Chapter IX

Finance-led premature de-industrialization and the role of external macroprudential policy for post-COVID-19 transformative development: Latin America in a comparative perspective

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Introduction

After more than two years since its outbreak, most economies worldwide are struggling to recover from the COVID-19 crisis. In 2020, the drop in world GDP has been steeper than what observed in 2009 after the last financial crisis. It has been the deepest recession since the Great Depression, with global trade in goods and services estimated to have decreased by 7.6 percent (UN, 2021). Economic activity has rebounded in 2021, but the scars from the 2020 downturn may give rise to square-root shaped recovery and long-lasting stagnation.

The COVID-19 crisis has taken different degrees of intensity in different regions. Among emerging and developing countries (EDE henceforth), economic dynamics slowed down but remained positive in some East Asia countries and in China. Latin America and the Caribbean, instead, stand out

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as the most affected regions of the World together with South Asia (UN, 2021). Latin America's GDP is estimated to have contracted by around 7.0 percent according to IMF's April 2022 World Economic Outlook (2022). Such a decline is more than four times larger than that observed in Sub-Saharan Africa. Latin American economic growth has been substantial in 2021 (6.8 percent), but lower than what observed in emerging Asian countries. More importantly, it is expected to languish around a mere 2.5 percent in the upcoming three years, i.e., lower than what forecasted for most of the other developing world.

There is not a unique factor that can explain the tremendously high toll paid by Latin America to COVID-19. According to Aguilera (2020), Latin American countries are developing and emerging economies that nevertheless suffer from advanced economy-type diseases such as obesity and hypertension. On the one hand, such diseases worsened the effects of the contagion and more likely turned infected people into intensive care. On the other hand, higher pressures on fragile healthcare systems could have raised the death toll and, at the same time, induced local governments to more stringent and prolonged lockdown measures, with obvious harsh repercussions for the economy. The pandemic has led all governments worldwide to adopt discretionary fiscal measures in support of their economies. Latin American governments do not make an exception and have implemented fiscal packages broadly consistent with those of other EDE economies, although smaller than the fiscal response of advanced countries (see more on this below). Fiscal reaction, however, has been heterogenous among Latin America countries. Mexico, for instance, is a striking case of fiscal inactivism. According to the IMF's Fiscal Monitor Report 2020 (IMF, 2020a), fiscal reaction to COVID-19 in Mexico amounted to a mere 2 percent of GDP, so that Swarnali *et al.* (2020) suggested a fiscal twist by adopting more counter-cyclically measures now and postponing fiscal adjustments over the medium term. In 2019, the Mexican economy represented almost 27 percent of the whole Latin American GDP. It is easy to see how lack of counter-cyclical fiscal measures and a deepening crisis in Mexico could have perverse spill-over effects for the economy of the entire region. Perhaps more importantly for the sake of our analysis, there is some evidence that the negative medium-term economic implications of COVID-19 may become more acute in the context of fragile and relatively underdeveloped productive structures characterized by widespread informality, high inequality standards, large dependence on natural resources and/or contact-intensive services (Hevia and Neumeyer, 2020). This is the case of Latin American economies, even in comparative terms with respect to other EDE economies.

The perverse relation between underdeveloped productive structures, the intensity of the COVID-19 crisis, and the weakness of post-Covid recovery puts structural change at the heart of any development strategy that aims at feeding sustained economic growth and increasing resilience

to any similar shock in the future. In this report, we address this issue by investigating the factors that may have harmed productive development in EDE countries, Latin American ones in particular, over the last forty years. More specifically, we investigate the role of financial integration in the global financial economy and periods of financial "bonanza" as potential source of *premature de-industrialization* (see more on this below) in a subset of relevant Latin American economies, namely Argentina, Brazil, Chile, Colombia, Mexico and Peru. Our work intends to analyze whether periods of abundant capital inflows to those Latin American economies may have fed changes in domestic productive structures away from those sectors, namely manufacturing, traditionally recognized as prime sources of long-run sustainable development (Benigno and Fornaro, 2014; Botta, 2021). In order to do so, we will first describe how the above-mentioned Latin American countries present relevant signs of *premature* de-industrialization with respect to other emerging and developing countries, East Asian ones first and foremost. Then, we will provide some preliminary evidence about how capital inflows, in particular net portfolio investment, may have contributed to such a premature (relative) decline of manufacturing contribution to overall GDP and employment.

The structure of our work is as follows. In Section 2, we discuss how and why weak Latin American productive structures may have contributed to aggravate the economic implications of the pandemic. In Section 3, we move out attention to the link between structural change, productive development and financial integration. In Section 4, we pay attention to the way forward and to policies that may support a transformative recovery in the context of a more resilient economy. More specifically, we analyze whether macroprudential policies taming international capital mobility may also bear positive effects for the long-run productive development of Latin American economies on top of their implications for (short-term) financial and macroeconomic stability. Section 5 draws some final remarks.

A. COVID-19 and "vulnerable" productive structures in Latin America

Various factors may have contributed to deepen or soften the economic implications of the pandemic: the effectiveness of early confinement measures; the generosity of discretional fiscal stimuli; the speed of the vaccination campaign. Emerging empirical evidence suggests that different productive structures may also help to explain cross-country differences in the intensity of the crisis. There are at least three ways through which differences in productive structures may affect the economic vulnerability to COVID-19. They are related to (i) the quality of employment that different productive structures generate; (ii) the sector-specific exposure to

Covid-related confinement measures; (iii) the more general dependence of an economy on specific productive "assets" (read natural resources), and the way the related sectors respond to global shocks.

EDE countries usually present poorly diversified productive structures, at least in relative terms with respect to advanced economies. They lag behind the technological frontier; the industrialization process if often incomplete as the capital good and/or high-tech sectors are underdeveloped, and backward and forward linkages are not adequately exploited. Following La Porta and Shleifer (2014), lack of productive development is generally mirrored in *dual* economic structures, where a large and seemingly permanent informal sector co-exists alongside a small formal economy.[2] Informality in low-middle income countries has become even more important in time of COVID-19 as it may be disproportionally affected by the economic consequences of the pandemic. First, small informal firms are characterized by shorter "surviving periods" than (relatively) larger formal companies and are more exposed to bankruptcy in the absence of revenues during lockdowns. This is due to the fact that small informal firms or self-employees usually accumulate less capital and cash reserves than formal companies and are more easily excluded from credit and financial markets due to the lack of valuable collaterals (Cespedes *et al*., 2020; Valensisi, 2020). Second, informal entrepreneurs or employees do not usually benefit of any form of insurance or social protection against unemployment and/or inability to work. This fact considerably increases the difficulties of national governments to cushion the economic effects of the pandemic since that they may have to create some universal social protection schemes from nihilo. On top of this, the lack of adequate social safety nets could make the contraction of family income particularly acute. Whilst this may not be captured by official

[2] In the last three decades, following the original contribution by De Soto (1988), several economists have developed a more "positive" view of informality. According to this approach, informality is seen as an open choice of economic actors in response to excessive regulation and bureaucratic costs of the formal economy that enable firms to be flexible and to avoid formal sector's rigidities (Maloney, 2004). La Porta and Shleifer (2014) contrast this approach. They provide a comprehensive empirical description of informal businesses as far less productive, less profitable and producing lower quality goods than formal activities. The scope for innovation and investment is minimal, and there is no real competition between informal and formal firms. Indeed, "informal entrepreneurs would gladly close their businesses to work as employees in the formal sector if offered the chance, even if wages in the formal sector are taxed while income in the informal sector is not" (La Porta and Shleifer, 2014, p.112). In a way, La Porta and Shleifer defend a more traditional Lewis-type perspective of informality in which informality is an unvoluntary feature of dualist economies due to lack of productive development and that may spontaneously shrink if and when countries develop and the formal economy expands. Following Loyaza (2018), informality may be the result of both underdeveloped productive systems and inefficient governance depending on country-specific factors. The recognition of this last possibility does not make structural change and productive development less important for the absorption of informality. In this report, we will pay prevalent attention to how productive development, by squeezing informality, may increase economic resilience to COVID-19 and possible future pandemics.

statistics, it could equally show up in the form of sharp drops in domestic demand injections, private consumption first and foremost (see more on this below).

COVID-19 is an economy-wide crisis that negatively affected almost all productive sectors. The crisis, however, did not hit homogenously all the industries. In general terms, the service industry seems to have been more severely affected than manufacturing and agriculture, although considerable heterogeneity exists even inside these three macro sectors.[3] According to ECLAC (2020), activities in the hospitality, transportation, tourism, retail trade, repair and, more broadly, commerce are those that suffered the most. On the one hand, this is due to the intrinsic nature of the services they offer, as they are "*contact-intensive*" services almost completely banned during lockdowns. On the other hand, firms in these sectors are characterized by considerably shorter "survival times" than manufacturing companies (Bosio *et al*., 2020). Economic systems that more heavily rely upon these industries likely experienced tougher economic contractions than other countries during lockdowns.

