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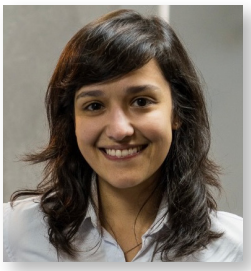


Nathalie Marins *is a Post-doctoral Research Fellow with the Global Economic Governance Initiative at the Boston University Global Development Policy Center and a member of the Editorial Board of the Review of Political Economy. She holds a Ph.D. in Economics from the University of Campinas in Brazil, including a research period at Freie Universität Berlin. She has experience in forecasting key macroeconomic variables, financial analysis, and investment project valuation. In 2022, she was a lecturer in macroeconomics and development at HTW-Berlin and taught macroeconomics and international economics at the Federal University of Rio de Janeiro in 2023.*

Balance of Payments and Economic Policy in Developing Economies

NATHALIE MARINS

ABSTRACT

The concept of policy space, especially fiscal space, has become increasingly important as policymakers strive to balance the need for increased public investment with concerns about debt sustainability. However, there is still no consensus on the definitions of policy space and external sustainability. This paper aims to contribute to this discussion by examining external debt sustainability and economic policy space through a structuralist lens. The paper makes a twofold contribution. First, it expands the balance of payments constraint approach to include different types of creditors and currencies on developing economies' external liabilities and the effect of changes in external financing conditions for debt sustainability. Second, it analyzes how these liabilities impact the options and constraints for monetary and fiscal policies. The paper argues that it is essential to differentiate between domestic and foreign currency-denominated public debt to accurately evaluate debt sustainability and the space for implementing economic policies.

INTRODUCTION

In the face of multiple external shocks, such as the COVID-19 pandemic, ongoing geopolitical conflicts and the intensifying climate crisis, governments were compelled to act counter-cyclically to stimulate domestic demand and boost economic recovery. Increased public spending was supported both in policy circles and in the economic literature, which recognized the capacity of the public sector to raise spending without immediate constraints to influence aggregate demand and achieve its policy objectives (Blanchard 2023; IMF 2020).

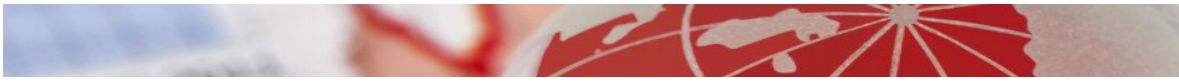
However, policy discussions have more recently shifted towards concerns over escalating external and domestic debt levels that are seemingly unsustainable as well as a perceived lack of fiscal policy space necessary for increasing public spending to meet the United Nations 2030 Sustainable Development Goals (SDGs) and foster economic growth. This change in focus appears to be driven by persistently high interest rates and ongoing debt crises in several developing economies, including Sri Lanka and Lebanon (Chowdhury and Sundaram 2023). The shift is reflected in the evolution of International Monetary Fund (IMF) Fiscal Monitor reports. While in 2020 the IMF Fiscal Monitor mentioned the need for scaling up public investment and implementing "flexible" fiscal actions to foster economic growth, in 2024, the new Monitor emphasized the need for "much larger fiscal adjustments than currently planned" both in developed and developing economies (IMF 2020, 2024). The progressive academic literature has also raised concerns about a lack of policy space resulting from a "debt burden" but has instead called for and has led to calls for debt rescheduling, re-profiling (Diwan et al. 2024), debt relief initiatives (Volz et al. 2020), and the use and expansion of Special Drawing Rights (SDRs) (Cashman, Arauz, and Merling 2022). Many of these proposals have not yet materialized for a significant number of developing economies, and in the meantime, domestic policymakers have pursued their own strategies to manage debt, often guided by IMF recommendations, targeting both domestic and foreign currency denominated debt such as Ghana and Sri Lanka (Chandrasekhar 2024).

The purpose of this paper is to contribute to the discussion by emphasizing the importance of distinguishing between domestic and foreign currency-denominated debt when assessing external debt sustainability and policy space in developing economies. It highlights that external sustainability is not static, but can rather expand or contract with shifting external financing conditions, and that issuing external debt in local currency — as opposed to external foreign currency denominated debt — can help mitigate the adverse effects of external shocks. Building upon the structuralist approach (Prebisch 1950), we argue that policy space is constrained by the balance of payments, more specifically, by the availability of foreign credit and access to foreign currency.

