# Financial subordination of peripheral emerging economies: A Keynesian-Structuralist approach[+]

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**Abstract:** This paper aims to contribute to a more in-depth discussion of the financial subordination of peripheral emerging economies (PEEs) by connecting financial asymmetry with productive asymmetry. For this purpose, it sets out a Keynesian-Structuralist approach to the financial subordination of peripheral emerging economies (PEEs), and to the center-periphery relationship applied to the process of international financial integration. To that end, the paper shows that productive and financial asymmetries are related to each other, that is, they are "two sides of the same coin": PEEs which have low-complexity productive structures and are commodity exporters tend to be much more volatile – that is, they are more subject to the boom and bust of the commodity cycle and the liquidity cycle – and therefore are more financially subordinated than PEEs which have more complex productive structures and are exporters of manufactured goods.

**Keywords:** Financial subordination; peripheral emerging economies; monetary asymmetry; financial asymmetry; productive structure.

**JEL Classification:** E12: F32: F62; F63

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## 1 Introduction

The advance of financial globalization, the deregulation of markets, and the liberalizing measures adopted by most countries have engendered a new international economic configuration characterized by the free mobility of capital and the supremacy of finance. This context has given rise to the phenomenon of financialization, broadly defined as "the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies" (Epstein, 2005) or, by Krippner (2005, p. 174): "a pattern of accumulation in which profits come primarily through financial channels rather than through trade and commodity production". This phenomenon is studied on different – Post-Keynesian, Regulationist, and Marxist – theoretical approaches.[1] In this regard, heterodox economists of different theoretical backgrounds have defined this new regime of accumulation as a "finance-led growth regime" (Boyer, 2000), or a "finance-dominated accumulation regime" (Stockhammer, 2010).

While there is a vast literature on the anatomy of the financialization of the advanced, central economies, studies on the consequences of this process in peripheral emerging economies are still scarce. Nevertheless, some authors (Powell, 2013; Kaltenbrunner and Painceira, 2017) have been studying the impacts of the financial subordination of peripheral emerging economies (PEEs)[2] on their international financial integration and how this process contributes to the specific form of financialization in such economies. There is an incipient, but growing literature that seeks to understand the specificities of financialization in PEEs (see Becker et al., 2010; Bonizzi, 2014; Lapavitsas and Soydan, 2020, and others[3]).

[1] The Regulationist view is that financialization is a new regime of accumulation guided by financial forces, different from that observed during Fordism. This new arrangement alters the structure of corporate governance by encouraging the generation of shareholder value to the detriment of the expansion of productive capacity. Moreover, it may result in a mismatch between productive and speculative investments. Marxist political theory considers financialization as a new phase of capitalism, in which interest-bearing capital and fictitious capital become more significant than productive capital.

[2] The terms "peripheral emerging", "emerging" and "developing" will be used interchangeably, as will "central", "advanced" and "developed".

[3] Other papers analyze the specifics of financialization in a peripheral economy. For such analysis by authors of the global south, see Chandrasekhar and Ghosh (2018), Correa and Feijó (2022), and others. Recently, the Cambridge Journal of Economics published two special issues on "financialization in developing and emerging economies". See Bonizzi et al. (2022), Carneiro and De Conti (2022), Vielma and Dymski (2022), and other papers published in the CJE.

In fact, one of the characteristics of financial globalization is that capital flows between countries increase and growing numbers of international and domestic investors, stimulated by financial liberalization, participate in local and offshore markets. In that context, international financial integration has shaped the financialization of PEEs, one of whose main features is the phenomenon of "subordinate financialization" (Bonizzi et al., 2022), "subordinated financial integration" (Kaltenbrunner and Painceira, 2017), or simply "financial subordination". This conceptualizes the subordinate, dependent manner in which PEEs integrate internationally with the International Financial System. The unstable, pro-cyclical nature of capital flows, which are subject to boom-and-bust cycles strongly determined by exogenous factors, causes macroeconomic instability in the periphery and narrows its policy space. Some authors in the literature on financialization seek to relate this form of financial integration to the specific configuration of PEEs' domestic financial systems (Kaltenbrunner and Painceira, 2017). We consider such concepts promising in understanding how these countries enter the process of international financial integration in a subordinate manner, but they still require analytical precision.

This paper aims to make two contributions to the debate on financial subordination. One is to develop a Keynesian-Structuralist approach that takes account of both monetary asymmetry - where different currencies are positioned in the currency hierarchy with different liquidity premiums – and financial asymmetry – which is directly related to the asymmetric international financial integration of peripheral emerging economies in the current phase of financial globalization (Andrade and Prates, 2013; Paula et al., 2017; Fritz et al., 2018; Carneiro and De Conti, 2022). This approach comprises two complementary building blocks: Latin American Structuralism and its concept of center-periphery, and Keynes (1948) analysis of the hierarchical structure of an international monetary system based on a key currency. Ocampo (2001a, 2001b), in particular, takes up the Structuralist center-periphery approach, according to which the economic opportunities of the periphery, either through international trade or on financial markets, are largely determined by its asymmetric integration into the international economy[4]. In this connection, the manner of PEEs' international financial integration may

[4] Carneiro and De Conti (2022) also take as their reference the classic approach to center-periphery relations by the Economic Commission for Latin America and the Caribbean (ECLAC), which emphasizes the hierarchies of the International Monetary System (IMS) and their consequences for the economic dynamics of center and peripheral countries, with a focus on how financialization has produced changes in cross-border capital flows, but also in the 'nature' of the IMS key currency.

exacerbate inequalities between center and periphery in the development process or, as will be argued in this paper, between different regions and countries, including among emerging economies.

The paper's second contribution is to show that PEEs are subordinated financially to differing degrees, depending on: (i) the manner of their international financial placement and (ii) their type of productive structure (more or less diversified). While the economies of commodity-exporting countries – such as those of Latin America – lack diversity and complexity, have incorporated little technical progress, are heavily dependent on foreign capital, dynamic emerging Asian economies are diversified exporters of manufactured products with high-added value, allowing them strong balance of payments positions. Here, it should be highlighted that PEEs face two overlapping asymmetries in relation to the advanced central economies: productive asymmetry, that is, an asymmetry between PEEs and advanced economies in the economic complexity of their productive structures, which leads to unequal appropriation of productivity gains by center and periphery; and monetary and financial asymmetry, as already highlighted above.

This paper is divided into four sections, in addition to this introduction[5]. Section 2 develops the concept of financial subordination from a Keynesian-Structuralist approach. Section 3 analyzes the different forms of productive structure on the periphery, comparing Latin American and Asian economies, using the Economic Complexity Index (ECI) provided by the Observatory of Economic Complexity, and how those forms of productive structure relate to international financial integration. Section 4 examines different kinds of international financial integration, comparing three South American economies with three Asian economies that export manufactured goods. Finally, Section 5 concludes the paper.

## 2 Monetary and financial asymmetries: a Keynesian-Structuralist approach

The Post-Keynesian approach to the currency hierarchy starts from the "monetary pyramid" concept, as in the International Political Economy analysis developed by Cohen (1998, 2015), regarding both the functions of the international currency and the emphasis

[5] The study period depends on data availability, especially from 1994 on, the period when capital flows returned to PEEs, in a greater diversity of modalities (including portfolio capital flows), in the context of what became known as financial globalization.

on the problems of being an issuer of a peripheral currency (Orsi et al., 2020). According to the Post-Keynesian approach, currencies' liquidity determines their position in the hierarchy and thus their ability to perform the functions of currency at the international level. The U.S. dollar is considered the most liquid currency and plays the role of key currency because it has a high liquidity premium and is the monetary unit most widely used in international transactions. That is, international investors consider it the safest currency in which to denominate their contracts, especially in times of uncertainty (De Conti et al., 2014). Thus, the United States assumes the role of "banker to the world" in international economic dynamics[6] (Powell, 2013).

Conversely, PEEs' currencies are lower down the currency hierarchy, because they have lower liquidity premiums and do not offer the security of the central currencies. To offset this condition, these countries use high-interest rates to attract foreign investments and compensate for their low liquidity (De Conti et al., 2014; Paula et al., 2017; Fritz et al., 2018). Given a scenario of liquidity constraints and systemic risk, these countries can be adversely affected by the liquidity cycle through the foreign exchange market and domestic agents' (government, financial institutions, and non-financial institutions) accumulating external liabilities. The asymmetric dynamics of the international monetary system and the existence of a currency hierarchy reduce PEEs' economic policy autonomy because they depend on international portfolio allocation decisions. The United States, as the holder of the key currency of the current International Financial System, has greater autonomy in its monetary, fiscal, and exchange rate policies, because it enjoys the "exorbitant privilege" as issuer of the key currency. (Eichengreen, 2011; Fritz et al., 2018).