The outbreak of the pandemic has also caused significant fluctuations in the price of primary commodities. The reaction has not been uniform across sectors. Price indexes for agricultural products and metals did not decline so intensively as in the wake of the 2007-2008 financial crisis. The price of agricultural products has actually increased since January 2020. In the case of metals, after an initial modest reduction, it is now above its pre-crisis level. According to the World Bank Commodity Market Outlook (WB, October 2020a), the price index for the energy sector, oil in particular, dramatically decreased by almost 60 percent in the first quarter of 2020. It partially rebounded in the second part of that year and moved to higher pre-Covid levels in 2021. Such heterogenous evolutions in the market for primary commodities may have led resource dependent economies to be less negatively affected by Covid than in previous global shocks. Nonetheless, the pandemic has demonstrated once more the potential exposure of some EDE countries to *volatility* in the price of primary commodities. The initial drop and subsequent volatility in the price of the energy sector seem to emphasize the quest for productive diversification in those economies that depend upon exports of oil and natural gas as primary sources of foreign currency. In these countries, economy-wide uncertainty may increase during times of high volatility in commodity prices. The external balance constraint may get significantly tighter when the price of exported commodities declines, leading economic growth to an abrupt halt.[4] This is even the more

[3] Following UN (2021), world trade in the automotive sector contracted massively in 2020. Trade in office machineries and communication equipment increased by around 10 percent, instead.

[4] In external balance constrained economies, economic growth and capital accumulation strongly rely upon capital goods' imports, which in turn depend on the availability of "hard currency" via exports. From a historical point of view, declining and volatile terms of trade of "peripheral" countries versus "central" economies have recurrently forced the former to curtail investment and slow down economic growth.

so since that international financial markets seem to offer these countries small space for protracted current account deficits (Vernengo and Pérez Caldentey, 2020).

Productive structures in Latin American countries seem to present at least some of the above-mentioned features that can make them more vulnerable to the economic consequences of the pandemic even in comparison to other EDE economies.

First, Latin American countries present the highest informal sector's *GDP share* among EDE economies together with Sub-Saharan Africa (see World Bank, 2019; Islam and Lapeyre, 2020).[5] This fact may contribute to exacerbate the negative consequences of COVID-19. Official statistics cannot capture the full drop in informal sector's output. Nonetheless, we can somehow infer the implicit and indirect economy-wide consequences of Covid-led contraction in informal income by looking at the dynamics in the different demand components of GDP. Indeed, it is reasonable to assume that Covid-related damages to informal employment may be somehow reflected in the relative behavior of private consumption vis-à-vis other demand components. Available data[6] indicate that, in Latin America, the bulk of the drop in annual GDP in 2020 is imputable to the contraction in domestic private consumption. In Chile and Argentina, private consumption contributed up to 85 and 94 percent of the overall reduction in domestic income, respectively[7]. Improvements in the trade balance, mainly due to the collapse of imports, have partially counteracted the decline in domestic demand. The picture is somehow different in other developing countries such as South Africa and Indonesia, or in developed countries that have been harshly hit by the crisis such as Italy and Spain. In South Africa and Indonesia, the reduction in private consumption explains less than 60 percent of the overall decrease in real GDP in 2020. In the case of Italy and Spain, it is about 73 and 64 percent, respectively. Both Italy and Spain experienced sizeable contractions in the trade balance due to the tough crisis in the tourist and hospitality industry.

Second, Latin America is the region with the highest share of *contact-intensive* employment (over total employment) in the World (IMF, 2020b). To a large extent, this is due to a "perverse" regional productive

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5 This is not the case for the *employment* share, as informal sector's employment share in Latin America is relatively smaller than in African, Asian or Arab countries (Islam and Lapeyre, 2020). This is due to the fact that informal activities in Latin America are relatively more productive than what observed in other parts of the developing world.

6 Available data about demand components of real GDP in 2019 and 2020 have been collected from OECD at https://stats.oecd.org/index.aspx?queryid=60702.

7 We computed the contribution of different demand components to the most recent evolution of real GDP according to the following accounting rule: $\frac{Y_t - Y_{t-1}}{Y_{t-1}} = \frac{C_t - C_{t-1}}{C_{t-1}} \frac{C_{t-1}}{Y_{t-1}} + \frac{G_t - G_{t-1}}{G_{t-1}} \frac{G_{t-1}}{Y_{t-1}} + \frac{I_t - I_{t-1}}{I_{t-1}} \frac{I_{t-1}}{Y_{t-1}} + \frac{NX_t - NX_{t-1}}{NX_{t-1}} \frac{NX_{t-1}}{Y_{t-1}}$, where "Y" stands for real GDP, "C" represents private consumption, "G" is final government purchases, "I" is gross capital formation and "NX" is net exports in goods and services. The subfix "t" refers to 2020, whilst "t – 1" to 2019.

specialization in relatively low-skill "contact-intensive" sectors such as transport, hotels and restaurant, trade, and storage[8]. Following the UN (2021), there are quite striking productive asymmetries between Latin America and emerging (see China and India) or newly industrialized (see South Korea and Singapore) Asian countries. Whilst the former relies upon relatively "low value-added" services that have been more heavily exposed to the pandemic, the latter have increased their participation to high-skill high value-added services such as ICT, finance, education, R&D and business-related services. This structural divergence is of paramount importance given that high-skill high-value added services have been less affected by Covid (they can be more easily performed via homeworking); they are increasingly traded in international markets[9]; they are characterized by economies of scale and offer wider opportunities for innovation and learning-by-doing[10]. Such structural productive asymmetries among EDE countries may help to explain why, after the outbreak of COVID-19, Latin America has suffered the most acute drop in employment compared to both developed and other emerging economies (IMF, 2020b).

Third, even neglecting for a second diverging productive structures in the service industry, Latin American countries have been penalized by "bad" specialization in or participation to global value chains of those industrial sectors that have been hit the most by the crisis. This is the case, for instance, of the oil and energy industry in Colombia. The collapse in the global price of energy products, which only partially rebounded in the second half of 2020, significantly restrained capital accumulation in these oil-dependent economies. A similar line of reasoning applied to Mexico and Brazil for the case of the automotive industry. When looking at trade statistics, trade in the automotive sector declined by almost 20 percent in the first half of 2020. On the contrary, trade in office machines and communication equipment, i.e., staple productive sectors in emerging Asian countries, expanded by around 10 percent (see UN, 2021). In the end, Latin American vulnerability to COVID-19 may be partially attributed to the traditional high dependence on natural resources, energy products in particular, and to a far less developed service sector. In addition, it may also come from the idiosyncratic exposure to the economic implications of the pandemic characterizing the few medium/high-tech Latin American manufacturing industries.

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[8] The high dependence of Latin American economies on contact-intensive non-teleworkable jobs is also due to lack of ICT infrastructures such as access to broadband internet.

[9] The 2021 UN World Economic Situation and Prospects (UN, 2021) notes that trade in high-skill services has increased faster than trade in goods over the last 15 years. Interestingly, the increasing participation of emerging economies to this type of services has mostly concentrated in emerging and newly industrialized Asian countries.

[10] According to Baldwin and Forslid (2020), high-skill services may somehow present similar growth-enhancing properties traditionally attributed to manufacturing.

B. Financial integration, capital inflows and premature de-industrialization in Latin America

The possible role of underdeveloped productive structures in exacerbating the economic implications of COVID-19 brings back structural change and productive development as central goals of any policy aiming at feeding a sustained and sustainable post-Covid recovery. The analysis of available policy options promoting post-Covid transformative recovery first requires the identification of the factors that may have been source of enduring productive backwardness in Latin American countries. In this work, we pay attention to the possible perverse relation between productive development and periods of large capital inflows, volatile portfolio investment first and foremost.

The literature about the causal relation between capital flows and growth in EDE countries is quite abundant. It now shows quite a large consensus among economists that surges in capital inflows, perhaps stimulated by financial liberalization reforms, may eventually increase macroeconomic instability (Taylor, 1998; Kaminsky and Reinhart, 1999; Ocampo *et al*., 2008) whilst paying relatively little, if anything, in terms of faster growth (Ostry *et al*., 2016). The detrimental effects of increased financial integration may not be limited to short-run fluctuations only but extend to medium/long-run dynamics if financial and currency turbulences or full-fledged crises are followed by enduring "balance sheet" depressions, permanent output losses and slack economic recoveries (Cerra and Saxena, 2008, Koo, 2014).