In the economic literature, policy space usually focuses on fiscal policy and, although different definitions and measures coexist (Kose et al. 2022), they usually refer to the room in a government's budget to create debt for a desired purpose without compromising public debt sustainability[1] (Heller 2005). In a closed economy, when all debt is denominated in domestic currency, the sustainability of public debt can be discussed in terms of the condition that the ratio between debt and gross domestic product (GDP) must stabilize (Blanchard 2023; Domar 1944). Since the government cannot be forced to default on its debt denominated in domestic currency (Lerner 1943), there is not a

[1] Policy space can also refer to either domestically self-imposed legal restrictions or those inflicted by external institutions (such as the IMF) that prevent a country from adopting specific policies such as debt limits and tariffs.

For a discussion of the restriction imposed by the World Trade Organization and other international financial institutions, see Gallagher and Amsden (2005). Policy space can also encompass other types of policies, this paper focuses on monetary and fiscal policies.



"magic number" or a defined threshold value that compromises the ability of a government to repay its domestic currency-denominated debt, and formally, there is no issue of debt sustainability.

In an open economy, however, public liabilities can have different currencies of denomination, leading to a currency mismatch. This mismatch is at the core of the policy space from a structuralist perspective, which links a government's ability to increase aggregate demand with balance of payments constraints, instead of any fiscal or monetary constraint.

Standard balance of payments constraint models typically limit output growth based on the relationship between a country's exports and imports. Early models often excluded financial flows, implying that commercial deficits needed to be zero in the long run. While more recent models incorporate financial flows, allowing for persistent trade deficits under conditions of sustainable debt accumulation relative to GDP or exports (Moreno-Brid 1998; McCombie et al. 1997; Bhering, Serrano, and Freitas 2019), most studies focus on a single type of external liability, typically foreign currency debt. This paper extends these models by incorporating two key stylized facts regarding the external liabilities of developing economies: the general rise of private lending, including bonds, and the emergence domestic currency-denominated liabilities in some developing economies. We argue that while increased reliance on bonds increases vulnerability to changes in refinancing costs, the growth in domestic currency debt can positively influence external sustainability.

The paper is organized in five parts. After this introduction, the next section presents some stylized facts of external debt in developing economies. The following section formally examines the role of foreign and domestic currency debt in the balance of payments and changes in external financing conditions. Then, a discussion follows on the role of monetary and fiscal policies under balance of payments constraints. The final section concludes.

RECENT TRENDS ON EXTERNAL DEBT IN DEVELOPING ECONOMIES

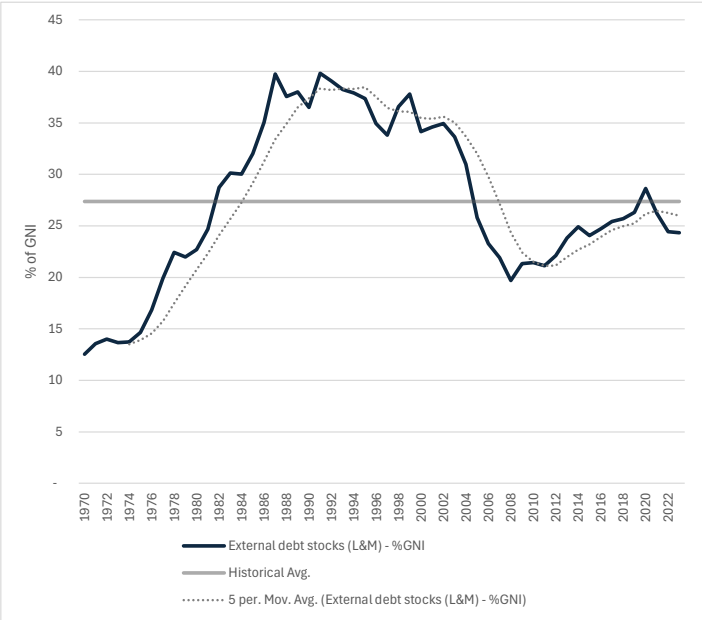
The analysis conducted in this paper focuses on external debt in developing economies, which can be understood through two distinct concepts: (i) one based on *ownership* (or residence-based), referring to debt owned by residents to non-residents, regardless of the denomination and (ii) another more narrow that focuses on *currency of denomination* (or currency based), where external debt refers to debt owed to foreign investors in foreign currency.