In addition to monetary asymmetry, characterized by currency asymmetry, PEEs also face financial asymmetry. The end of the Bretton Woods agreement heralded a new global configuration based on the U.S. dollar as the key currency, floating exchange rates, and free capital mobility. In fact, as Rodrik (2011) shows, the idea that financial liberalization (free capital flows) would be beneficial for economic growth was spread by the United States as a strategy to finance its deficits and ensure the supremacy of the dollar. In the early 1980s, neoliberal ideas were being disseminated in a scenario represented by the dollar-flexible standard. In that context, capital flows became freely mobile on a global scale, launching a new phase of globalization, called "financial

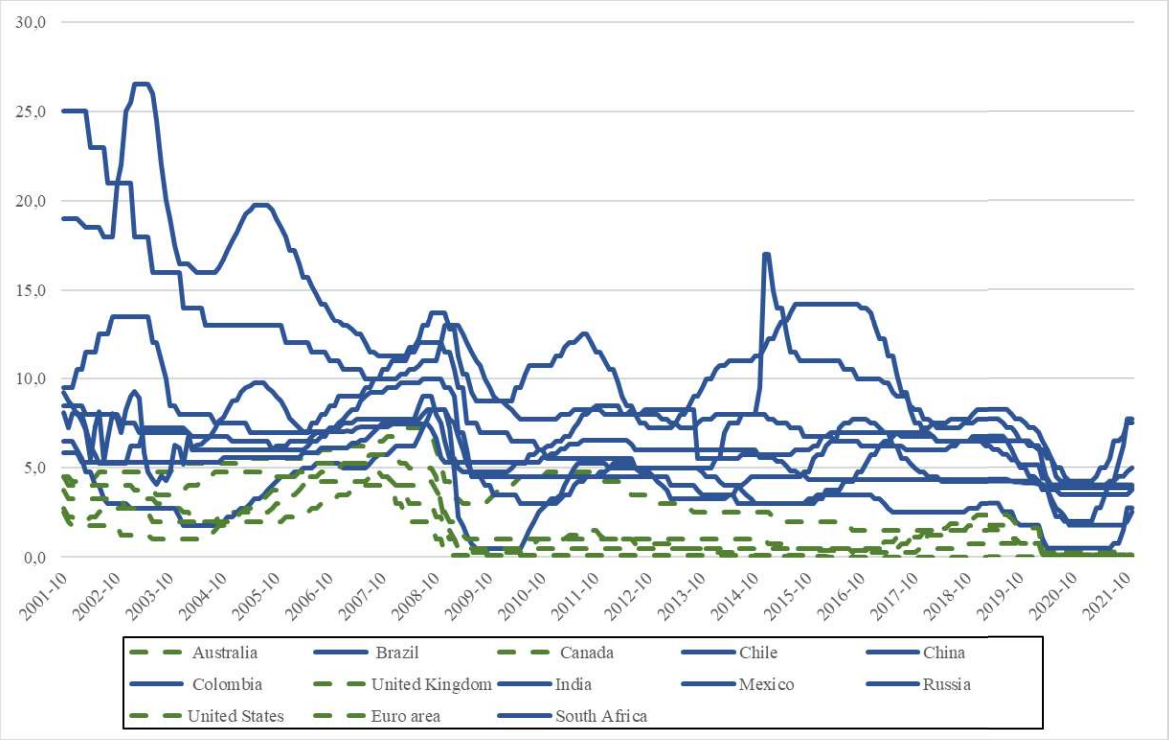
[6] For an analysis of the reassertion North American power in the international monetary system, see Tavares and Belluzzo (2004).

globalization". However, financial globalization and more abundant capital flows have engendered a process of financialization that, in PEEs, occurs in a subordinating fashion because the manner of their international entry and placement shapes the process of domestic financialization (Kaltenbrunner and Painceira, 2017; Lapavitsas and Soydan, 2020).

With their appetite for higher risk in times of economic boom and euphoria, international investors seek to expand their gains by investing in PEEs. As these countries offer a high-interest differential, investors trust that asset yields will appreciate. When the cycle reverses and uncertainty increase, PEEs are considered risky and high returns are no longer sufficient to retain foreign capital. As a result, investors withdraw their capital from the periphery and migrate to currencies offering greater liquidity and protection, a phenomenon known as capital flight. This pendular movement of capital flows leaves PPEs' exchange rates extremely volatile and sensitive to oscillations in investors' appetite for risk. Given the high degree of global financial integration and their dependence on foreign capital, peripheral economies endeavor to compensate for their currencies' low liquidity premiums and poor security by raising interest rates[7] (Kaltenbrunner, 2011; De Conti et al., 2014; Paula et al., 2017; Fritz et al., 2018). As Figure 1 shows, interest rates in PEEs are generally much higher than in advanced central economies.

[7] According to Tavares and Belluzzo (2004, p. 129, authors' translation), "In peripheral economies with non-convertible currencies – that is, with zero demand from agents in third countries – the new financial interdependence has introduced important constraints: interest and exchange rates have become more sensitive to sudden changes in wealth owners' expectations. For these countries, the new financial integration has been accompanied by frequent problems of external liquidity, with wide fluctuations in asset prices and currencies. Hence the severe constraints imposed on monetary and fiscal policies (...) which are more inflexible and long-lasting in the case of countries that have opened their capital accounts". Rather than financialization, Tavares and Belluzzo use the concept of 'mundialization', derived from the French word 'mondialisation', extracted from the book of Chesnais (1994). The concept of financialization became known, academically speaking, only after the publication of the book edited by Epstein (2005).

**Figure 1.** Central Bank policy rates, selected countries (% p.a.) – 10/2001-11/2021




Source: BIS (2022).

Another specificity of PEEs is that they tend to accumulate dollar-denominated reserves to protect themselves from sudden capital flight, particularly since more flexible exchange rate regimes were introduced after the Asian crisis of 1997. Indeed, Kaltenbrunner and Painceira (2017) pointed out that subordinate financialization favors the accumulation of foreign exchange reserves due to enormous inflows of foreign capital during booms and the need for protection against highly volatile capital flows and consequent abrupt exchange rate oscillations. However, accumulating reserves entails high social costs for these economies, because foreign exchange reserves earn low yields compared to the high interest paid on reserve domestic instruments (Rodrik, 2006). In addition, central banks, particularly those with inflation-targeting regimes, have to sterilize the expansion of the monetary base arising from the purchase of foreign exchange, which is done mainly through public debt instruments. The growth of public debt, in turn, allows banks and investment funds to expand their balance sheets, often giving rise to a process of domestic financialization (Lapavitsas and Soydan, 2020).

PEEs thus face two overlapping asymmetries – monetary asymmetry and financial asymmetry – which reduce their policy space and shape their subordinate role in international financial integration. Ultimately, these two asymmetries result in

macroeconomic asymmetry, as explored in the Structuralist approach by Ocampo (2001a, 2001b). This approach builds on the center-periphery concept developed originally by Raúl Prebisch, whose starting point was the impossibility of analyzing the dynamics of peripheral economies independently of their position in the world economy, where the "peripheral condition" results from a given economy's structural placement in the international division of labor, which can be seen as organized with reference to two poles. In particular, the periphery needs to adjust its economic activity levels in response to the effects of shocks produced at the center, which can cause commodity prices to collapse. PEEs lack productive diversification and are prone to trade shocks as well. Productive asymmetry between center and periphery results in a tendency for the terms of trade to deteriorate (Prebisch, 1949).

In addition to productive asymmetry, however, there is also a financial asymmetry that reinforces the economic disparities between center and periphery, as it engenders macroeconomic instability and reduces domestic policy space. At present, the technological and productive asymmetries originally identified by ECLAC overlap with global monetary and financial asymmetries stemming from the hierarchical order of currencies and from economies' opening to international capital flows and the consequent reinforcement of pro-cyclical adjustment to global financial cycles (Paula et al. 2017). On this concern, Ocampo (2001a) argues that, while central economies are "business cycle makers", peripheral economies are "business cycle takers", that is, the center has more policy autonomy and is "policy making", while the periphery is essentially "policy taking".

In summary, PEEs' subordinate integration leads to macroeconomic instabilities and reduces governments' freedom to implement macroeconomic agendas focused on domestic objectives. The United States, as the holder of the dominant international currency, has more room to maneuver, while PEEs face policy constraints and receive external shocks generated at the center. Indeed, capital flows towards PEEs depend mainly on exogenous sources, which render them permanently vulnerable to any reversal resulting from changes in monetary conditions in central countries, as well as increased risk aversion among global investors. In that setting, international financial markets are highly volatile and liable to boom-bust cycles. Therefore, the periphery has limited scope for policies and, because of the high volatility of capital flows, suffers from constant exchange rate fluctuations (Ocampo, 2001a).

Second, in financially integrated peripheral emerging economies, a floating exchange rate may not be more effective in providing room to implement autonomous domestic policies. Recalling the macroeconomic trilemma (or impossible trinity), in an environment with freely mobile capital, monetary policy can only act independently if the exchange rate is floating. That is, under fixed exchange rates, countries cannot have policy autonomy. However, in a globalized and financially integrated world, the decisions of the central economies impact the domestic policies of other economies, regardless of what exchange rate regime is chosen.[8] In this regard, even if the exchange rate is floating, macroeconomic policies on the periphery are subject to decisions at the center. PEEs thus face an "impossible duality" (Flassbeck, 2001) or a "dilemma" (Rey, 2013): even with a flexible exchange rate and free capital mobility, there can be no full economic policy autonomy without implementing complementary policies such as capital controls, because PEEs are subordinated to financial globalization and subject to fluctuations in international investors' perceptions of risk. In reality, these economies' exchange rate regimes end up being not totally flexible, but "dirty floating", in that most of them frequently need to intervene in the exchange market in order to avoid the possible adverse effects of high exchange rate volatility, a behavior known as "fear of floating" (Calvo and Reinhart, 2002).

According to Post-Keynesian fundamentals, the process of setting exchange rates is influenced by capital flows and investors' expectations (Kaltenbrunner, 2011; Paula et al., 2017; Fritz et al., 2018). As PEEs' exchange rates are more volatile, their central banks carry out frequent interventions in foreign currencies, which affects the country's economic policy autonomy. Capital flows are intrinsically volatile and the instability of EPE exchange rates is directly related to the unstable nature of capital flows; consequently, these countries become subject to capital flow movements and more vulnerable to speculative shocks. Another important point is that external borrowing in domestic currency is difficult for PEEs, a phenomenon known in the literature as "original sin". This term was coined by Eichengreen and Hausmann (1999) to show that a significant portion of PEEs' debt is denominated in foreign currency, specifically the U.S. dollar. As Ocampo et al. (2008) have pointed out, these countries borrow in hard currency

[8] Tobin (1978) argues that, in a scenario of total capital mobility, a floating exchange rate is not enough to ensure policy autonomy. Regardless of the exchange rate regime adopted, countries continue to encounter institutional, political, and economic constraints. Also, market liberalization and the binding of central banks to monetary targets hinder domestic policy autonomy.

and, since they are considered places of uncertainty and high volatility, assume related exchange rate risks in order to attract international investors.