The detrimental effects of periods of large capital inflows on long-run development may well go beyond heightened macroeconomic and financial instability. Indeed, some theoretical contributions (Palma, 2005 and 2014; Ocampo, 2011; Benigno and Fornaro, 2014; Botta, 2017 and 2021) and an expanding body of empirical works (Benigno *et al*., 2015; Bortz, 2018; Botta *et al*., 2022) identify them as possible sources of persistent productive backwardness, finance-led Dutch disease and, eventually, premature de-industrialization[11]. As to the empirical contributions, Bortz (2018) shows that there is a positive correlation between the increase in *gross* capital

[11] According to Rowthorn and Ramaswamy (1997) and Palma (2005) among others, the productive structure of an economy usually follows an inverted parabola trajectory throughout the overall development process. In the early stages of development, the share of manufacturing increases, both in terms of total employment and GDP. At more advanced stages, however, manufacturing contracts, at least in relative terms. This is the expected de-industrialization phase of the whole development process. Premature de-industrialization takes place if such a decline in the economy-wide importance of manufacturing is more pronounced than expected or when it kicks off earlier than expected (at a lower level of per-capita GDP or at a lower "peak" of manufacturing shares themselves) with respect to the historical experience of the advanced economies.

inflows towards some EDE countries and the variation in the contribution of the financial, real estate and commerce sectors to GDP. Benigno *et al.* (2015) find that periods of capital inflows bonanza are associated to the squeeze (at least in relative terms) of manufacturing. More recently, Botta *et al*., (2022) provide empirical evidence that periods of large net capital inflows, portfolio investment and international credit in particular, bear negative effects on manufacturing (relative) contributions to economy-wide GDP and employment[12]. In a way, Botta *et al*., (2022) give empirical validation to the above-mentioned theories about finance-led Dutch disease and complement the previous empirical literature about premature de-industrialization put forward by Tregenna (2009 and 2015) and Rodrik (2016), among others.

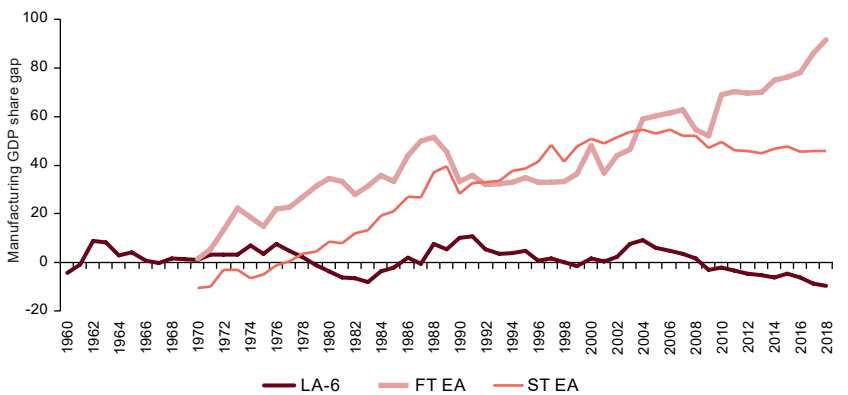
These studies consider a relatively large set of EDE countries that goes well beyond Latin America. Indeed, the application of their analyses to Latin America and/or to other specific regions is complicated by lack of data and insufficient observations. As a consequence of this, econometric findings at regional level often lose statistical significance and part of their empirical solidity (see Rodrik (2016) and Tregenna *et al.* (2021), for instance). This fact notwithstanding, the available evidence for Latin America remains quite robust and indeed suggests that financial integration in the global financial market and the ensuing periods of large capital inflows may have actually contributed to exacerbate regional (premature) de-industrialization. This even the more so in comparison with other emerging and developing countries.

Figures IX.1-IX.4 below offer a comparison of the evolution of the productive structure of the group of the six Latin American countries considered in this study (LA-6) with respect to other emerging or developing regions or countries from 1960 to 2018. In figures IX.1 and IX.3, we compare LA-6 with respect to first-tier (FT EA) and second-tier (ST EA) emerging East Asian countries. The first group is made up by South Korea, Singapore and Taiwan. Indonesia, Malaysia and Thailand compose the latter, instead. Figure IX.1 portrays the evolution of the manufacturing nominal GDP share *gap*. This is the difference between actual manufacturing GDP share and what we would expect according to the "fundamental" sources of industrialization/de-industrialization giving rise to the well-known inverted U-shaped pattern in industrial development (Rowthorn and Ramaswamy, 1997; Palma, 2005; Tregenna, 2009) and estimated in Rodrik (2016). This gap is then presented as a ratio of the "expected" (Rodrik-type) level of manufacturing GDP share. Figure IX.3 presents the same evidence for the manufacturing *employment share*.

[12] Acosta et al. (2009) analyze the possible Dutch disease-like effects of international remittances, while Rajan and Subramanian (2011) study the role of international aid.

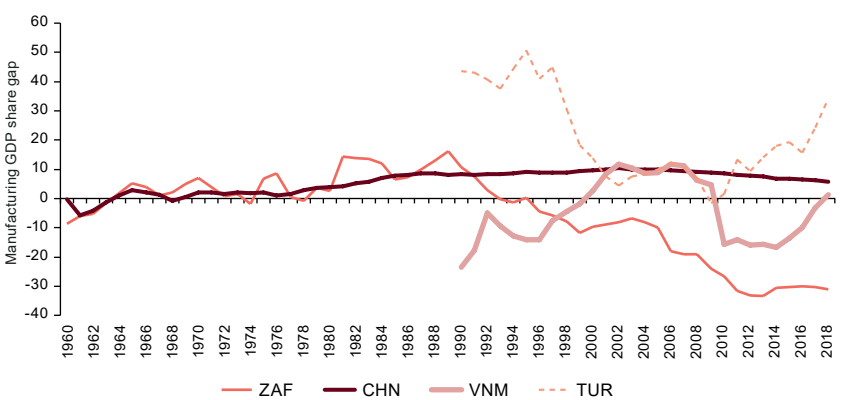
Positive values of these variables stand for levels of manufacturing development that are higher than "normal". Negative values indicate that a process of premature de-industrialization is unfolding. Figures IX.2 and IX.4 portrays the manufacturing GDP share gap and employment share gap respectively for a set of other EDE countries, namely China (CHN), Turkey (TUR), South Africa (ZAF) and Vietnam (VNM), taken as additional terms of comparison.

Figure IX.1
Manufacturing GDP share gap in LA-6, FT EA and ST EA, 1960–2018



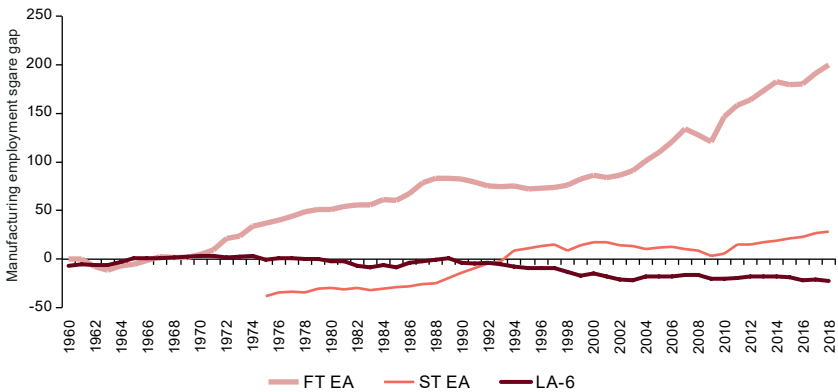
Source: Authors' computations on the basis of data from Groningen Global Development Centre (GGDC).

Figure IX.2
Manufacturing GDP share gap in CHN, TUR, ZAF and VNM, 1960–2018



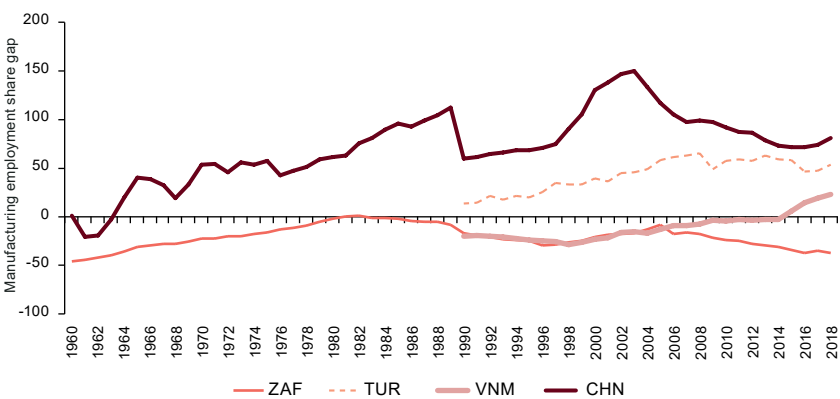
Source: Authors' computations on the basis of data from Groningen Global Development Centre (GGDC).

Figure IX.3
Manufacturing employment share gap in LA-6, FT EA and ST EA, 1960–2018



Source: Authors' computations on the basis of data from Groningen Global Development Centre (GGDC).