Most policy discussions focus on data compiled in the World Bank (WB) database for Low- and Middle-Income Economies (L&M), which uses the concept of external debt based on ownership. According to this database, while absolute external public debt levels in these economies have been rising since 2008, they remain below their historical average when viewed relative to exports and gross national income (GNI) (Figure 1). As illustrated in Figure 1b, the external debt stock as a percentage of exports and primary income has shown a significant downward trend since the late 1980s. When measured against GNI, external debt in L&M peaked in the late 1990s at nearly 40 percent, as can be seen in Figure 1a. Since then, it has declined to its lowest point in 2008 and while there has been a recent rise, it continues to be below historical levels.

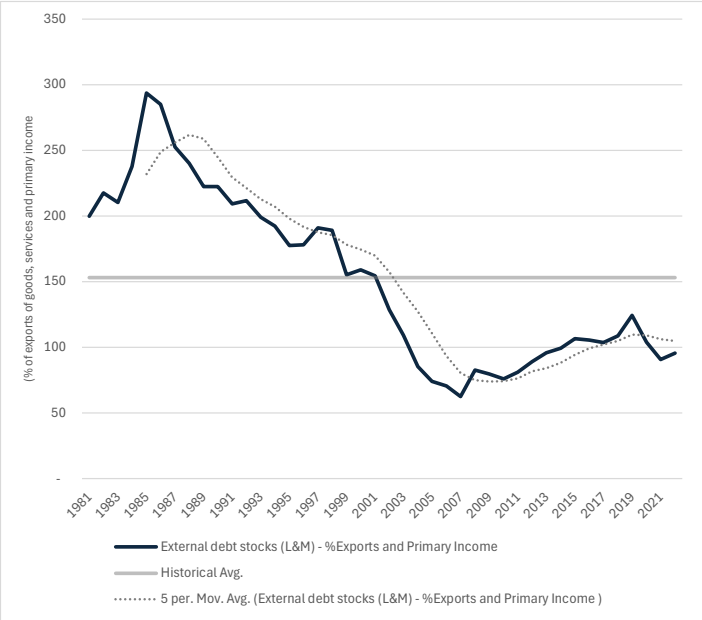
This trend becomes particularly evident when examining the indicators of total public and publicly guaranteed external debt (PPG) over GNI in Figure 2a and exports in Figure 2b. This decline can be partly explained by debt relief initiatives implemented in the early 2000s, particularly the Initiative for Heavily Indebted Poor Countries (HIPC) and the Multilateral Debt Relief Initiative (MDRI).