To conclude, in our view, there is strong complementarity between the Post-Keynesian currency hierarchy approach and the Structuralist approach to PEEs' asymmetric financial integration: while the former emphasizes monetary asymmetry, the latter stresses financial asymmetry. The overlap between these asymmetries defines the PEEs' financially subordinate role.

## 3 Economic complexity and different forms of productive structure

Another way of assessing degree of financial subordination is through its connection with productive structure, especially in PEEs' ability to export higher value-added products in the very nature of the productive structure of each country. This theoretical relationship can be understood initially from Latin American Structuralism's contribution around the "center-periphery" concept. Prebisch (1949) regarded the international division of labor as characterized by two poles in which peripheral countries concentrated on producing primary goods; advanced central countries, on manufactured goods. This dichotomy between central and peripheral economies is expressed in a structural asymmetry between these economies' productivity levels, that resulted in a long-term tendency for the terms of trade to deteriorate due to the unequal appropriation of productive gains[9]. In other words, this persistence of the center-periphery dichotomy can be considered to derive from the different driving forces underlying its dynamics: while economic growth in the central countries is driven by technical progress, on the periphery it is determined predominantly by external demand for commodities. In that context, the heterogeneity of productive structures is at the heart of the explanation for underdevelopment and the establishment of the "peripheral condition" (Bielschowsky, 2009).

According to the ECLAC Structuralist approach, peripheral subordination is related to a productive structure specialized in the production of commodities, such as oil,

[9] This inequality is explained by the trajectory of wages in relation to productivity: on the hypothesis that, at the international level, profitability of capital is uniform, while in the periphery, due to the abundance of labor and lesser workforce organization, wages grow less than productivity. At the center, meanwhile, wages grow in step with productivity, so that not only do productivity gains remain within the respective economy, but the center appropriates the modest productivity gains of the periphery through international trade.

copper, soybean, corn, meat, etc. In recent years particularly, there has been significant evidence that a significant number of emerging economies are increasingly dependent on commodities, causing a process that some authors have called "premature deindustrialization" that it is, a process in which the share of the manufacturing sector in employment and GDP shrinks before such economies have attained high levels of income (Rodrik, 2015; Corrêa and Feijó, 2022). One of the causes of this phenomenon is "Dutch disease", a phenomenon associated with a change in the composition of a productive structure in which growth comes to be led by the sector based on natural resource exports, while the industrial sector declines[10]. In the New Developmentalism approach, it is considered to be a market failure that leads to a long-term cyclical trend of appreciation of the real exchange rate. This results in a competitive disadvantage, which reduces the profitability of the manufacturing sector that produces tradable products in peripheral emerging economies[11] (Bresser-Pereira et al., 2015). Botta (2015) highlights this relationship in relation to Colombia in a theoretical model with financial causation: the discovery of mineral resources is seen to attract speculative capital flows and foreign direct investment (FDI), which strongly appreciates nominal and real exchange rates, as well as diminishing international investors' perceptions of risk posed by the country. However, this leads to continuous long-term reduction in industrial sector competitiveness, greater exchange rate volatility, rising current account deficits, and external vulnerability via foreign currency debt. This analysis arrives at results similar to those found on the New Developmentalism approach (Bresser-Pereira et al., 2015), according to which commodity-exporting peripheral economies have a tendency to currency appreciation deriving both from the Dutch disease phenomenon and from the differential interest rates that attract external capital to PEEs.

Caldentey and Vernengo (2021) contributed to the debate by relating deindustrialization and financialization to the case of Latin American countries. In these

[10] Bresser-Pereira writes (2013, p. 372), "The Dutch disease is a country's chronic exchange rate overvaluation caused by the exploitation of abundant and cheap resources, whose production and export is compatible with a more appreciated exchange rate than the exchange rate that makes internationally competitive the other business enterprises in the tradable sector that use the most modern technology existing worldwide. It is a structural phenomenon that creates obstacles to industrialization or, if it was neutralized and the country industrialized, but later ceased to be, provokes deindustrialization."

[11] Dutch disease means that the manufacturing sector loses international competitiveness as a result of currency appreciation caused by the low costs of producing abundant commodities (such as oil). As explained below, commodity prices, which occasionally increase substantially, oscillate considerably with external demand, a crucial point already pointed out by ECLAC. The thesis of deteriorating terms of trade still holds, because in the long term the prices of manufactured goods are relatively higher than commodity prices.

economies, deindustrialization is considered "premature", because it is not the result of advancing development in the industrial sector, but rather the inability of Latin American countries to integrate into global chains. Premature deindustrialization thus occurs before a higher stage of development is reached, thus compromising economic growth. They also argued that financialization in Latin America is "premature", because it stems not from a advanced stage of capitalism, but rather from a development strategy based on dependence on foreign capital, little export dynamism and a commodity-centered export agenda. Their conclusion is that the two processes, premature deindustrialization and premature financialization, are related to each other and compromise both manufacturing sector development and economic growth in Latin America.

Akyüz (2020) shows also that capital flows are pro-cyclical in the global financial cycle and correlate strongly with commodity prices listed on the international market, a relationship that he denominated as the "commodity-finance nexus". One important factor that influences this nexus is how the central economies' monetary policies are conducted. The United States' monetary policy plays a particularly key role because most commodities are quoted in dollars and most commodity contracts are settled in dollars (Akyüz, 2020). For instance, low-interest rates and a weak dollar tend to encourage capital flows to peripheral economies in search of short-term gains in operations called "carry trade"[12].

Changes in central economies' interest rates also affect commodity prices by influencing the rate at which non-renewable resources, such as oil and minerals, are exploited: "when interest rates fall, producers would be more willing to leave them underground for exploitation later than raising production and investing the proceeds in interest-earning assets. Thus, lower interest rates tend to reduce commodity supply and increase commodity prices" (Akyüz, 2020, p. 6). Commodity and financial cycles tend to move together and reinforce each other, because a common set of global macroeconomic factors influences both capital flows and commodities prices in the same direction. On the one hand, booms in international commodity prices stimulate capital inflows to PEEs, whereas increased capital inflows tend to raise commodity demand and prices; bust, on the other hand, cause this commodity-finance nexus to operate in the opposite direction:

[12] There are two types of carry-trade operations: (i) *canonic carry trade*, characterized by loans in currencies with low interest rates and investment in currencies with high interest rates; and (ii) *derivative carry trade*, characterized by taking leveraged positions on the foreign exchange derivatives market (Bortz and Kaltenbrunner, 2018).

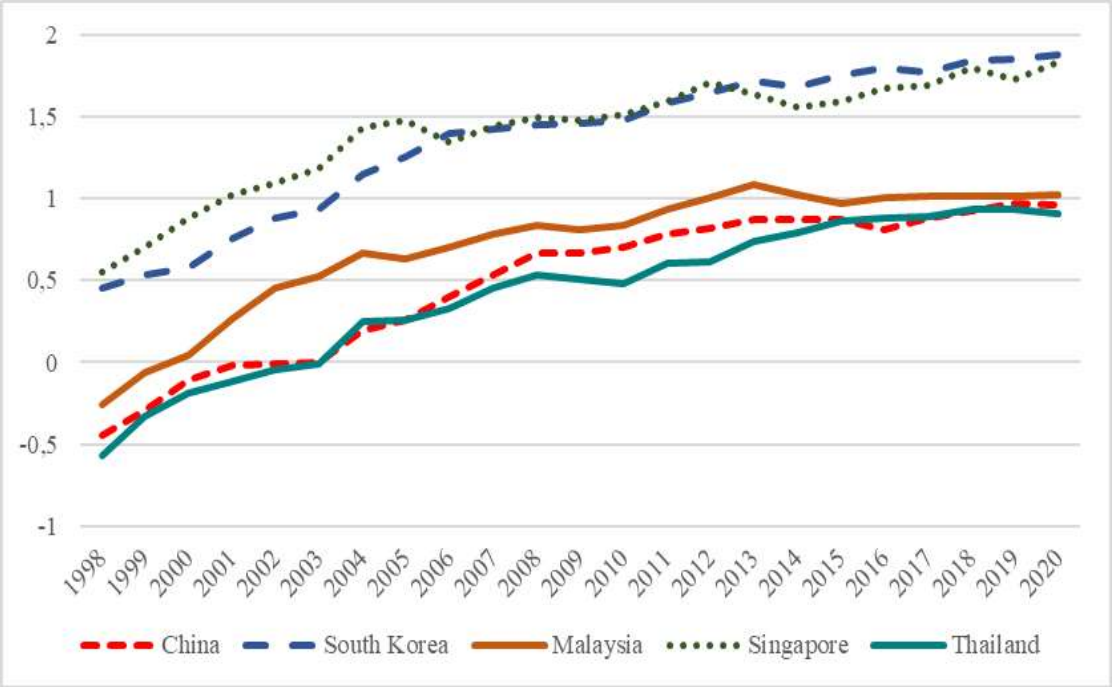
this may result in a vicious circle in which falling commodity prices lead to capital outflows in the event of a global crisis, which would, in turn, produce a recessionary adjustment of aggregate demand, further weakening the economic growth of peripheral commodity-exporting economies (Akyüz, 2020).

To determine the degree of productive complexity of any given country, Hausmann et al. (2011) introduced an algebraic methodology to build an index that reflects the degree of diversification of the export mix, its interaction with global value chains, and its ubiquity or rarity, i.e., the number of other countries in the world with the capacity to replicate the production of a specific good. In this respect, airplanes are rarer than sugar cane, because only a few, technologically more sophisticated countries can produce them. Gala (2017, p. 25) explains that one advantage of this type of index is that it offers a coherent representation of technological changes occurring over time, but makes no value judgment as to what is to be considered complex. Regarding the empirical evidence found in the literature, Hausmann et al. (2011, p. 29) highlight the importance of the notion of economic complexity to explain the performance of output and per capita income: "In short, economic complexity matters because it helps explain differences in the level of income of countries and more important because it predicts future economic growth. Economic complexity might not be simple to accomplish, but the countries that do achieve it, tend to reap important rewards".