Figure IX.4
Manufacturing employment share gap in CHN, TUR, ZAF and VNM, 1960–2018



Source: Authors' computations on the basis of data from Groningen Global Development Centre (GGDC).

Regional differences emerging from Figures IX.1-IX.4 are quite striking. On the one hand, both FT EA and ST EA present upward sloping trends in their manufacturing gaps, which take rising positive values (in some cases, astonishingly so…) in the last three decades. The same applies to China and, to a lesser extent, Turkey. For LA-6, the manufacturing GDP share gap fluctuates through time around zero but, since the second half of the 1970s and, more importantly, in the last decade, it frequently takes

negative values. In the case of the manufacturing employment share gap, LA-6 show a quite stable negative trend since the beginning of the 1990s. This variable has been taking increasingly negative values since then.

More relevantly for our study, periods of large capital inflows to EDE countries and, most notably, Latin American ones, seem to be associated with worsening manufacturing GDP and employment share gaps. Some Latin American countries are amongst the firstcomers of financial liberalization and financial integration in the second half of the 1970s (Diaz-Alejandro, 1985). Surges in net capital inflows also took place in the first half of the 1990s and in the second decade of the 2000s, since 2009 at the very least if not before in some cases (Palma, 2012). LA-6 manufacturing GDP share gap declined and, very frequently, became negative during all these episodes of financial bonanza.

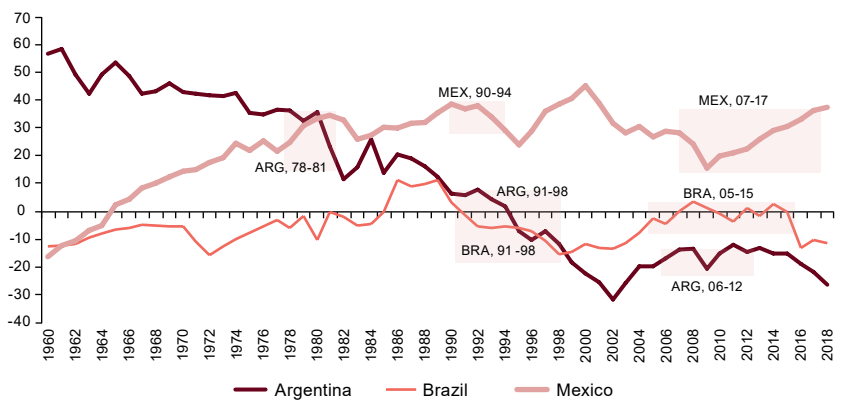
It is perhaps interesting to note that even East Asian countries do not seem entirely immune to the possibly negative effects of periods of financial bonanza on productive development. At least at first sight, they have experienced protracted reductions in the economy-wide importance of manufacturing and/or stagnation in its (relative) capacity to generate employment when they have been at the centre of global capital movements towards EDE countries, i.e., in the first part of the 1990s before the outbreak of the East Asian financial crisis. Consistent with Taylor (1998), episodes of financial booms are very likely associated with the expansion of some non-tradable sectors, the real estate first and foremost, and could actually move countries away, at least in related terms, from tradable manufacturing sectors.

We dig further into the possible negative relation between premature de-industrialization and periods of large capital inflows by looking at specific country case studies. The focus is again on LA-6, FT EA and ST EA countries, now taken individually. For the sake of space, we now concentrate on the manufacturing employment share gap only. This choice is also consistent with Felipe *et al.*, (2019), who identify manufacturing employment (more than output) as the most prominent indicator and proxy for economic development (or enduring backwardness).[13]

[13] Tregenna (2009) rightly observes that a proper analysis of de-industrialization should consider the evolution of sectorial employment shares together with empirical evidence about output. Indeed, a reduction in the manufacturing employment share should be interpreted differently if it comes together with positive growth in manufacturing output (and even the more so if the manufacturing GDP share increases) with respect to a scenario where both employment and output decline. In the first case, diverging dynamics between employment and output could be explained by technological progress and rising manufacturing productivity, so that it might actually be inappropriate to talk about de-industrialization. The fact that, in this part of our work, we focus on the evolution of the manufacturing employment share only remains nonetheless consistent with Tregenna (2009). First, we focus on the manufacturing employment share gap. This is the evolution in the manufacturing employment share that differs from what would be expected given "natural" structural changes in the economy taking place all along the whole development process. Second, this part of the study should be considered as integrated with the previous analysis about manufacturing contribution to GDP. Structural differences between Latin America and Asia stand out very clearly.

Figure IX.5 portrays changes in the manufacturing employment share gap in the three largest Latin American economies, i.e., Argentina (ARG), Brazil (BRA) and Mexico (MEX). Figure IX.6 shows data for Chile (CHL), Colombia (COL) and Peru (PER). In Figure IX.7, we focus upon South Korea (KOR), Singapore (SGP) and Taiwan (TWN). Figure IX.8, finally, shows the cases of Indonesia (IDN), Malaysia (MYS) and Thailand (THA). In all figures, we highlight periods of large capital inflows (grey areas) as defined and detected in Botta *et al*., (2022).[14] Three points are worth stressing.

Figure IX.5
Manufacturing employment share gap and financial bonanza in ARG, BRA and MEX, 1960–2018



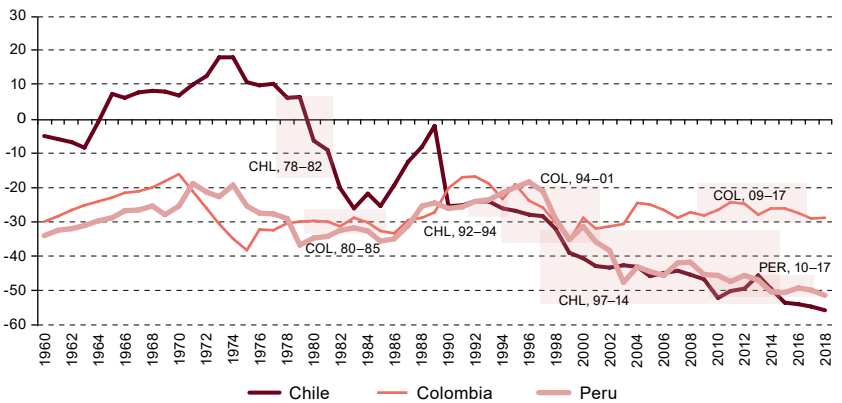
Source: Authors' computations on the basis of data from GGDC and ECLAC.

First, the quite long-time span covered by Figures IX.5-IX.8 enables us to identify two well distinguished development patterns between Latin America and East Asia. With the exception of Mexico, most of the time Latin American countries presented manufacturing gaps that were *negative* (Brazil, Chile, Colombia, Peru and, since mid 1990s, Argentina), positive *but declining* (Argentina before mid 1990s), or a *mix* of both (Argentina and Chile in the last two decades). "Active" industrial policies in the 1960s and in the 1970s may have temporarily contributed to compensate for the

[14] Botta et al., (2022) look at non-FDI net capital inflows (namely portfolio investment and international banking credit) and define periods of financial bonanza as those that simultaneously fulfil three different criteria: (i) net non-FDI capital inflows are not negative or equal to zero; (ii) net non-FDI capital inflows show positive values for at least three years consecutively; (iii) the sub-period average is higher than the full-period country-specific average adjusted (increased) by ten percent of one standard deviation. Despite this definition is somehow arbitrary (as it is in any event identification-based study), it nevertheless captures all the major episodes of large capital inflows already tracked by the economic literature for the set of countries considered in their study: financial booms in Latin America and in East Asia at the very beginning of the 1980s (Latin America) or in 1990s (Latin America and East Asia); pre-2007 large capital inflows to peripheral eurozone countries; international capital surge towards EDE countries in the second part of the 2000s.

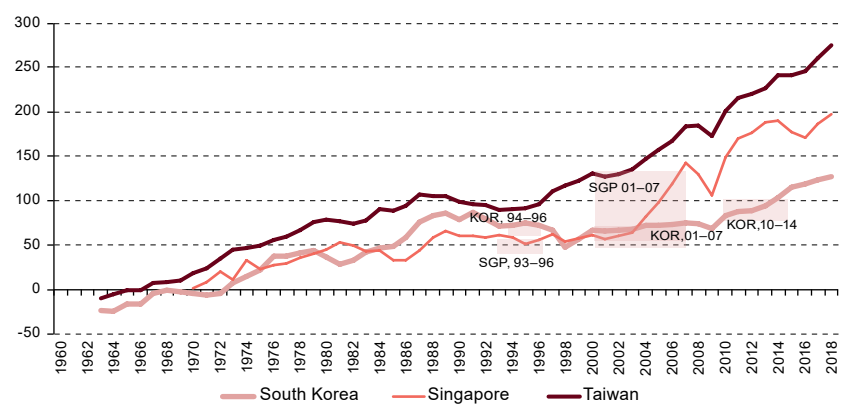
sub-dimensioned size of domestic manufacturing by encouraging domestic substitution for imported goods (see, for instance, Chile before 1973 and Brazil between 1974 and 1978).

