have participated in several accelerators, including Rappi (7), Loft (5), Nowports (4), Nubank (4), and Clip (4). The top accelerator programs for the LAC unicorn companies include Google for Startups Accelerator (USA, 8); FJ Labs (USA, 6); and 500 Global (USA, 4).

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Appendix 2. The Ecosystem Effects of Business Accelerators in the LAC Region

Case Study 1 -- Start-up Chile and Business Creation

Start-up Chile (SUP) is a business accelerator that was launched by the Chilean government in 2010 as part of its business development response to that year's earthquake and tsunami. Since then, more than 2,000 companies have participated in the program, making SUP the top backer of LAC startups according to Sling Hub.[34]

The status of SUP as a top backer of LAC startups is no coincidence. In addition to providing capital to companies that would otherwise find it difficult to raise financing, SUP also adds value through the capacity--building activities it offers participants, including business training, mentoring, and networking opportunities (Gonzalez-Uribe and Leatherbee 2018). Moreover, SUP has built a reputation as a world leader in support for startups whose impact extends beyond its participants. Thus, SUP has been credited as the inspiration behind multiple public accelerator programs in over 50 countries, including Peru (Startup Peru), Malasya (MaGIC), and South Korea (K-Startup Grand Challenge).[35] In Chile, it has also been credited with strengthening the local startup ecosystem, primarily by spurring new entrepreneurs in the region.

This ecosystem-builder role for SUP is in line with the program's original objective. According to Nicolas Shea, founder of the program, "to accelerate was never the objective. What we wanted was a cultural change in Chile. To reach that goal, all you need is a group of highly qualified entrepreneurs. Making sure they came to Chile was our job, making sure they succeeded was, and will always be, theirs" (Gonzalez-Uribe 2014). However, no formal evidence of its effects on the ecosystem exists, although anecdotes abound. Many of these describe the positive impact on new business creation, attributed to activities, such as the Wednesday "meet-ups" that were open to non-participants. These provided a space for aspiring and established entrepreneurs alike to share their experiences and networks.

To provide formal evidence of SUP's ecosystem effects, novel data are used regarding business creation by the "*comunas*" (that is, fiscally independent localities in Chile) and industry for the 2005-2013 period. The source of this data is Chile's Department of Economic and Tax Studies. A triple difference-in-differences methodology is used, whereby business-creation rates are compared before and after the inception of SUP, and across "treated" and "untreated" *comunas* (that is, whether contiguous to the *comuna* of SUP's headquarters), as well as across "treated" and "untreated" industries (that is, whether targeted by the SUP). The triple comparison allows for the absorption of a variety of macroeconomic factors at the country, *comuna*, and industry level that can explain business creation rates. The main intuition behind the approach is that any SUP effects on the local entrepreneurial community would most likely affect registrations in industries that are directly related to Start-Up Chile—such as software, as opposed to, say, timber— as well as in *comunas* that are close to the headquarters of the program, as opposed to farther away.[36]

Table A2 presents the results. Column 4 shows that the number of businesses in the treated industries that registered in the contiguous *comunas* increased by 6 percent after 2010, relative to the same types of businesses registered in other *comunas*.

34. https://finsiders.com.br/wp-content/uploads/2021/09/Latam-Startup-Landscape_for-journalists_compressed.pdf
35. https://www.forbes.com/sites/jonathanmoed/2018/11/19/start-up-chiles-impact-2010-2018-inside-the-revolutionary-startup-accelerator/?sh=43b87b996dc5
36. In detail, the "treated" industries include activities of experimental research and development, auxiliary transport activities, business-to-business services, information services, other types of financial intermediation, retail trade not realized in shops, telecommunications, and travel agencies. The "treated" *comunas* include Santiago Central, where the headquarters of Start-Up Chile is located, and all contiguous *comunas*, including: Independencia, Providencia, Nunoa, San Joaquin, San Miguel, Pedro Aguirre Cerda, Estación Central, and Quinta Normal (note that these *comunas* are all within Santiago, the capital of Chile).