Thus, using 2020 Economic Complexity Index (ECI) data extracted from the Observatory of Economic Complexity (OEC) database (2022), Figures 2 and 3 show a set of selected Asian countries with relatively higher degree of economic complexity than their respective Latin American peers between 1998 and 2020. In the Asian economies, ECIs have ranged from 0.5 to 2 since 2008 and the countries can also be divided into two subgroups: (i) South Korea and Singapore rose above 1.5 from 2006; and (ii) China, Malaysia, and Thailand reached between 0.5 and 1.1 in 2006-2020. The ECIs of all the selected Asian countries have increased sharply since the 1990s, highlighting a trend toward diversification and productive sophistication in these countries. ECIs diverge greatly among the Latin American countries, while there has been a clear overall tendency for them to stagnate since 1998. In the largest Latin American economies, ECI stagnation or even reduction has resulted in a significant trend toward deindustrialization in the region (Palma, 2005). Brazil and Mexico have the highest ECIs among countries in the region, expressing a greater diversification of their productive structure compared to the other economies. In the 2000s, although the index for Brazil stagnated, Mexico

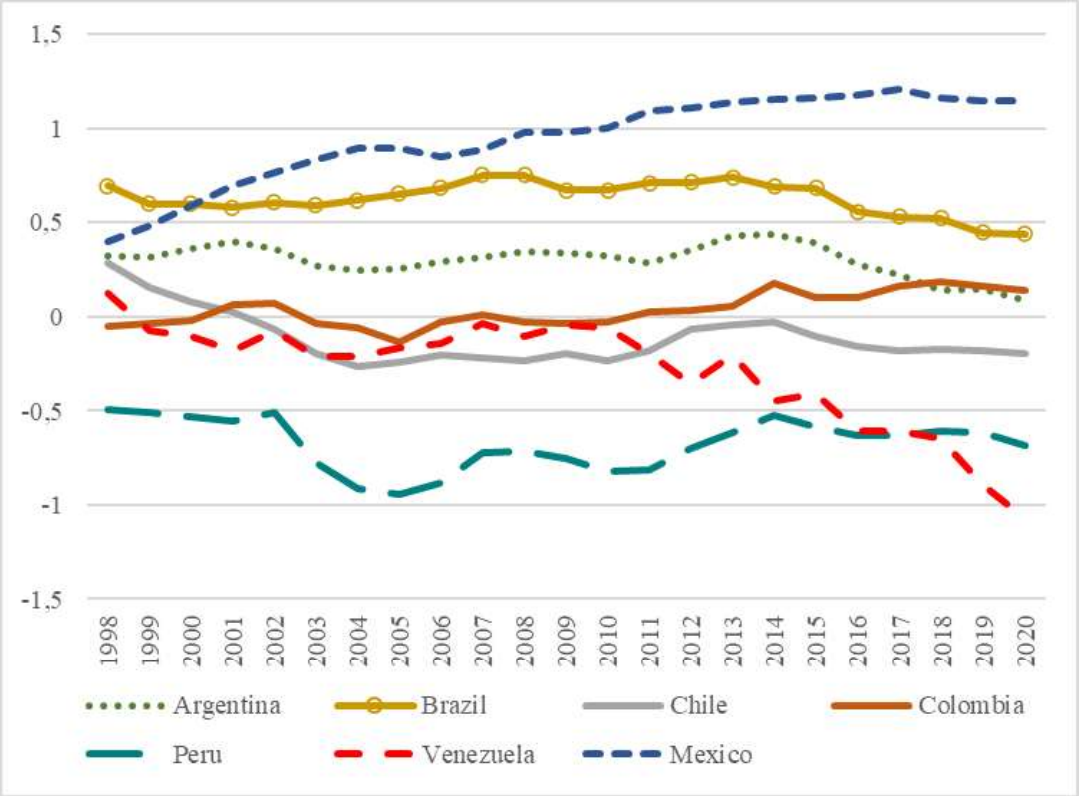
maintained a growth trend, due mainly to the growth of *maquiladora* industries, i.e., assemblers of durable goods for export to the US market. Finally, Venezuela's performance was negative in this period: ECI declined to levels close to -1, an outcome correlating with the country's increasing dependence on oil exports and, more recently, due to the adverse effects of high inflation on the domestic economy. In other Latin American economies, the ECI oscillated in the period from 1998 to 2020, maintaining a more or less stable index.

**Figure 2.** Economic Complexity Index (ECI), selected Asian countries (1998-2020)




Source: Prepared by the authors, based on OEC (2022).

**Figure 3**. Economic Complexity Index (ECI), selected Latin American countries (1998-2020)




Source: Prepared by the authors, based on OEC (2022).

The sophistication of any specific country's productive structure can be evidenced – using the concept of economic complexity – by analyzing the components of its export mix. Using the same OEC database, the 2020 data show that a greater or lesser degree of productive diversification results in greater or lesser diversification of the export goods mix with greater or lesser productive sophistication[13] toward the production of higher added-value goods and services. For comparison, as shown in Figures 4 and 5, we selected two Asian economies (China and South Korea) that are producers and exporters of manufactured goods, and two Latin American economies (Argentina, and Brazil) that are producers and exporters of commodities.

The main difference between the two groups of countries is that manufactured goods (dark and light blue products) predominate in the export lists of China and South

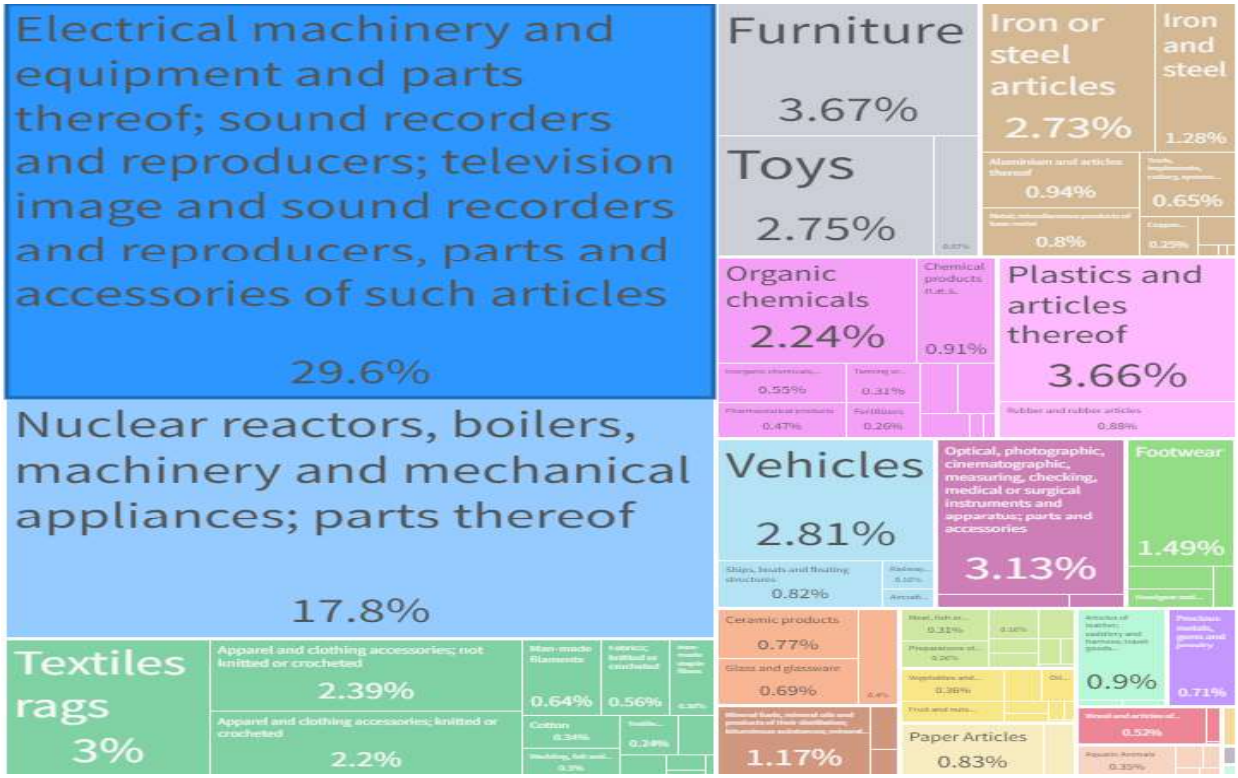
[13] According to Bresser-Pereira et al. (2015, cap. 2), productive sophistication is related to the increase in productivity resulting from the industrialization process, with a structural change occurring towards sectors with higher aggregate per capita value. The increase in productivity occurs not only in the goods and services produced but also in the transfer of labor to technologically more sophisticated goods, which pay higher wages and thus result in higher aggregate value per capita.

Korea, while Argentina and Brazil predominantly export commodities. Both Asian economies have a diversified export mix: China's includes electrical machinery and equipment, sound recorders and reproducers, television image and sound recorders, nuclear reactors, boilers, machinery and mechanical appliances, furniture, plastic and plastic articles, textiles, rags, etc., reflecting a very broad and diverse industrial structure, while South Korea's exports include strong value-added manufacturing content (integrated circuits, semiconductors, cars, motor vehicle parts and accessories, passenger and cargo ships, telephones, LCDs, etc.). Of the two Latin American countries, Argentina's exports comprise mainly agricultural commodities (corn, soybean, and meat), while Brazil, whose exports comprised more than 50% manufactured goods until recently, now exports predominantly natural resource commodities (mainly iron ore and crude petroleum) and agricultural commodities (soybean and derivatives, corn, raw sugar, bovine meat, poultry meat, coffee, etc.), evidencing an ongoing process of de-industrialization there[14].