Figure IX.6
Manufacturing employment share gap and financial bonanza in CHL, COL and PER, 1960–2018



Source: Authors' computations on the basis of data from GGDC and ECLAC.

Figure IX.7
Manufacturing employment share gap and financial bonanza in KOR, SGP and TWN, 1960–2018

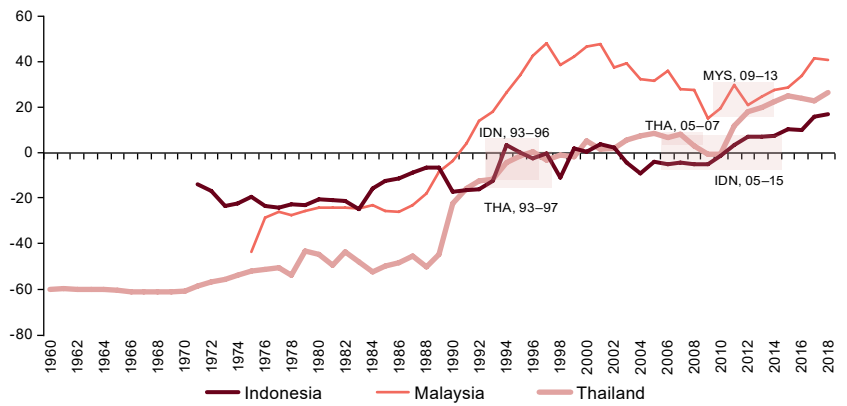


Source: Authors' computations on the basis of data from GGDC and ECLAC.

The switch to neoliberal policies since 1980s, instead, may have prompted a further "relative" downsizing of domestic manufacturing. Mexico is the noteworthy exception to this, as its productive structure went through a considerable shift towards (maquila-based) manufacturing

after Mexican integration in the North American Free Trade Agreement (NAFTA). Given these general trends, periods of large capital inflows may have *accelerated* or *exacerbated* the process of premature de-industrialization in Latin America (see more on this below). The picture related to East Asian countries is somehow opposite.

Figure IX.8
Manufacturing employment share gap and financial bonanza in IDN, MYS and TWN, 1960–2018



Source: Authors' computations on the basis of data from GGDC and ECLAC.

All East Asian countries started with negative manufacturing (employment) gaps, which however followed a long-term *positive* trend over time and became positive thereafter. Malaysia and Thailand now present manufacturing sectors, whose size is comparable to the Mexican one. In FT EA countries, their *positive* manufacturing employment share gap ranges from being about two times (see South Korea) to more than six time larger than that of Mexico.

Second, the actual share of manufacturing employment and, as a consequence, the manufacturing employment *gap* seem to move pro-cyclically. In general, the manufacturing employment gap worsens during major domestic and/or "imported" international economic crises. It may improve, instead, during periods of strong domestic or worldwide economic growth, also depending on the capability of the economy of benefitting from upward phases in global business cycles.

This seems to be a common pattern among Latin American and East Asian countries. See, for instance, the dramatically negative values taken by the manufacturing employment gap in Argentina at the heights of the Argentinian crisis at the beginning of the 2000s (figure IX.5), the case of Mexico in 1995 *after* the outbreak of the "Tequila" crisis (figure IX.5), or the

downswing observed in East Asian economies in correspondence of the 1997 East Asian crisis (figures IX.7 and IX.8). Alternatively, see "relative" throats in the manufacturing employment share gap recorded in most if not all the economies, Latin America and East Asia alike, at about the time of the 2007-2008 financial crisis. Latin American economies, however, also present some noteworthy exceptions to such a stylized fact.

Take the case of Mexico at the beginning of the 1990s *before* the "Tequila" crisis. In that period, up until the end of 1994, large portfolio inflows contributed to boost Mexican growth, at least with respect to economic stagnation during the "lost decade" of the 1980s (Krugman, 1999). Yet, manufacturing employment share contracted quite substantially, and the manufacturing gap decreased by almost 15 percentage points even in a fast-growing economy. We can observe very similar structural dynamics in expanding economies in about the same period in Brazil and Argentina, as well as in Chile and Colombia. Even before that, Chile experienced a sizable contraction of the manufacturing employment share and worsening manufacturing gaps during the short-lived foreign capital-led economic boom it went through at the end of the 1970s and the beginning of the 1980s. Indeed, Chile is usually considered a frontrunner of financial integration among EDE economies. In that period, very large capital inflows (international credit in particular) fueled Chilean economic rebound after painful neoliberal reforms were introduced by the military junta in 1974 and 1975. It is however quite clear that large capital inflows did not target the development of domestic manufacturing but pushed for the relative (likely unsustainable) expansion of other sectors, as they also seem to be doing since 1997 on.

Third, the effects of periods of large capital inflows on the structural features of East Asian countries seem to be somehow different than that experienced by Latin American economies. In the case of South Korea and Singapore, in the 1990s, abundant capital inflows did not contribute to the relative expansion of manufacturing employment share and may have actually counteracted it, at least partially (figure IX.7). Nonetheless, they did not permanently reverted East Asian manufacturing development. At the very least, they do not seem to be correlated with the "unexpected" (in the, say, Rodrik-type sense of the term) squeeze of manufacturing observed in Latin American economies. In ST EA countries, surges in capital inflows were associated to quite steep initial increases in the importance of manufacturing that flattered out or partially reverted thereafter (figure IX.8).

These different regional patterns may be partially explained by the asymmetric way through which surges in capital inflows influenced consumption and investment in Latin America and Asia, respectively. Whilst abundant capital inflows gave rise to a temporary consumption-led economic boom in the former region, investment was the demand

component that benefitted the most from larger external finance in Asia (Calvo *et al*., 1996). Following Cimoli *et al*., (2020), the two regions also differed as to the role played by "active" industrial and "developmental" macroeconomic policies in the context of a general process of financial liberalization. After 1982 (and even before in the case of Chile and Argentina), most Latin American countries adopted a "shock therapy" approach according to which financial liberalization was implemented together with the dismantling of active industrial policy. In East Asian countries, instead, increasing liberalization of trade and financial flows notwithstanding, national governments kept "new developmentalist" industrial and macroeconomic policies well in place (Bresser-Pereira, 2012). They actively kept on pursuing the development of high-tech tradable sectors and tried to tame finance-led appreciations in the real exchange rate that could harm productive development. Indeed, "the effects of financial shocks crucially depend on the country's combination of macroeconomic and industrial policies" (Cimoli *et al*., 2020, p.1).

The above-mentioned differences in the type of institutions and policies accompanying (and perhaps contrasting) the effects of financial liberalization may help to explain why large capital inflows may have affected manufacturing development differently in Latin America and East Asia in the 1990s. By the same token, the (partial) rediscovery of (some) industrial policy tools in Latin America (see Cimoli *et al*., 2020), together with increased awareness about long-run effects of exchange rate appreciation, may have led Latin American governments to more actively contrast the perverse structural implications of large financial inflows, in the 2000s. In East Asian countries, periods of large capital inflows did not seem to revert such long-run trends, which are likely rooted in the different type of industrial and macroeconomic policies followed in East Asia with respect to Latin America (Ocampo and Porcile, 2020).

We complement the descriptive analysis carried out so far and, at the same time, circumvent the problem of missing data at regional level by aptly modifying the econometric study carried out in Botta *et al*., (2022). More specifically, in this study we adopt a more comprehensive definition of net capital inflows that does not focus on volatile portfolio investment and international credit only (these sub-components of capital flows are often not available). Following Benigno *et al*., (2015), we now indirectly measure net *total* capital inflows as given by the difference between the current account balance and the variation in central banks' holdings of foreign reserves. According to Balance of Payments' (BoP) accounting principles, this corresponds to the overall finance account balance (the capital account included…) of the BoP.

This measures obviously includes FDI, which may have different motives (at least as to greenfield FDI) and different dynamics (see Krugman (2000) about "fire-sale" FDI) with respect to portfolio investment

and international credit. Nonetheless, aggregate capital inflows may still mimic, at least partially, the volatility and the booms-and-bust dynamics characterizing the latter. This may allow us to capture periods of *unusually* abundant capital inflows anyway. Equation (1) below formally describes our empirical investigation when the above-mentioned *extended* capital flow measure is plugged into the regression analysis carried out by Botta *et al*., (2022):

$$y_{i,t} = \beta_0 + \beta_1 x_{i,t} + \beta_2 x_{i,t}^2 + \beta_3 pop_{i,t} + \beta_4 pop_{i,t}^2 + \beta_5 FA_{i,t} + \beta_6 topen_{i,t} + \beta_7 g_{i,t}^{ROW} + \beta_8 r_{i,t}^{NR} + \epsilon_{i,t} \quad (1)$$

In Equation (1), $y_{i,t}$ stands for the manufacturing employment share in country "i" at time "t". On the right-hand side of equation (1), $x_{i,t}$ is the level of real per-capita GDP, whilst $pop_{i,t}$ is the level of population. Following Rodrik (2016), both factors, taken in square terms, are meant to capture the structural factors behind the evolution of manufacturing employment share through time.