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Table A2- SUP Regional Effects: New-Business Registration Rates

	(1)	(2)	(3)	(4)
	Number	Number	Log.	Log.
Post 2010× Contiguous	0.314***		0.024***	
	(0.097)		(0.005)	
Post 2010× Contiguous ×Venture		0.483**		0.060***
		(0.213)		(0.022)
Observations	426,180	426,180	426,180	426,180
R-squared	0.043	0.900	0.062	0.783
Comuna FE	Yes		Yes	
Year FE	Yes		Yes	
Industry×Year FE		Yes		Yes
Industry×Comuna FE		Yes		Yes
Comuna×Year FE		Yes		Yes

Source: Authors' elaboration.
Note: FE= Fixed Effects.

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Table A2 reports on the association between proximity to SUP and new-business registration rates. Estimates in columns (1) and (3) are based on the regression $New\ Business_{cit} = \gamma_t + \gamma_c + Post\_2010_t \times Contiguous_c + \varepsilon_{cit}$, where $New\ Business_{cit}$ corresponds to the number and logarithm of new businesses registered in *comuna* c, industry *i*, and time t, respectively, *Post_2010* is a dummy that equals 1 after 2010 (that is, the inception year of the program). and $Contiguos_c$ equals 1 if the comuna is located near the comuna where the program is headquartered. Specifically, the *contiguos comunas* are Independencia, Providencia, Nunoa, San Joaquin, San Miguel, Pedro Aguirre Cerda, Estacion Central, Quinta Normal, and Santiago Central. Estimates in columns (2) and (4) are based on the regression $New\ Business_{cit} = \gamma_{it} + \gamma_{ic} + \gamma_{cy} + Post\_2010_t \times Contiguous_c \times Venture_i + \varepsilon_{cit}$, where $Venture_i$ equals 1 for all those industries similar to the industries of the program's participants (that is, venture industries). The treated industries include activities of experimental research and development, auxiliary transport activities, business-to-business services, information services, other types of financial intermediation, retail trade not realized in shops, telecommunications, and travel agencies. Robust standard errors are presented in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively.

Case Study 2 – The Correlation between Pioneer Accelerators and VC Activity: Evidence from 8 LAC Cities

According to PitchBook data, eight cities in LAC saw their first deal by a pioneer accelerator during the period from 2015 to 2018, including: Aguascalientes (Mexico), Apodaca (Mexico), Kingston (Jamaica), Mendoza (Argentina), Santa Fe (Argentina), Sao Leopoldo (Brazil), Sunchales (Argentina), and Temuco (Chile). A further 23 cities saw accelerator deals forged during the same time period. However, these programs were not pioneer accelerators— that is, they were not the first accelerator in their respective city. For these 31 cities, data were collected on the value and number of VC deals over the 2011-2021 period.

Evidence was sought for a correlation between pioneer accelerators and VC activity by using a difference-in-differences approach that exploits the differences in the arrival dates of pioneer accelerators across the 8 "treated" cities. These were compared with VC activity before and after the first pioneer accelerator deal in a given city, relative to "control" cities—that is, those with no

pioneer accelerators that year, or with no pioneer accelerators during the time period. In other regressions, the sample was split into VC investments in high-technology and non-high-technology companies. These were classified as high-tech investments into companies in the following sectors: information technology, electronics (B2C), alternative energy equipment, diagnostic equipment; monitoring equipment; biotechnology; discovery tools (Healthcare); drug delivery; drug discovery; pharmaceuticals; other pharmaceuticals and biotechnology; and technology, media, and entertainment.