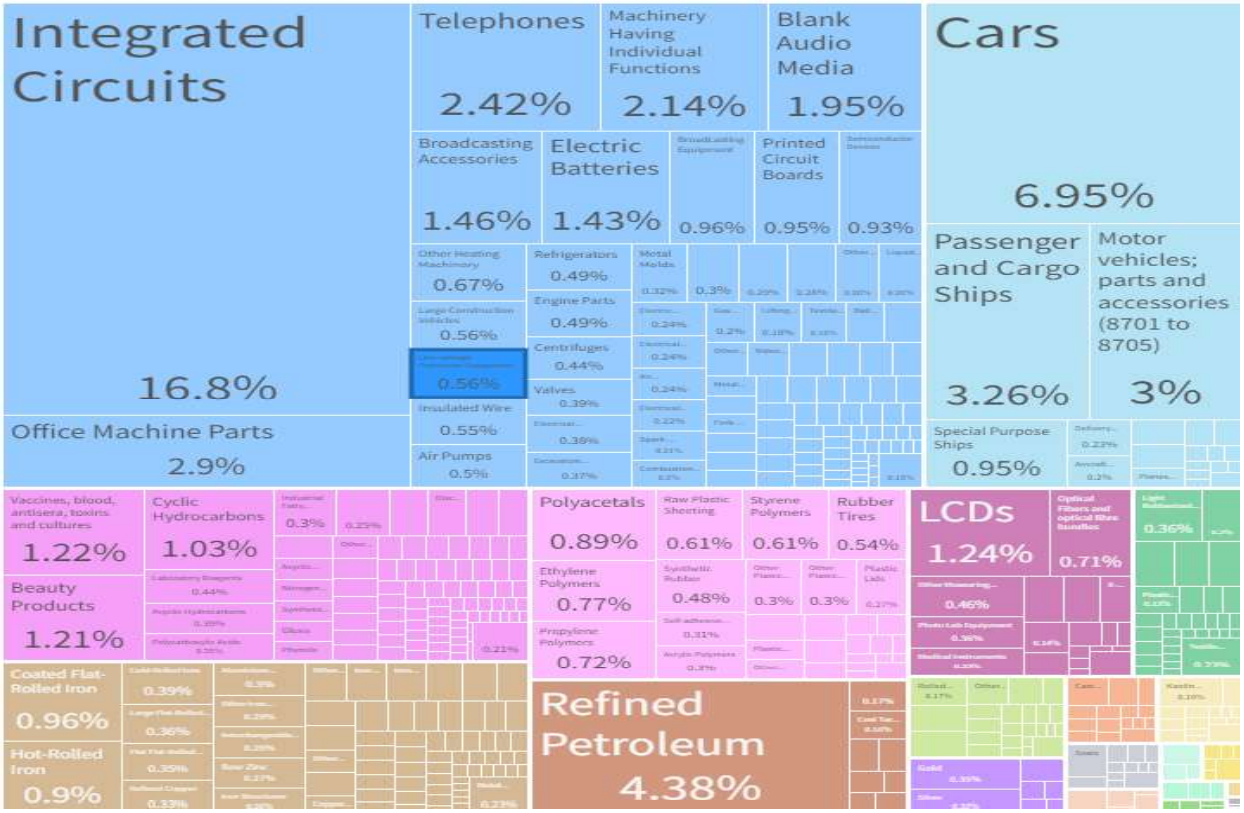
[14] Paula et al. (2015) show evidence that the quantum of industrial output has stagnated in Brazil since 2008, although retail sales have continued to increase sharply. For a discussion of the de-industrialization process in Brazil, see Oreiro and Feijó (2010) and others.

**Figure 4**. Export composition – China and South Korea, 2020 (%)

China



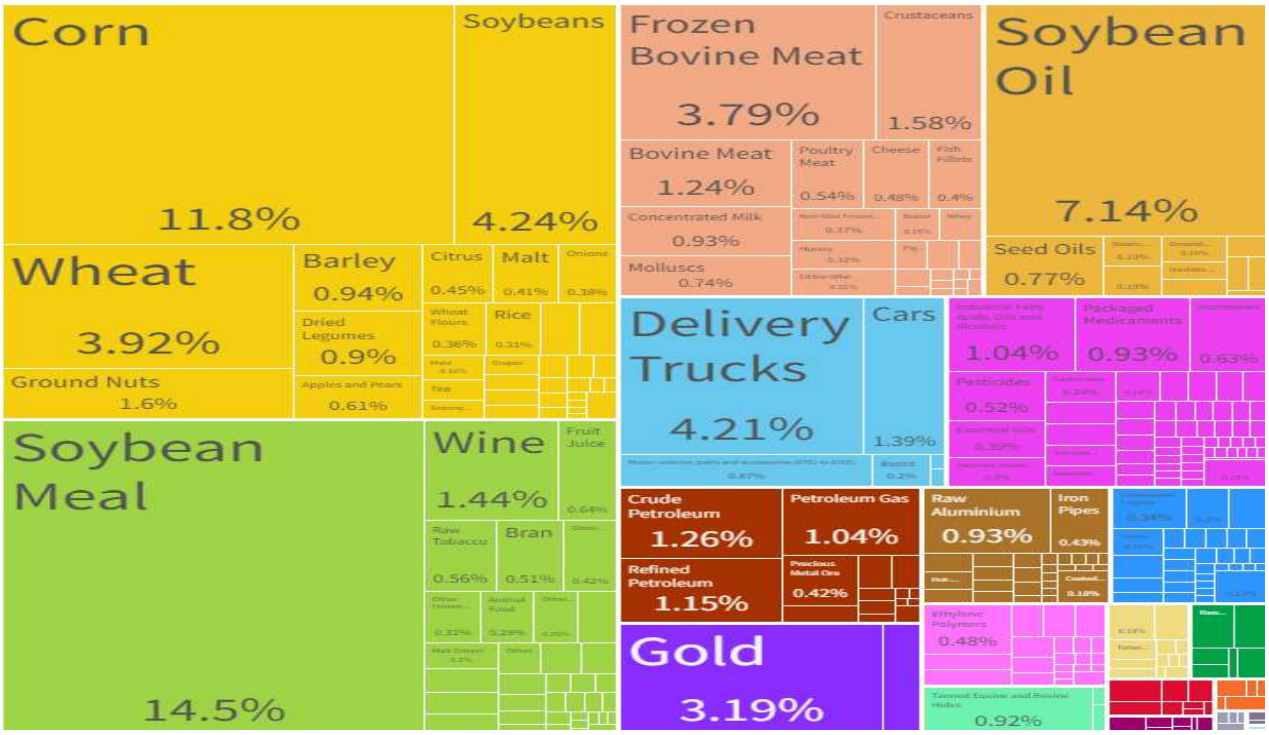

South Korea



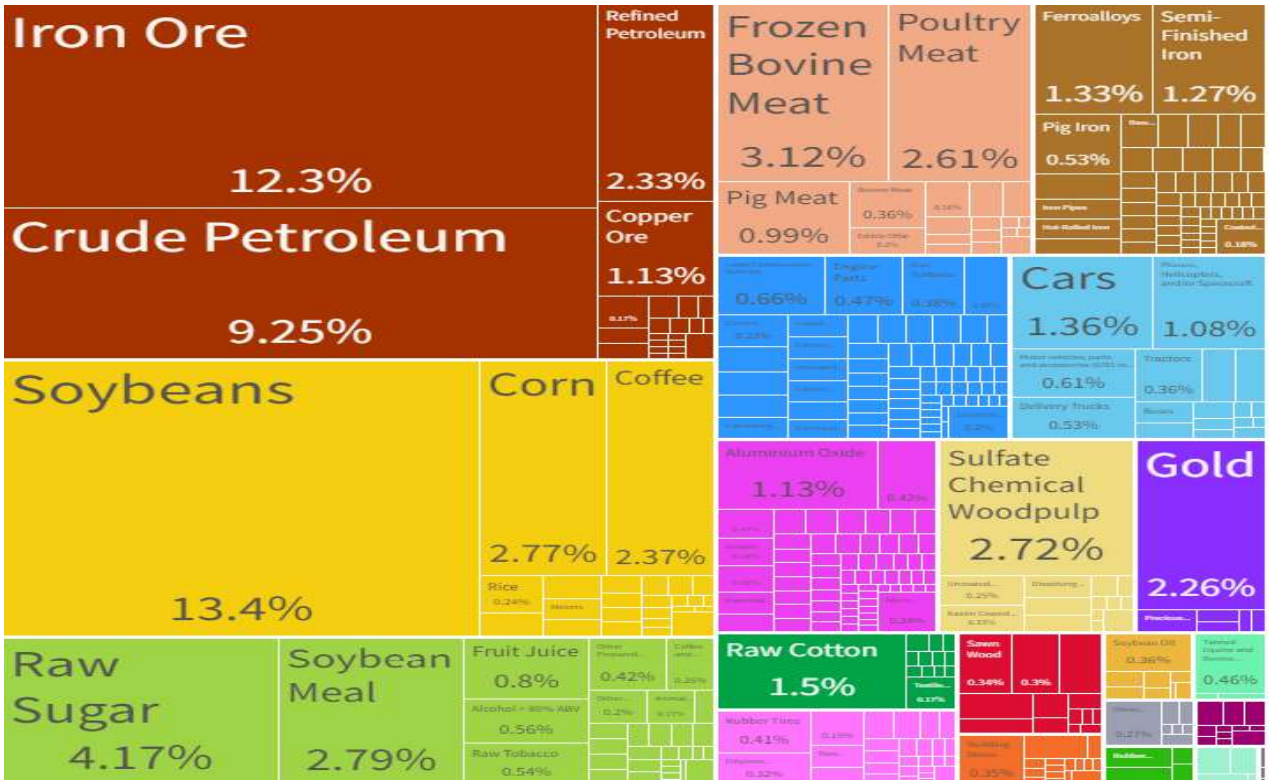

Source: OEC (2022).