$FA_{i,t}$ stands for "our" extended net capital flows variable. Along with such financial variable, equation (1) also includes a series of additional control explanatory factors. $topen_{i,t} = (exp + imp)/GDP$ measures the degree of trade openness characterizing an economy. It is defined as the ratio of exports (*exp*) plus imports (*imp*) over GDP. $g_{i,t}^{ROW}$, in turn, is the rate of growth of the Rest of the World (ROW). Finally, $r_{i,t}^{NR}$ is the share of natural resource rents over GDP as measured by Lange *et al.,* (2018). By using these control variables, we seek to capture the effects of other forces that contribute to shape the pattern of specialization, besides liquidity cycles in the international financial system.

Table 1 below reports the outcome of our analysis once applied to the set of developing regions considered in Botta *et al*., (2022).[15]

If we focus our attention on the effects of net capital flows over the manufacturing employment share, this is unexpectedly positive but very small and insignificant in the case of EDE Asian economies. This result, however, could be partially distorted by the peculiar case of China, which has traditionally implemented discretionary tight restrictions to most volatile capital movements (Ma and McCauley, 2008) and, at the same, has emerged as the factory of world manufacturing. When we remove China from this sample of countries, the sign of this effect becomes negative and its magnitude increases, even though it remains statistically insignificant. Similar result also holds for Africa.

[15] EDE regions considered in our study are organized as follow. EDE Asian countries include China Hong Kong, India, Indonesia, Malaysia, Philippines, South Korea and Thailand. Latin America is formed by Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Mexico, Peru and Venezuela. Africa is made up by Botswana, Egypt, Ghana, Kenya, Mauritius, Nigeria, Senegal, South Africa and Tanzania.

Table IX.1
Manufacturing employment share and financial bonanza in selected EDE regions, 1980–2017

Dep. variable: manufacturing employment share Explanatory variables:	EDE Asian countries	EDE Asian countries (excluding China)	Latin America	Africa
GDP per capita	0.000403***	0.000410***	0.000898***	0.00113***
	(9.76e-05)	(9.31e-05)	(0.000266)	(0.000338)
GDP per capita, squared	-6.34e-09***	-6.60e-09***	-3.53e-08***	-4.51e-08**
	(1.38e-09)	(1.31e-09)	(1.08e-08)	(1.85e-08)
Population	-9.96e-06**	-9.57e-06***	5.65e-05***	4.93e-06
	(4.73e-06)	(3.46e-06)	(1.71e-05)	(3.57e-05)
Population, squared	0**	0***	-2.88e-10***	-1.04e-10
	(0)	(0)	(8.24e-11)	(2.33e-10)
Net capital flows	**0.000474**	**-0.00107**	**-0.0405*** **	**-0.00498**
	(0.0121)	(0.0122)	(0.0130)	(0.00668)
Trade Openness	0.0173***	0.0187***	-0.00589	-0.00388
	(0.00430)	(0.00421)	(0.0102)	(0.00707)
GDP growth rate of ROW	0.00689	0.00270	-0.000532	0.00473
	(0.00907)	(0.00895)	(0.0101)	(0.00556)
Total natural resources rents (% of GDP)	-0.0258	-0.0499	0.00767	0.00742
	(0.0341)	(0.0331)	(0.0186)	(0.0263)
Constant	10.88***	10.85***	6.781***	6.014***
	(1.230)	(1.130)	(1.612)	(1.125)
Observations	295	259	327	278
R-squared	0.512	0.588	0.612	0.318
Number of c_id	8	7	9	11

Standard errors in parentheses: *** p < 0.01; ** p < 0.05; * p < 0.1

Source: Authors' own elaboration.

More importantly for the same of our study, table IX.1 reports a strong and statistically significant negative effect of large capital inflows over manufacturing employment in the case of Latin America. Indeed, this result seems to confirm, once more, the peculiarities characterizing Latin America as to its integration in the global financial markets and the "perverse" implications on regional productive development.

C. International capital flows, structural change and premature de-industrialization: the role of (external) macroprudential policy for post-COVID-19 transformative recovery

Periods of large capital inflows in EDE countries have been usually described as following boom-and-burst patterns. Frenkel and Rapetti (2009) stress how these episodes tend to present typical Minskyan features, albeit in a different way with respect to advanced economies. In their

view, *exogenous* events such as changes in the domestic (macroeconomic) policy paradigm (say the move to trade liberalization, financial integration and neoliberal policies in the 1990s) or in the prevailing conditions in international financial markets (changes in FED's monetary policy, for instance) are the main triggers of unstable phases of financial euphoria in EDE countries. This point by Frenkel and Rapetti (2009) has many things in common with increasingly acknowledged exposure of EDE countries to global financial cycles (Rey, 2018) or "push" factors.

The most recent and perhaps unusually long period of large capital inflows to EDE countries that started in the 2000s, and in the aftermath of the last financial crisis in particular, did not prompt any initial *acceleration* in the growth process of recipient economies, Latin American ones at least. If we look at the six Latin American economies considered so far, all of them actually experienced a decline in the average growth rate after the start of the episode with respect to mean growth in the three years before. This is quite a substantial difference with respect to the 1990s, during which financial booms effectively gave rise to remarkable but short-lived growth spells in all the six economies but Colombia.[16] To some extent, following Erten and Ocampo (2016), this might be the appreciable result of Latin American economies being more capable to tame finance-led macroeconomic instability thanks to the reconsideration and re-introduction of capital controls dismantled before.

Despite an initial finance-led growth boom did not take place in the 2000s and the burst is yet to come, relevant similarities between the current episode of large capital inflows and the previous ones are still worth noticing. First, current financial (and economic) dynamics continue to be strongly influenced by external factors. After 2008, abundant liquidity from central banks in advanced economies via repeated rounds of quantitative easing and the drop in international interest rates significantly contributed to originate the surge in international capital.

This view is reinforced by financial flights observed in 2020. On the one hand, the outbreak of the pandemic and the increase in perceived global risk explain most of the deepest post-2008 reversal in capital flows and peak in JP Morgan EMBI experienced by Latin American and other EDE countries in the first quarter of 2020 (IIF, 2020a and 2020b; ECLAC, 2021). On the other hand, bold reactions by leading monetary institutions helped to ease external financial constraints to "peripheral" countries (read a downward

[16] A very preliminary analysis of growth dynamics in the 2000s for the six Latin American economies at stake reveals that they all scored negative values in the *difference* between average real GDP growth rate during the last recorded period of large capital inflows (see Table A.4) and average growth in the three years before the start of the episode. Data are as follows: Argentina (-4.58); Brazil (-0.45); Chile (-2.68); Colombia (-1.96); Mexico (-1.50); Peru (-1.38). When we look back to the 1990s, the picture is almost opposite: Argentina (+9.37); Brazil (+2.85); Chile (+0.31); Colombia (-2.04); Mexico (+1.75); Peru (+4.94).

swing in the EMBI) in the second half of the last year, and to resuscitate capital inflows, although on a relatively weak basis, in Latin America in particular, with respect to the post-2008/2009 rebound (IIF, 2020a and 2020b). Second, Following Chui *et al*., (2016) and Pérez Caldentey *et al*., (2019), Latin American and other EDE countries non-financial corporations have taken advantage of enduring favorable international financial conditions to raise cheap external funds in foreign currency. In doing this, however, their balance sheet has become more vulnerable to currency mismatch and exchange rate fluctuations (read depreciations). In Latin America, non-financial corporations have increasingly moved towards fragile speculative or "Ponzi" financial positions (see Perez-Caldentey *et al*., (2019)). In the end, stability may continue to breed instability, very much in line with Minsky.

Finance-led instability, together with possible perverse sectorial effects of large capital inflows, bring capital controls and (external) macroprudential policy back to the center of the economic debate. Indeed, mainstream economic theory has made a quite remarkable U-turn in its view about capital flows management (CFM) measures. Since the 1970s up to the 1990s, there was widespread consensus about the virtues of financial integration, and about economic and efficiency gains that could be reaped by lifting restrictions to capital mobility. Since the beginning of the 2000s, and even the more so after the 2007-2008 financial crash, several mainstream economists reconsidered the usefulness of regulatory and/or market-based limits to unfettered capital flows (Klein, 2012). In a similar vein, the literature trying to empirically assess the effectiveness of these measures have been flourishing in the last decade or so.