Table A3 presents the results of accelerator formation and VC funding. Panel A shows a weakly positive correlation between a city's pioneer accelerators and the subsequent number (Panel A) and value (Panel B) of VC deals. The coefficient in column 3 in Panel A shows that the positive differences between treatment and control cities in the number of deals after the arrival of pioneer accelerators are only visible once the differences are controlled for in trends across cities. The positive correlation can be explained by both demand and supply forces. The arrival of pioneer accelerators can reflect the arrival of investment opportunities in cities. It could also reflect how business accelerators help attract investors to regions by lowering search costs. Unfortunately, the paucity of the data does not allow for further disentanglement of these two explanations.

Columns 4 and 5 show that the correlation between a city's pioneer accelerators and subsequent number and value of VC deals is concentrated in non-high-tech investments. Thus, there is no visible correlation between pioneer accelerators and high-tech investments in the region. This concentration in non-high-tech investments contrasts with the association between pioneer accelerators and VC activity in the high-tech sector that has been reported for more developed VC markets, such as the UK (Bone and others 2019). An important factor behind the concentration in non-high-tech VC investments is the relative scarcity of high-tech VC investments in the region as compared to more developed economies like the UK.

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Table A3: Accelerator Formation and VC Funding

Panel A—Number of Deals

	(1)	(2)	(3)	(4)	(5)
	All	All	All	Non-high-tech	High-tech
Post × Treated	1.521	1.805	1.883*	1.378**	0.505
	(2.770)	(1.649)	(1.114)	(0.628)	(0.664)
Observations	341	341	341	341	341
R-squared	0.093	0.847	0.963	0.962	0.932
City FE	No	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Trend City	No	No	Yes	Yes	Yes
Trend ever Treatment	Yes	Yes	No	No	No

Panel B –Value of Deals

	(1)	(2)	(3)	(4)	(5)
	All	All	All	Non-high-tech	High-tech
Post × Treated	0.322*	0.336**	0.333*	0.347**	0.161
	(0.190)	(0.169)	(0.177)	(0.144)	(0.144)
Observations	341	341	341	341	341
R-squared	0.229	0.836	0.887	0.856	0.836
City FE	No	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Trend City	No	No	Yes	Yes	Yes
Trend ever Treatment	Yes	Yes	No	No	No

Source: Authors' elaboration.
Note: FE= Fixed Effects. This table reports the association between the number and value of VC deals in a city and the arrival of pioneer accelerators The estimates are based on the regression $Outcome_{ct}=\gamma_t + \gamma_c + Post_{ct} \times Treated_c + \varepsilon_{ct}$, where $Outcome_{ct}$ corresponds to the number of deals and value of VC funding in city *c*, and time *t*., The $Post_{ct}$ is a dummy that equals 1 after the arrival of a pioneer accelerator for the treated cities and 0 for the control regions. Robust standard errors are presented in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively.

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Appendix 3. Data Construction

Data sources

PitchBook was the primary source of information concerning venture capital dynamics. It was complemented with data from Crunchbase to complete missing values and run consistency checks. For data regarding IPOs and corporate debt, Refinitiv was used. Finally, for specific cases where the location of investors and the accelerator year founding was missing, data was completed using information from LinkedIn and Failory.

It is worth noting that PitchBook, the main source of information used here, is consistently regarded as one of the data platforms with the most complete and up-to-date information concerning venture capital deals. Moreover, this claim has been supported by an empirical exercise (Retterath and others 2020) that compares the coverage of available data providers using actual contracts and investment documentation on VC rounds as a benchmark. Their findings show that "VentureSource, Pitchbook and Crunchbase have the best coverage and are the most accurate databases across the dimensions of general company, founders and funding information" (Retterath and others 2020, p. 27).

Overall data description

The main dataset of deals completed in Latin America and the Caribbean (LAC) region runs from 2013 to 2021, comprising 8,336 deals, 4,702 recipient companies, and 5,408 investors.