**Figure 5.** Export composition – Argentina and Brazil, 2020 (%)

Argentina




Brazil



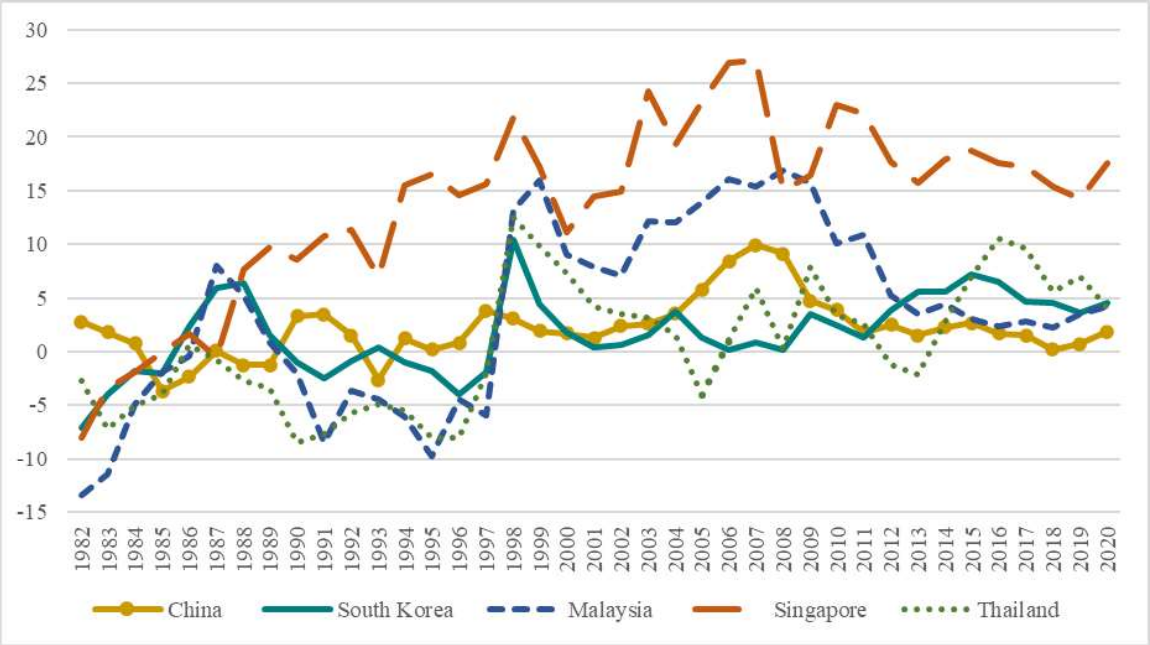

Source: OEC (2022).

One of the consequences of asymmetries in production between commodity-producing Latin American economies and manufacturing-producing Asian economies is that the former's trade and current account performance tends to be much more volatile and dependent on the commodity cycle, while the latter tend to enjoy more sustainable trade and current account surpluses, with less volatility, allowing them to accumulate strong foreign exchange reserves.

Figures 6 and 7 show, respectively, the current account balance of payments as a percentage of GDP for a group of selected Asian and Latin American economies from 1982 to 2020. In the first group of countries, in addition to a tendency for the current account to improve until more or less the 2010s, it is positive from the end of the 1990s, at quite high levels in some countries, such as Singapore. In the second group of countries, meanwhile, the ratio of current account to GDP was generally negative, except for during the commodity boom of the 2000s. The Latin American economies, as commodity exporters with less complex economies, are subject to commodity price oscillations, which results in greater current account volatility, because their trade performance is determined mainly by external demand.[15] Due to the lack of productive diversification and their specialization in the production of commodities Latin American economies are much more prone to trade shocks compared to Asian dynamics economies, in line with the original Structuralist approach, as we have seen in section 3.

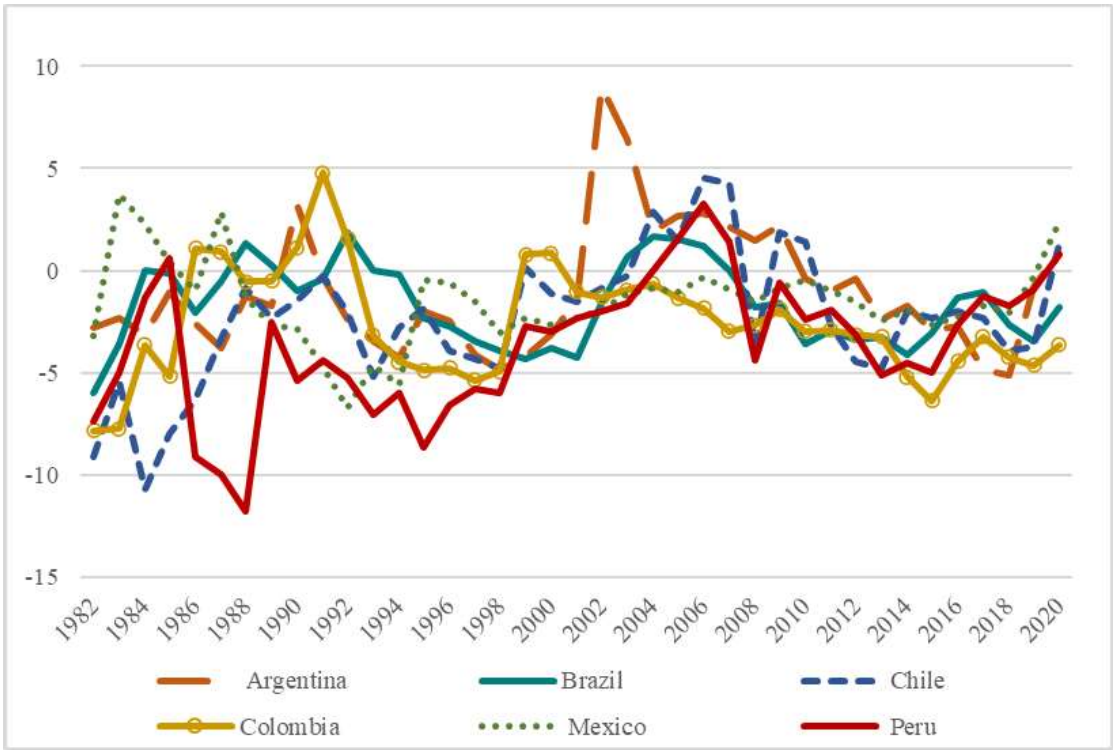
[15] Also, as will be shown in the next section, these economies have negative income streams from both net factor income (profits, royalties, loans' interests, etc.) and net non-factor income (shipping, tourism, software services, etc.).

**Figure 6**. Current account balance (% GDP), selected Asian countries (1982-2020)




Source: World Bank (2022)

**Figure 7**. Current account balance (% GDP), selected Latin American countries (1982-2020)

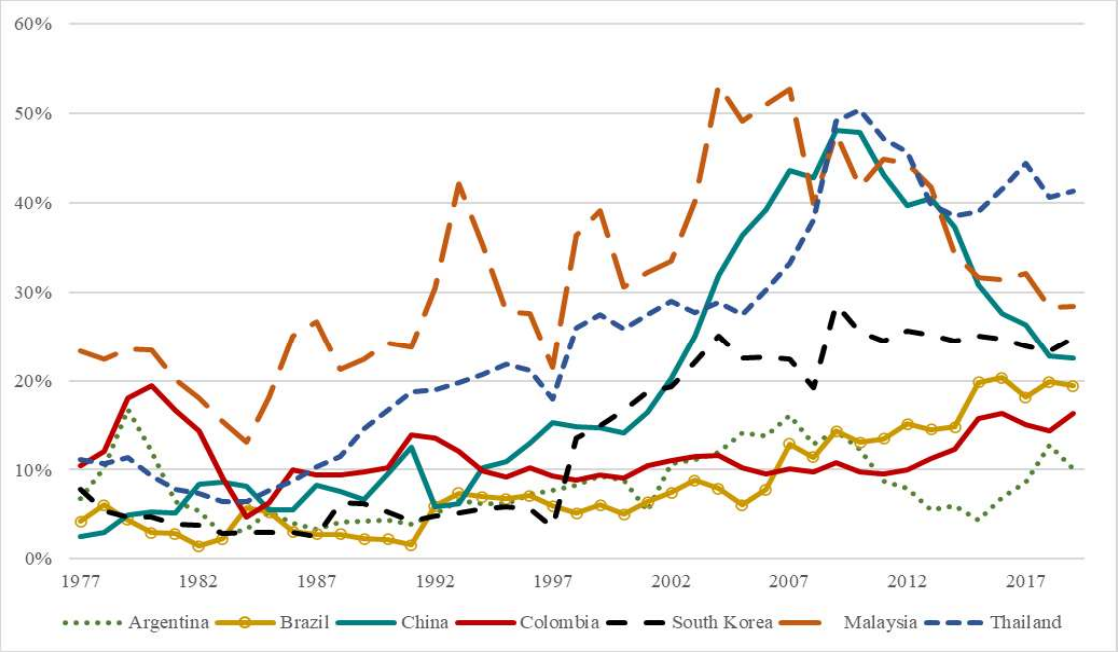



Source: World Bank (2022).