Ostry *et al*., (2012) provide a useful classification of the various instruments available in the CFM toolkit. For instance, they distinguish between capital (inflow) controls and "*external*" FX-related macroprudential policies. The first type of measures looks at residency of actors as "discrimination" criteria for limiting financial transactions between them. External FX-related macroprudential regulation, instead, may restrict the accumulation of certain financial assets or liabilities depending on the currency they are denominated in whatever is the residency of actors involved. The two set of policies, although conceptually different, may de facto overlap each other as to the goals the pursue (ex: reducing financial instability caused by external borrowing in foreign currency); in the variables they influence (ex: the exchange rate and foreign indebtedness); in the phenomena they try to control (ex: domestic credit booms fueled by foreign capitals).[17] Similar overlaps

[17] See Mendoza and Terrones (2008), among many others, about the strong association between capital inflows and credit booms in EDE economies in particular.

also exist between capital controls and the broader range of internal macroprudential measures (Rey, 2018) to the extent that limits to, say, domestic lending may eventually dampen foreign borrowing.

The empirical evidence about the effectiveness of these measures is mixed. Klein (2012), for instance, tend to downgrade the role of CFMs. In his view, neither long-standing capital controls ("walls") nor episodic restrictions ("gates") seem to have relevant effects on domestic financial variables, although they may reduce surges in gross capital inflows. Other contributions, however, present quite opposite results. Ostry *et al*., (2012), for instance, find that capital controls and FX-related macroprudential measures do not change the overall amount of gross capital inflows. Nonetheless, they modify their composition away from debt instruments (and towards equities) and reduce the relevance of FX-denominated credit in domestic lending.

Both facts are taken as evidence of strengthened financial solidity. Forbes et al., (2015) reach similar conclusions. In their study, capital controls and external macroprudential policies do not seem to prevent in a significant and consistent way surges in capital inflows and exchange rate appreciations. Yet, they may tame domestic credit booms and reduce domestic financial fragility (as captured by increases in domestic banks' leverage and credit provision). Baumann and Gallagher (2015) make a comparative analysis of the relative effectiveness of CFM measures implemented in Brazil with respect to interventions in the FX market adopted in Chile in response to foreign capital surges between 2009 and 2013. They find that Brazil was more successful than Chile in controlling the level and the volatility of the exchange rate. Brazilian CFMs also induced a change in the term structure of foreign capitals, longer-term flows getting relative more importance that speculative short-term ones. Ahnert *et al*., (2021) note that FX-related macroprudential policies tend to reduce financial sector and aggregate economy-wide exposure to exchange rate risk, even though this is partially moved to the non-financial corporate sector. Erten and Ocampo (2016), finally, claim that, once the problem of endogeneity is properly considered in econometric analyses[18], then capital controls and external macroprudential policy stand out as effective measures against sources of macroeconomic instability, namely appreciation of the real exchange rate and foreign currency "pressures".[19]

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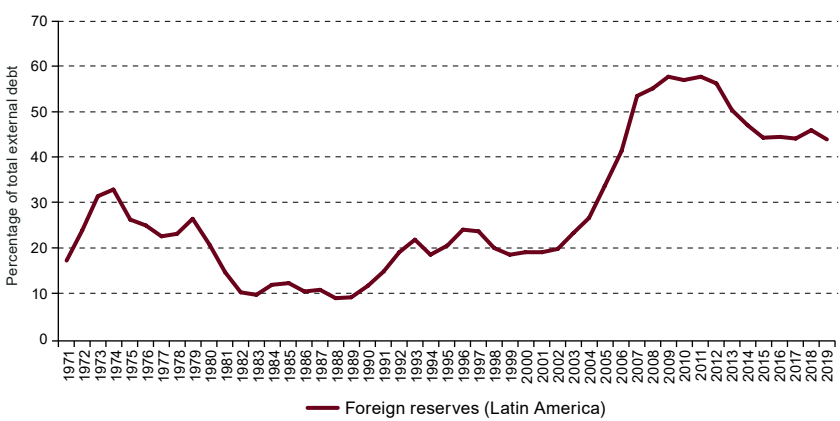
[18] Indeed, whilst capital controls and external macroprudential policies may influence capital inflows, they often emerge as *endogenous* policy responses to surges in foreign capitals themselves. Neglecting this endogeneity issue might generate a downward bias in the estimated effects of the former over the latter.

[19] Erten and Ocampo (2016) measure foreign exchange "pressures" as a weighted average of real exchange rate appreciations and accumulation of foreign reserves. In their view, this could capture the extent by which domestic monetary institutions might have to intervene in financial markets to manage the "external channel" of money creation and its implications in terms of exchange rate and inflation dynamics, as well as liquidity expansion.

This work does not aim at contributing to such an empirical debate. The provision of new empirical evidence about the relation between capital controls, external macroprudential policy, and macroeconomic and financial instability goes well beyond our goals. Nonetheless, we want to spot two ways through which, from a theoretical point of view, external macroprudential policy may also address the long-term sectorial consequences of periods of large capital inflows.

(i) External macroprudential policy, foreign reserves and monetary policy independence: Since the beginning of the 2000s, increasing concern about foreign capital-led appreciations in the nominal and real exchange rate has led EDE countries to accumulate large amounts of foreign reserves. Monetary institutions in Latin American countries do not make an exception despite they switched to more flexible (free floating or managed) exchange rate regimes than in the 1990s. Figure IX.9 below documents the unprecedent increase in the stock of foreign reserves (as a percentage of total external debt) held by Latin American countries in the 2000s.

Figure IX.9
Stock of foreign reserves (as percentage of total external debt), Latin America, 1971–2019



Source: World Bank.

Large stock of foreign reserves can certainly enable EDE countries to better control the exchange rate, in particular to prevent exchange rate crises during periods of financial turbulences. Nonetheless, they may imply non negligible implicit or explicit costs. First, following Akyüz (2021), there is a negative income transfer from EDE countries to developed ones due to differences in the yields on their respective foreign investments.

Whilst foreign reserves of EDE countries are usually invested in low-yield safe assets issued by developed countries (US Treasury bonds or bills, for instance), investors from developed countries purchase much more remunerative liabilities of EDE countries. Second, the accumulation of foreign reserves comes with intrinsic contradictions. When accumulating foreign reserves, domestic monetary authorities expand domestic liquidity. Despite the *nominal* exchange rate may be under control and appreciations avoided, domestic inflation may accelerate and lead, in one way or the other, to uncompetitive *real* exchange rates.

The accumulation of foreign reserves may reduce financial instability but may be quite ineffective in avoiding the crowing out of non-traditional tradable sectors that could originate from real exchange rate appreciations. Alternatively, central banks in EDE countries may sterilize the extra liquidity created via the external channel by selling domestic bonds in open market operations. This way, however, yields on domestic public bonds will increase and the space for active expansionary fiscal policy narrow. Possible constraints to fiscal policy become even more worrisome in the present context in which expansionary fiscal measures, public investment in particular, may play a leading role in feeding transformative post-Covid recovery.

External macroprudential policies that discourage external borrowing in foreign currency may be very useful tools to reduce the "subtle" costs of large holdings of foreign reserves. Consistent with Erten and Ocampo (2016), they may weaken pressures on the appreciation of the nominal (and therefore real) exchange rate. This will in turn allow domestic monetary authorities to take milder positions in the FX market, to reduce average holding of foreign reserves, and to avoid the adoption of sterilization measures. Following Rey (2018), all this may permit domestic monetary policy to become more independent from global financial cycles.

This is even the more so if external macroprudential policies also enable EDE economies to more easily adopt *managed* exchange rate regimes by lowering the scale of international capital flows. Indeed, managed exchange rate regimes seem to perform better than fixed and free-floating ones in reducing the sensitivity of domestic credit and housing prices to global financial shocks (see Obstfeld *et al*., 2018), hence strengthening financial stability. In a similar vein, managed exchange rate regimes may soften the "original sin redux" and dwindle foreign investors' reactions to swings in the exchange rate (Hofmann *et al*., 2021) by dampening exchange rate volatility itself. In the end, once reduced the vulnerability to global financial shocks, domestic monetary authorities may gain wider margins of maneuver for pursuing "developmentalist" goals. National strategies

for post-Covid sustainable recovery, in particular, could contemplate more independent monetary policies that more easily *accommodate* the implementation of ambitious publicly financed recovery plans putting emphasis on public investment, public (social and physical) infrastructures and, eventually, structural change.

(ii) Sector-specific external macroprudential policy: Whilst point 1 somehow refers to the "pure" macroeconomic implications of external macroprudential policies, the designing of such measures should also take explicitly onboard the sectorial effects of large capital inflows. Other way around, regulatory or market-based restrictions to financial integration should pay attention to which sectors are mostly affected by inflows of foreign funds, either directly via foreign investors' purchases of home securities or intermediated by the domestic financial system.