In general, PitchBook's definition of VC deals is used. The focus is on the VC characteristics of deals and not investors, meaning that every deal that PitchBook classifies as venture capital is included, regardless of the type of investors participating in them. Also included are all stages of completed venture capital deals. Only grants are excluded from these criteria, due to the presence of large deals—mainly from government agencies—that do not resemble venture capital transactions. Depending on the section of the report, different stages of VC deals are examined

The distribution of VC funding amounts throughout the years shows an increasingly strong concentration of large funding amounts among fewer deals. For example, in 2021, the mean deal size was US$17.26 million, whereas the median deal size was only US$1.31 million (figure A11).

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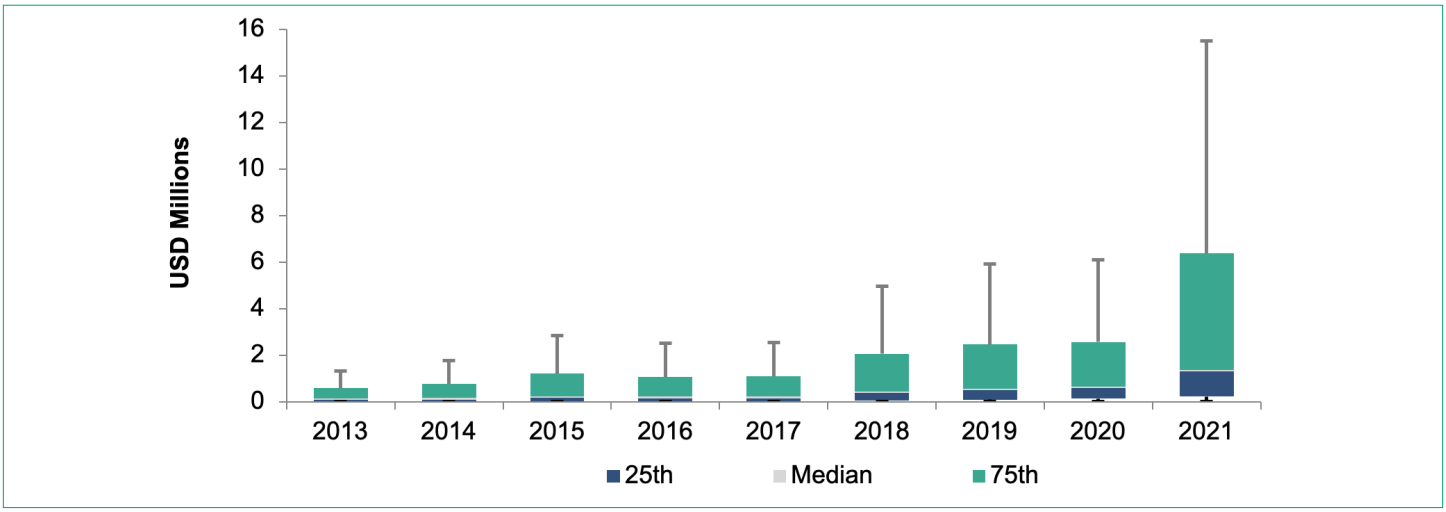
Figure A11. Distribution of LAC Deal Sizes by Year



Source: PitchBook.
Note: Outliers are not shown in the plot.

In terms of the recipient country, Brazil leads the region, with 48.25 percent and 42.47 percent of total VC funding amounts and number of deals, respectively, followed by Mexico with 20.10 percent and 21.29 percent. Data was also collected about VC funding and the number of deals for the six other World Bank Regions.[37] Table A5 shows the deal counts and total VC funding, as well as the minimum, maximum, mean, and median deal sizes for each region, for all deals completed in 2021.