When the ratio of foreign exchange reserves to GDP is examined, a very different pattern emerges in the two groups: in the Asian group, foreign exchange reserves have grown since the 1990s, reaching percentages above 20% of GDP from the 2000s (with a recent reduction in China and Malaysia); in Latin America, though the trend has been for foreign exchange reserve ratios to grow since the early 2000s (except for Argentina, which fell in the 2010s), they have remained below 20% of GDP throughout the period. Foreign reserve accumulation in the group of Asian economies originated from either cumulative current account surpluses and capital inflows; in the Latin American economies, it resulted mostly from capital inflows. As these economies are more dependent on capital inflows in order to accumulate international reserves, their central banks have to sterilize the expansion of the monetary base arising from foreign exchange purchases. This is done primarily through public debt instruments purchased mainly by banks and investment funds, which in some economies stimulates a process of domestic financialization (see section 2 above). Holding high volumes of foreign exchange reserves serves to absorb moderate shocks, smooth the behavior of exchange rates in floating regimes, and allow government authorities some breathing space, by postponing the effects of channels of contagion, such as the impact of changing exchange rates on the balance sheets of borrowers in foreign currencies (Carvalho, 2010, p. 281). At the same time, however (as already pointed out above), such a policy is potentially expensive for the country holding such reserves, given that foreign exchange reserves earn low yields compared to the high interest paid on public bonds used by monetary authorities to sterilize the purchase of reserves[16].

[16] Monetary sterilization is an open market operation carried out by a Central Bank to maintain the interest rate at the level desired by the Monetary Authority. To that end, the Central Bank sells government bonds from its portfolio to withdraw liquidity from the banking sector.

**Figure 8**. Foreign exchange reserves to GDP of selected countries – 1977-2019 (%)




Source: World Bank (2022).

The next section examines the PEEs' various positions and roles in international financial integration by comparing a group of Latin American economies with a group of Asian economies.

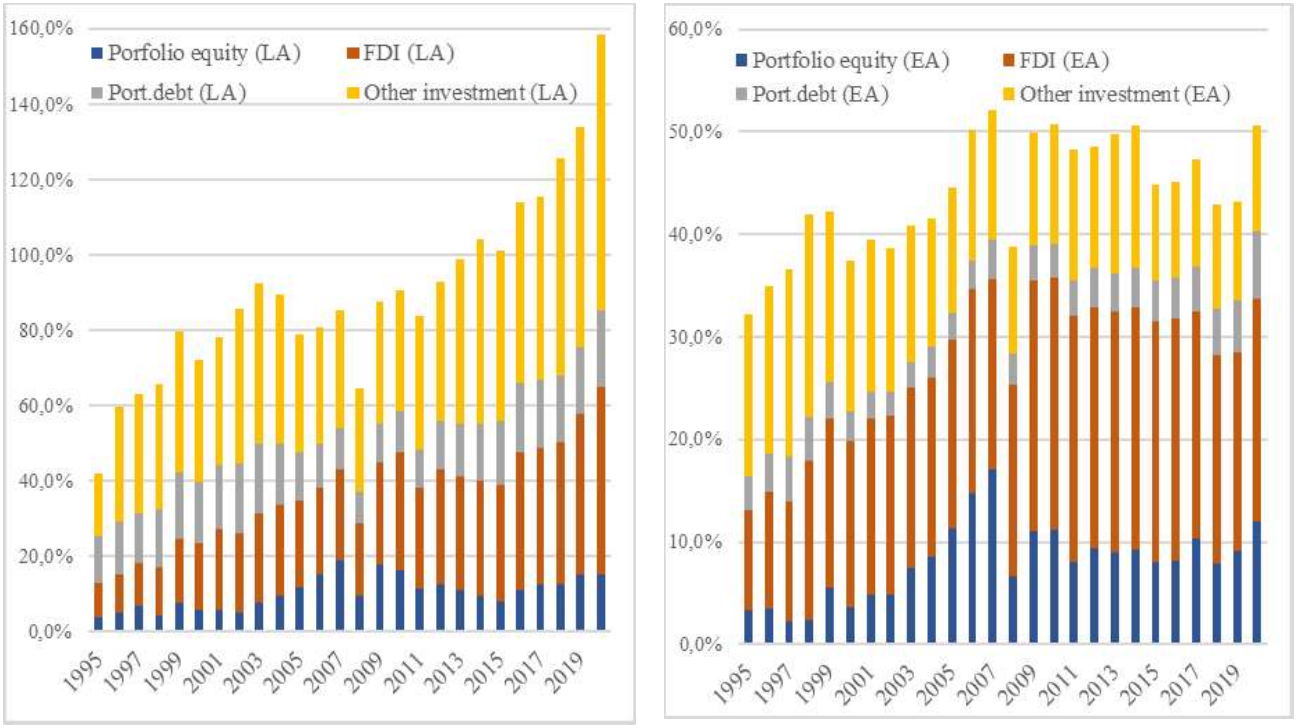
## 4 International financial integration: Latin America and Asia

In addition to the productive asymmetry between central and peripheral economies seen in the previous section – and which also occurs among peripheral emerging economies (between economies specializing in commodity exports and exporters of manufactured goods with diversified productive structures) – there is also a financial asymmetry between these countries that results in subordination of a different type, financial subordination. This relates directly to the form of PEEs' international financial integration, which characterizes the degree of each economy's financial subordination, as well as to the nature and degree of diversification of their productive structure.

Figure 9 compares external liabilities as a percentage of GDP for Latin America's the three largest economies (Brazil, Mexico, and Argentina) and three Asian countries (China, Malaysia, and South Korea) in the period 1995-2020. Overall, two facts stand out: (i) in relative terms, the external liabilities of Latin American economies (more than

80% of GDP) are much higher than those of Asian economies (generally less than 50% of GDP); (ii) in the former group, foreign direct investment and other investment[17] predominate, while in the latter, FDI is even more predominant, followed by portfolio equity and other investment.

**Figure 9.** External liabilities, selected countries of Latin America* (left) and Asia** (right) (percentage of GDP)



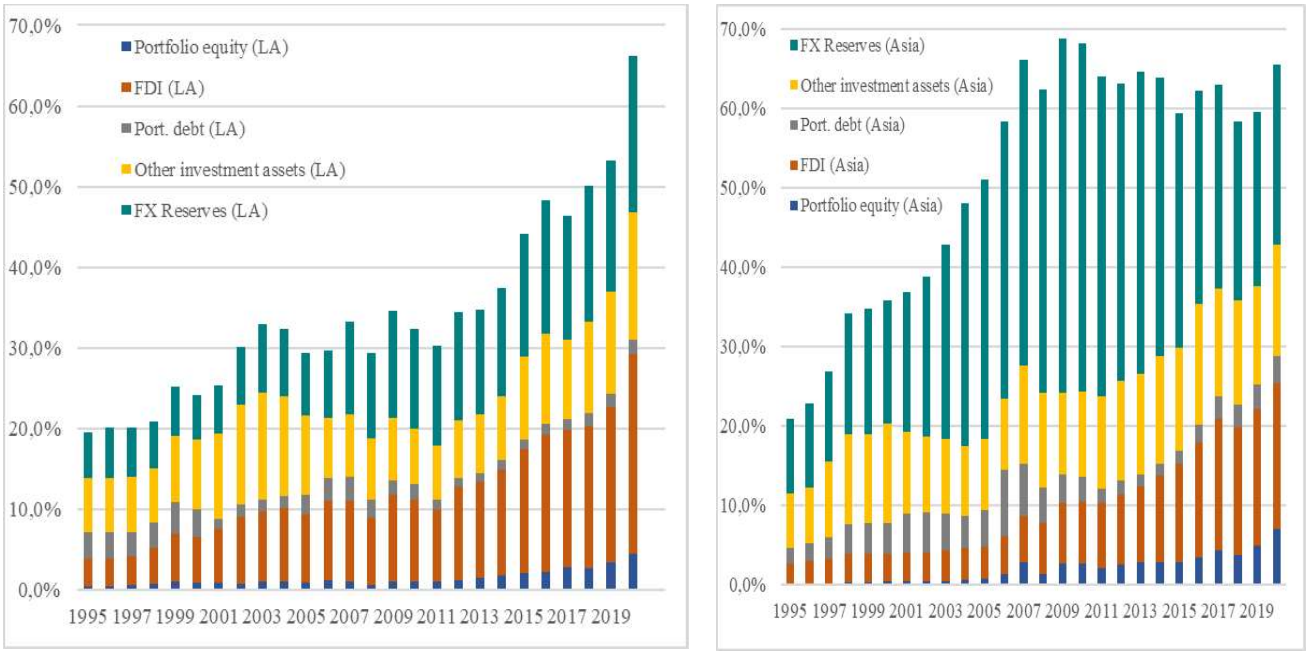

Source: Prepared by the authors, with data from Milesi-Ferreti (2021).
(*) Argentina, Brazil and Mexico; (**) China, Malaysia and South Korea.

Examination of the external assets of the two groups of countries reveals a quite different composition: (i) unlike external liabilities, external assets are much larger in relative terms in the group of Asian economies (above 58% of GDP since 2005) than in the large Latin American economies (always below 50%, except in 2019 and 2020). This is due mainly to the Asian economies' larger foreign exchange reserves, which to a great extent result from their better performing trade balances (which are larger and more stable

[17] "Other investment" comprises all transactions not included under direct investment, portfolio investment, financial derivatives, and foreign reserve assets. That is, it includes other equity; currency and deposits; loans; insurance, pension and standardized guarantee schemes; trade credit and advances; and other accounts receivable/payable-other.

than those of Latin American economies); and (ii) in both groups of countries, there is a growing trend for resident companies to internationalize, which has resulted in increased direct investment abroad.

**Figure 10.** External **assets,** selected countries of Latin America* (left) and Asia** (right) (percentage of GDP)




Source: Prepared by the authors, with data from Milesi-Ferreti (2021).