From the point of view of productive development, it makes a difference whether foreign funds fuel housing booms in the domestic real estate, whether they finance the expansion of the domestic service industry, or whether support productive investment in the non-traditional (say, non-natural resource) tradable sector. Consistent with this view, external macroprudential policies should impose restrictions to foreign capitals that differ from sector to sector. Consider (non-interest bearing) deposit requirements or direct taxes levied on foreign borrowing, for instance. On the one hand, these measures should become tighter when foreign debt is denominated in foreign currency. On the other hand, they should foresee and apply tougher "penalty" rates on foreign borrowing by corporations in the non-tradable sector with respect to companies in the non-traditional tradable one. In a similar fashion, given foreign currency-denominated debt of the domestic banking system, macroprudential policy should discriminate against credit to non-tradable industries and favor banks' loans to activities that are capable to generate "hard currency" revenues.

The purpose of sector-specific differential external macroprudential measures is twofold. First, consistent with the primary goal of broader macroprudential regulation, additional restrictions imposed at sectorial level may further concur to reduce economy-wide currency mismatches and tame financial instability when perceived global risk and exchange rate volatility increase. Second, they go beyond avoiding excessive external borrowing, and try to influence the *allocation* of collected funds with the aim of creating a more diversified technologically advanced productive system with stronger export capacity. On the one hand, by doing this, industry-specific measures explicitly tackle and try to counteract the perverse squeeze in tradable activities that large capital inflows may prompt via Dutch disease-like mechanisms. On the other hand, they

recognize and try to embed in concrete policy actions the fact that the accumulation of technological knowledge and the diversification of the productive system may be the ultimate necessary conditions for macroeconomic stability (Chang and Lebdioui, 2020). It is perhaps not by chance that, from an historical point of view, higher export orientation and more advanced industrialization in East Asia than in Latin American made the former mostly immune to external debt crisis in the 1980s (Sachs, 1985) and quicker in post-crisis recoveries thereafter. The latter, instead, was at the epicenter of the crash in 1982 and has continued to suffer from more acute recurrent financial and economic instability since then.

Given these general guidelines, table IX.2 offers a list of possible policy measures pursuing the two main goals mentioned above. We first recommend the implementation of *quantitative limits* to external borrowing that should be applied *horizontally* throughout the entire economy. They could take the form of ceilings imposed to firms' external debt-own fund ratios or to the debt service ratio (as a percentage of profits). Such limits are meant to avoid speculative/Ponzi financial positions to emerge at firm level and unstable Minskyan cycles to unfold at macro level. In doing so, they may contribute to reduce "foreign currency pressures" and provide domestic institutions with more leeway in the control of the exchange rate, the management of foreign reserves and the implementation of monetary policy.

Table IX.2
Economy-wide and sector-specific capital control and external macroprudential policy measures

Economy-wide horizontal measues		
Measure	Target variable	Main purpose
Quantitative limits to external borrowing	External debt/own fund ratio Debt service ratio	1. Tame Minskyan cycles
		2. Reduce "foreign currency pressure"
		3. Create more leeway for FX control and autonomous monetary policy
Sector-specific measures		
Measure	Target variable	Main purpose
Sector-specific reserve requirements on foreign borrowing	Relative costs of foreign borrowing	1. Contrast Dutch disease effects of capital inflows
		2. Direct external funding towards non-traditional tradable sectors
		3. Discourage overexpansion of non-tradable sectors
		4. Reduce currency mismatch
Sector-specific taxation of portfolio capital inflows	Financial returns/capital gains	1. Squeeze returns/capital gains on short-term investment
		2. Tame stock exchange/real estate bubbles

Source: Authors' own elaboration.

The design of quantitative limits to international borrowing should adopt a broad definition of external debt. They should obviously discourage the (excessive) issuance of foreign currency-denominated corporate bonds. Nonetheless, they should also target bonds denominated in domestic currency and purchased by international lenders. Indeed, both types of transactions and the connected capital inflows can cause the appreciation of the exchange rate and Dutch disease-like phenomena.[20] On top of this, such a comprehensive definition may help to address the "original sin redux": who owns the debt, foreign or domestic creditors, also matters as much as the currency of denomination does.

Quantitative limits to external debt should pay attention to the residency of the actors involved in financial transactions (rather than their nationality). This criterion aims at impeding legal practices that may enable counterparts to circumvent capital restrictions. For instance, quantitative limits should apply to, say, "*internal*" transactions between domestic branches and off-shore subsidiaries of a company that may have been set with the (hidden) purpose of escaping capital controls. By the same token, they should be levied upon local subsidiaries of foreign companies that may collect foreign funds via their headquarters and subsequently intermediate them in the domestic economy.

Restrictions to external funding should be better conceived as permanent "walls" rather than temporary "gates" so as to avoid untimely implementations due to the complex identification of upswing and downswing phases in financial cycles. Given a permanent base, "walls" can nevertheless be progressively raised whenever factors causing surges in capital inflows become more prominent. According to the literature about global financial cycles, policy makers in EDE countries should primarily pay attention to global push factors. It is time for tougher quantitative restrictions to foreign debt when foreign monetary policy becomes strongly expansionary, unconventional monetary measures are at work and/or liquidity overflows in the center of the global financial system. A large and widening positive gap between the domestic policy rate and that prevailing in international markets or the VIX index constitute natural indicators policy makers may look at to determine updates in quantitative limits to foreign borrowing.

The second set of measures reported in table IX.2 are meant to explicitly and directly address the long-term productive and sectorial implications of periods of large capital inflows. The general goal here is

[20] In the case of foreign currency-denominated bonds, "foreign currency pressures" may materialize *ex-post* when domestic borrowers try to convert foreign currency into the domestic one. In the case of domestic currency-denominated bonds, such pressures may emerge ex-ante when foreign creditors purchase domestic currency in the FX market in order to then purchase assets denominated in that same currency.

to channel external funds, when admitted according to economy-wide quantitative restrictions, to those sectors that can generate "hard currency" revenues by exporting non-traditional tradable goods and services, rather than non-tradable sectors whose foreign indebtedness is source of currency mismatch. For instance, these measures may try to tame bubbles in the real estate that are fueled by foreign capitals, whilst favoring investment in new activities producing tradable goods and services.

The measures at stake are complementary to the quantitative limits we have just discussed. Given their goals, they should be modulated according to different levels of tightness and intensity among different sectors. In table IX.2, we suggest the adoption of *sector-specific* reserve requirements on foreign borrowing that implicitly increase the relative costs of foreign borrowing (with respect to internal borrowing), and even the more so in the case of non-tradable sectors. Measures at sectoral level may also include the imposition of differentiated tax rates on returns to short-term portfolio investment. More specifically, we think about the taxation of capital gains on investment in equities that may fuel bubbles in the financial sector or, again, in the real estate. Following Taylor (1991), this is far from being an unknown event in the history of EDE countries, in particular in the aftermath of the privatization of strategic state-owned companies. These measures may contribute to "neutralize" possible destabilizing feedbacks between asset price inflation and debt accumulation (Taylor and Rada, 2008), and reduce, at least partially, the long-term (productive) distortions that even temporary episodes of financial frenzy may bring about.

D. Conclusions

In this chapter, we document the perverse effects that net capital inflows may bring about long-run productive development in Latin America in comparison to other developing regions of the world economy. More specifically, we document how large capital inflows may have been source of premature de-industrialization in a group of six Latin American countries (LA-6: Argentina, Brazil, Chile, Colombia, Mexico and Peru) by exacerbating (anticipating) the squeeze of manufacturing GDP and employment share in the productive structure of those economies. More than this, we also notice that heterogeneity exists among EDE countries. Indeed, premature de-industrialization is far ahead on its way and the detrimental effects of large capital inflows appear significantly stronger in LA-6 countries than in emerging Asia economies.

The economic effects of COVID-19 seem to be particular harsh in those EDE countries, Latin American ones in particular, characterized by relatively weak and poorly diversified productive structures that largely

depend on natural resource exports, participate to low-skill intensive stages of global value chains, and did not develop high-skill intensive tradable services in the last decades. On the one hand, this evidence seems to suggest that any national strategy for post-Covid sustained and sustainable recovery should put structural change and productive development at the core of its agenda. On the other hand, it may strengthen even further increasing recognition by economic literature that capital flow management measures (CFMs) may not only improve overall macroeconomic and financial stability of EDE economies, but also bear positive consequences for their long-run development trajectory by counteracting perverse Dutch disease-like phenomena triggered off by periods of financial bonanza.

External macroprudential measures may do this by enabling EDE economies, Latin American ones first and foremost, to reduce the implicit costs of large foreign reserves' holdings, to more easily adopt managed exchange rate regimes, and by increasing the degree of independence of domestic monetary policy from global financial cycles. Policy makers could magnify these desirable effects of external macroprudential measures by designing them with sector-specific differential restrictions and opportunities. External macroprudential measures should limit excessive external borrowing, but they should also prompt a "virtuous" allocation of funds towards the non-traditional export-generating tradable sector and away from non-tradable activities.

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