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Table A3: Accelerator Formation and VC Funding

Region	No. of Deals	Tot. VC Funding	Mean Deal Size	Median Deal Size
All	All	All	Non-high-tech	High-tech
North America	23,540	358,383.72	19.31	2.96
East Asia and Pacific	12,956	173,091.10	25.38	4.97
South Asia	2,663	37,750.27	17.20	1.01
Europe and Central Asia	1,732	27,425.06	19.69	2.34
Latin America and The Caribbean	1,532	18,567.19	17.26	1.31
Middle East and North Africa	224	2,360.78	15.33	3.00
Sub-Saharan Africa	128	708.51	8.97	1.60

Source: Authors' elaboration based on PitchBook.

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Sectors and verticals

The focus of the analysis is on seven broad industries (B2B, B2C, energy, financial services, healthcare, information technology, and materials and resources), as well several vertical spaces defined by PitchBook. One important distinction between sectors and verticals is that companies can be tagged only to one sector, but they can be tagged to multiple verticals. A vertical is a more specific dimension of a company's activities that provides a view about niche markets spanning multiple industries. Some examples of verticals are Fintech, healthtech, e-commerce, virtual reality, and advanced manufacturing.

The most recurrent industry for LAC companies throughout the entire span of the data is information technology, particularly software, with 46.31 percent of the total number of deals and 34.08 percent of the total VC funding amounts. It was followed by business-to-consumer (B2C), with 21.98 percent and 32.64 percent, respectively. In terms of venture capital funding amounts, late-stage deals dwarf early and pre-seed stage deals, representing 61.78 percent of the total VC funding provided between 2013 and 2021 in LAC. However, when it comes to the number of deals, pre-seed deals take the lead with 41.41 percent of the total deal count, followed by early-stage deals with 21.57 percent.

In terms of verticals, Fintech, mobile, and software as a service (SaaS) are the most relevant ones inside the LAC vertical space. However, one special type of vertical is climate-tech. This is a category that PitchBook created by selecting specific companies worldwide that fulfill their climate-tech criteria. Therefore, the climate-tech analysis is based on the funding dynamics of the selected companies in different regions of the world. PitchBook's latest release shows 2,756 climate-tech companies globally. Some of the subgroups that PitchBook has classified as climate-tech companies include electric transportation, energy transition, mobility solutions, carbon tech, food systems, and land use.

37. World Bank Regions include: East Asia and Pacific, Europe and Central Asia, Latin America and the Caribbean, Middle East and North Africa, North America, South Asia, and Sub-Saharan Africa.

Non-domestic-based investors

With respect to the location of the VC funds participating in LAC deals, the United States is by far the most important country, with 83.37 percent of total funds invested in LAC between 2013 and 2021, followed by Brazil with 7.39 percent. Furthermore, as shown in Section 3 of this report, non-domestic-based investors in general are an important source of VC funding for the LAC region, especially when it comes to super-sized deals.

According to PitchBook, four players emerge as the most active in the LAC VC ecosystem:

a. SoftBank – Japan
b. Ribbit Capital – USA
c. Tiger Global – USA
d. DST Global – China

When analyzing the contribution of specific investors to the overall VC dynamics in LAC, an important restriction arose. Specifically, the data does not provide information about investment amounts by investor, but only reflects the deal level. With that in mind, the analysis of non-domestic-based investors (including the Big 4 analysis) is comprised of deals with at least one investment from any of the investors in question. In other words, the deals shown in figures 12 and 13 are deals where non-domestic investors, the Big 4, and other investors participated.

LAC accelerators

For this section of the report, PitchBook, Crunchbase, and Failory were used. PitchBook is more comprehensive in terms of the number of accelerators covered. However, their data concerning the year of foundation and location of accelerators' headquarters is not complete. Therefore, those missing values were completed using Failory, Crunchbase, and, when needed, LinkedIn.

After merging PitchBook's data with Failory's, the initial database contains 233 accelerators. Only 111 of these accelerators have VC deal activity information on PitchBook between 2013 and 2021. Using this data, it was observed that in 2021, there were 21 LAC accelerators (unchanged from 2020) that participated in 35 deals with 35 companies. These deals with accelerator participation amounted to US$132.5 million, with a mean deal size of US$5 million and a median deal size of US$870,000. This points to a high degree of concentration in accelerator investments as well.