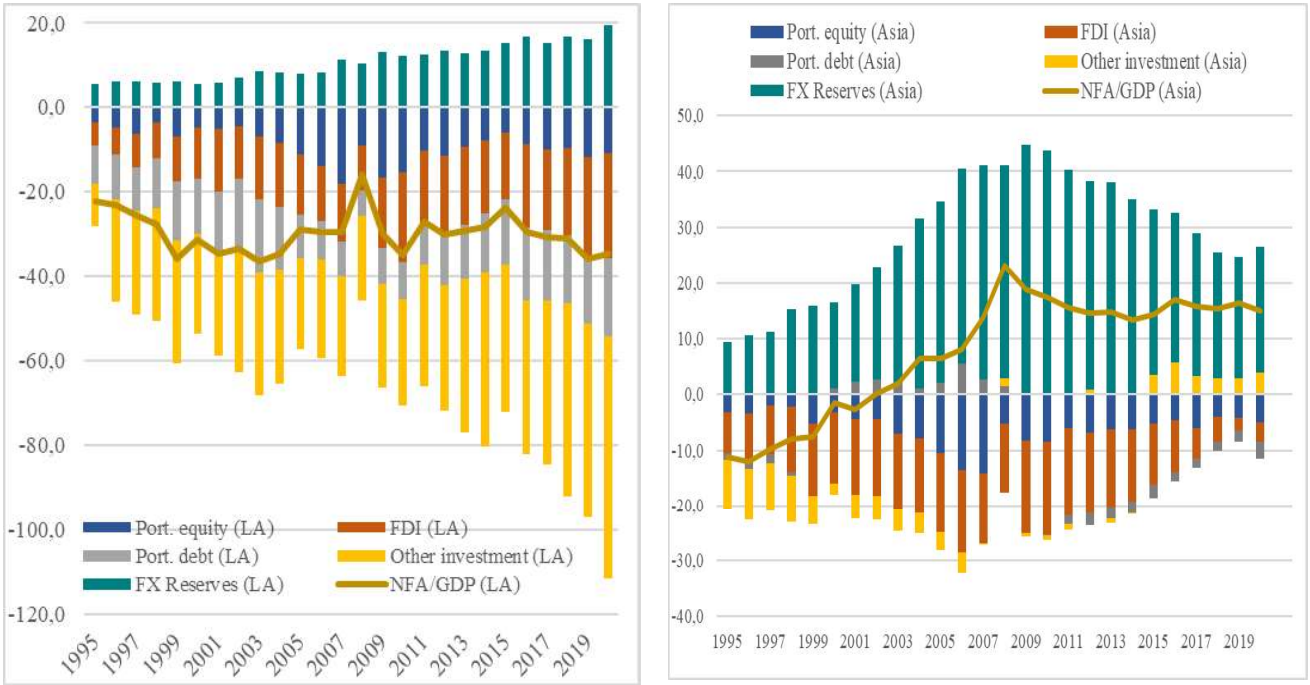
(*) Argentina, Brazil and Mexico; (**) China, Malaysia and South Korea.

Lastly, Figure 11 compares the net financial assets[18] (NFAs) of the two groups of countries, which enables the differences in international financial integration to be understood better. In both groups of countries, NFAs comprising foreign exchange reserves (which, as seen above, exist only as external assets) predominate clearly. The main difference, as already pointed out, is in the relative amount of foreign exchange reserves – as can be seen in Figure 10 (see also Figure 8). On the other hand, in the Latin American economies, there is a negative balance of foreign investment but, mainly and increasingly, of "other investment", making them more subject to "original sin" (currency mismatch) problems, while in the Asian economies, the negative balance is mainly of foreign investment, given that they are major recipients of this type of foreign capital,

[18] Net financial assets (NFAs) is the difference between the stock of external financial assets and the stock of external liabilities.

which has contributed, together with domestic capital (domestic private capital and State-owned firms), to the productive diversification of these economies, especially in case of China. Note also that the NFA/GDP ratio is strongly negative in the first group of countries (generally more than 25% of GDP) and, since 2002, has been positive for the Asians, reaching more than 14% of the GDP since 2007. This means that, in Latin American economies, capital inflows generally exceed capital outflows, so that net capital inflows tend to be positive, while the opposite happens in the Asian economies[19].

**Figure 11.** Net financial assets, selected countries of Latin America* (left) and Asia** (right) (percentage of GDP)




Source: Prepared by the authors, with data from Milesi-Ferreti (2021).
(*) Argentina, Brazil and Mexico; (**) China, Malaysia and South Korea.

It is clear, therefore, the difference in the nature of the international financial integration between the two groups of countries: the first one with foreign liabilities much higher than foreign assets, and with a predominance of other investment (followed by

[19] Botta et al. (2021) provide empirical evidence of the existence of a negative correlation between periods of large capital inflows and productive development measures (such as ECI index) in EMEs. When net non-FDI inflows are particularly abundant, the manufacturing share over GDP tends to contract and ECI decreases.

FDI); in the second one, foreign assets higher than foreign liabilities and with a large amount of FDI, a type of capital that is less volatile than other investment.

This profile of external assets and liabilities entails greater external vulnerability for the first group of countries, given their stronger dependence on external liabilities, while the second group of countries is less vulnerable, either because their external liabilities are smaller (and with FDI predominating) or because their external assets (mainly in the form of foreign exchange reserves) are larger.

Given that the external assets of both groups of countries consist mainly of foreign exchange reserves, which yield little, whereas external liabilities generate a high flow of income abroad (payments on direct investment, portfolio investment, and other investment), a negative flow of income and foreign capital gains/losses are to be expected for both groups of countries. According to Unctad (2019) estimates, between 2000 and 2018, the ensuing fund transfer from sixteen major EMEs amounted, on average, to roughly US$ 440 billion per year or 2.2% of these countries' GDP, as a result of return differentials between safe external assets held to insure against risky external liabilities (international reserves) and external liabilities (see also, Akyüz, 2021).

Thus, the combination of higher levels of foreign liabilities compared to foreign assets, and the predominance of "other investment" as the main type of capital inflows in Latin American economies, makes them much more subject to the boom-bust cycles of capital flows and consequently more financially subordinated, or in terms of Ocampo (2001), they are much more "business cycle takers" and "policy taking" than Asian economies. That sort of financial integration significantly reduces the policy space available for domestic purposes.

## 5 Conclusion

This paper set out a Keynesian-Structuralist approach to the financial subordination of peripheral emerging economies (PEEs), and to the center-periphery relationship applied to the process of international financial integration. To that end, besides developing a Post-Keynesian and Structuralist analytical approach to understanding the process of monetary and financial asymmetry, it aimed to show that these productive and financial asymmetries are related to each other, that is, they are two sides of the same coin: PEEs which have low-complexity productive structures and are commodity exporters tend to be much more volatile – that is, they are more subject to the

boom and bust of the commodity cycle and the liquidity cycle (which, as we have seen, are strongly correlated, in what Akuyz called a "finance-commodity nexus") – and therefore are more financially subordinated than PEEs which have more complex productive structures and are exporters of manufactured goods. As shown in this paper, the latter, consisting of economically more dynamic Asian economies, tend to maintain current account surpluses (and with much less volatility than the Latin American economies) and high levels of foreign exchange reserves, and attract mainly foreign direct investment, which affords them more robust external positions.[20]

This paper thus aims to contribute to more in-depth discussion of the financial subordination of PEEs by connecting financial asymmetry with productive asymmetry. Some authors have shown that periods of abundant capital inflows to PEEs have fed perverse structural changes draining productive (namely manufacturing) sectors traditionally recognized as prime sources of long-run development (see Botta et al., 2021). As stated by Caldentey and Vernengo (2021), premature deindustrialization and premature financialization are related to each other and compromise manufacturing sector development and economic growth in Latin America. However, this paper has sought to show that not only can the form of international financial integration generate perverse effects on PEEs' productive structure, but also that their productive structure itself – which lacks diversification and sophistication, but specializes in commodity production – also ends up shaping the intensity and nature of external capital flows to such economies, increasing their external vulnerability and generating macroeconomic instability, with adverse effects on economic development. In other words, this is a two-way process: the abundance of capital flows affects the productive structure, while productive structure also shapes the amount and kind of capital inflows that a country attracts.

One important point about financial subordination that has not been addressed in this paper is whether countries integrate financially with an open financial account or integrate by imposing restrictions on capital flows. In fact, if well designed, "capital account regulation", which can include a broad spectrum of regulation on capital flows,

[20] Cimoli et al. (2020) show that the more dynamic Asian economies and the Latin American economies differed in the role played by active industrial and macroeconomic development policies in the context of a general process of financial liberalization: in the Asian economies, macroeconomic policy has been a complementary tool, along with industrial policy, to foster the diversification of production; inversely, in Latin American countries, long periods of real exchange rate appreciation, combined with the weaknesses (or absence) of industrial policies, have contributed to their losing capabilities and lagging behind. For this purpose, the authors contrast the cases of Brazil and Argentina with those of South Korea and China.

can contribute to widening PEEs' policy space (Gallagher, 2015). This is the case with China, which despite its robust balance of payment position, uses comprehensive capital controls on residents and non-residents in order to control its exchange rate and increase monetary policy autonomy.

Another aspect that can be further explored in other studies – and which has been considered here only tangentially – is to what extent the Keynesian-Structuralist approach applied here is (or is not) compatible with the New Developmentalism approach taken by Bresser-Pereira et al. (2015), a theoretical framework that aims to implement a "catching up" development strategy to allow middle-income countries to grow again[21].

In conclusion, this paper does not intend to exhaust the subject addressed here, only to provide some contribution to understanding the phenomenon of subordinate finance in PEEs and the relationship between monetary/financial asymmetry and productive asymmetry.

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[21] For a critical assessment of New Developmentalism (ND), see Medeiros (2020) and Palley (2021); for a defense of the ND approach, see Oreiro and Paula (2021). Medeiros (2020) criticized particularly New Developmentalism's emphasis on the real exchange rate as the main driver of industrialization: "development and structural change require a complex set of industrial policies, investment coordination and developmental institutions that far exceed ND's focus on macroeconomic prices" (p.148). It is beyond the scope of this article to evaluate the debate surrounding the new-developmentalist theses.

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