Regarding the accelerator formation analysis, two approaches were taken to construct the data. The first entailed using the date of the accelerator's foundation, and the second using the date of the accelerator's first deal. After keeping only cases where the investor's city, the year of the deal, and the deal size is available, 81 accelerators remained. One important observation with the accelerators' data is that, in contrast to the non-domestic-based investor analysis, most deals where there is accelerator participation are primarily comprised of sole accelerators.

However, differences in VC funding dynamics for recipient companies that operate in industries were analyzed for those considered to be particularly intensive in high-tech activities.

The definition of "high-tech" used here includes the broader primary industry of information technology, in addition to the following more specific sectors:

- Electronics (B2C)
- Alternative energy equipment
- Diagnostic equipment
- Monitoring equipment
- Biotechnology
- Discovery tools (healthcare)
- Drug delivery
- Drug discovery
- Pharmaceuticals
- Other pharmaceuticals and biotechnology
- Technology, media, and telecommunications (TMT)

Unicorn Companies

UNICORN DEFINITION

The definition of a unicorn is based on the approach of Strebulaev (2021). This definition is necessary because there are many available lists of unicorn companies. Thus, without a clear definition, it is challenging to construct a unicorn sample lacking obvious omissions and (explicit or implicit) selection bias. As such, unicorns are defined as those companies that fulfill the following criteria: (1) the company must have at least one documented venture capital funding round since January 1, 1995; (2) the company must have been headquartered or legally incorporated in the LAC region at the time it became a unicorn; and (3) the company must have had at least one private funding round with a post-money valuation equal to or above US$1 billion, or it should have achieved at least US$1 billion in valuation at the time of the company's first liquidity event. "Private" means that at the time the company raised a funding round, it was a privately-owned company. A "liquidity" event means either a public listing (IPO, direct listing, or reverse merger/ special purpose acquisition company [SPAC]) or a sale. The cut-off date is September 30, 2022.

UNICORN FIRMS' DATABASE

The database contains information about the 52 LAC unicorn companies identified according to the criteria defined above. The methodology for identifying these companies was done by searching reliable online sources for unicorn companies in LAC countries and corroborating that these companies met the criteria using data from PitchBook. When PitchBook data was unavailable, then data from the Association for Private Capital Investment in Latin America (Lavca) and Crunchbase were used.

The main source of the data is PitchBook, although it has also been complemented with data from Lavca and Crunchbase when such data was unavailable in PitchBook. The main variables in the firms' database include the country where the company was founded; the valuation; the industry and verticals; the amount raised; ownership status; and active and former investors. It also included information about each company's founding teams, such as whether a woman is part of the founding team, whether a person with a MBA Degree is part of the founding team, or whether the founders have studied or worked abroad and/or studied at a top university. Specific details about the methodology of the data in each figure or table are provided in the notes underneath the figure or table.

UNICORN FOUNDERS' DATABASE

The database contains information about the founders of the 52 LAC unicorn companies identified according to the criteria defined above. There are a total of 155 unicorn founders. Unicorn founders are those that are included in PitchBook, and this data is complemented with information from each company's website.

Once the founders were identified, their LinkedIn profiles were used as the main source of data for the database. Eight founders did not have a LinkedIn profile. Therefore, other reputable online sources were used, including Crunchbase, Lavca, and biographical articles.

The main variables in the founders' database include undergraduate and post-graduate education, previous work experience, gender, nationality, location, and age. Some of the variables explored include whether the founders met through their studies or work experience; whether they studied abroad and in the United States; their previous experience as a founder or board member; their field of undergraduate studies; and/or whether they completed a MBA degree. Specific details about the methodology used for the data in each figure or table are provided in the notes underneath the figure or table.


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