Figure 1: External Debt Stock of Low- and Middle-Income Countries, 1970-2023

(a) External debt to GNI



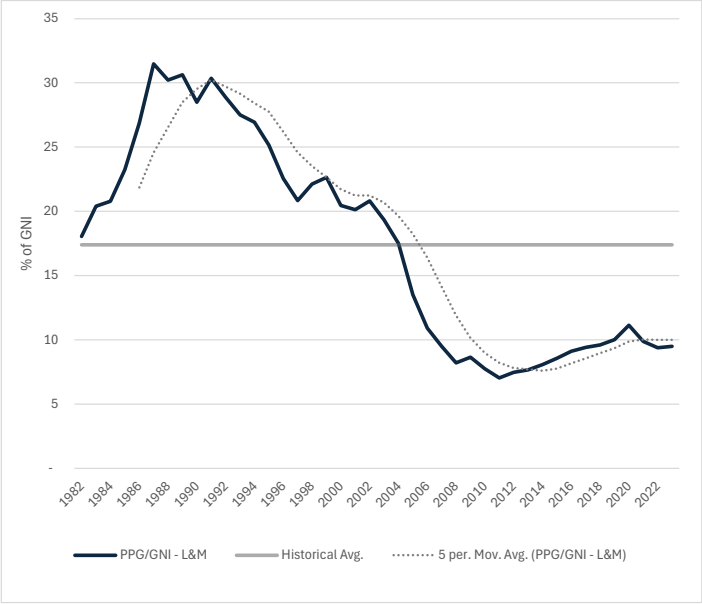
(b) External debt to exports



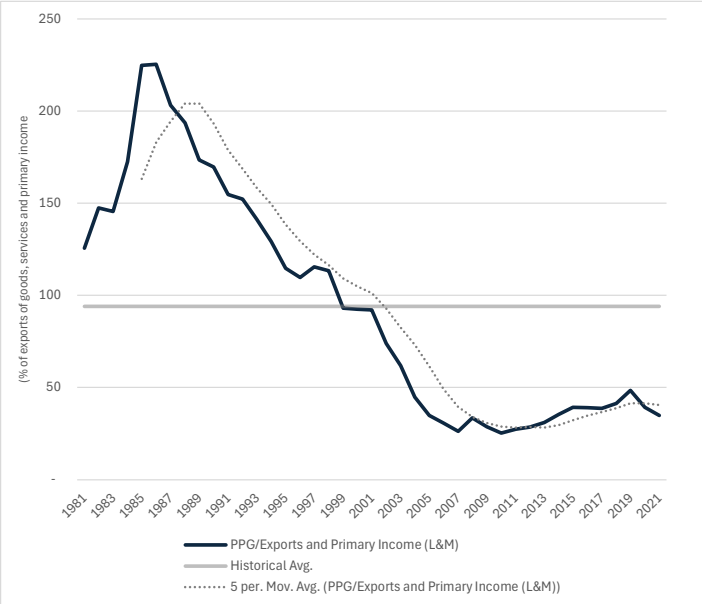
Source: World Bank Database (2024).

Figure 2: External Public Debt Stock of Low and Middle Income Countries, 1970-2023

(a) PPG to GNI



(b) PPG to exports

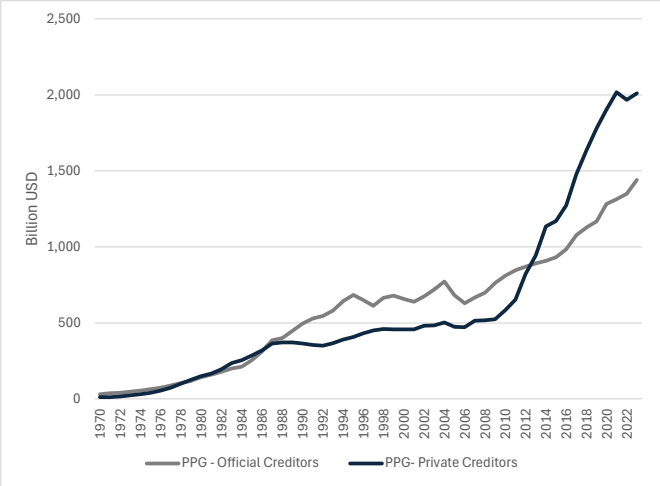


Source: World Bank Database (2024). Authors' calculations.

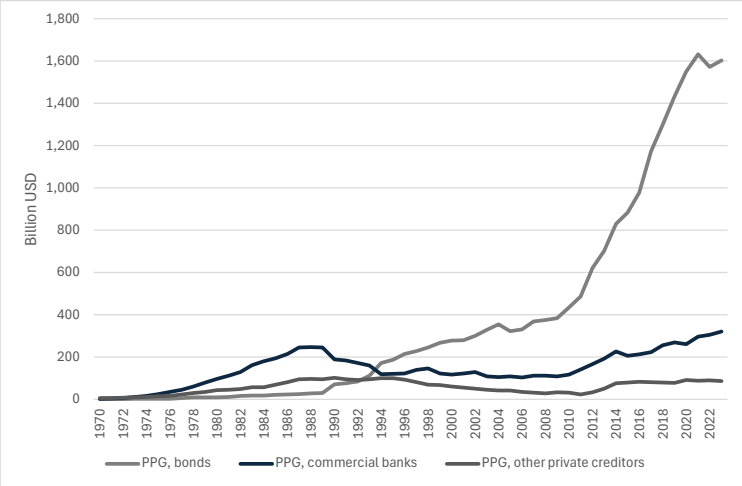
Given these historically below-average debt levels, and in line with Chowdhury and Sundaram (2023) and Diwan, Kessler, and Songwe (2024), the argument advanced in this paper is that recent debt concerns can be better explained by changes in the composition of external debt—specifically, a shift toward more expensive, short-term borrowing, as well as rollover challenges affecting certain countries, rather than by a generalized debt problem across developing economies. Indeed, a closer examination reveals a significant transformation in the structure of PPG debt since the 1970s.[2] Debt owed to private lenders has now surpassed that owed to official creditors, which traditionally included multilateral banks and bilateral loans (Figure 3a). Although this may reflect an increase in the availability or supply of foreign lending to developing economies in the private sector, this can also result in a higher average interest rates and shorter maturities.

Figure 3: Composition of External Public Debt in Low- and Middle-Income Countries

(a) PPG owned to official and private creditors



(b) PPG owned to different private creditors



Source: World Bank Database (2024)

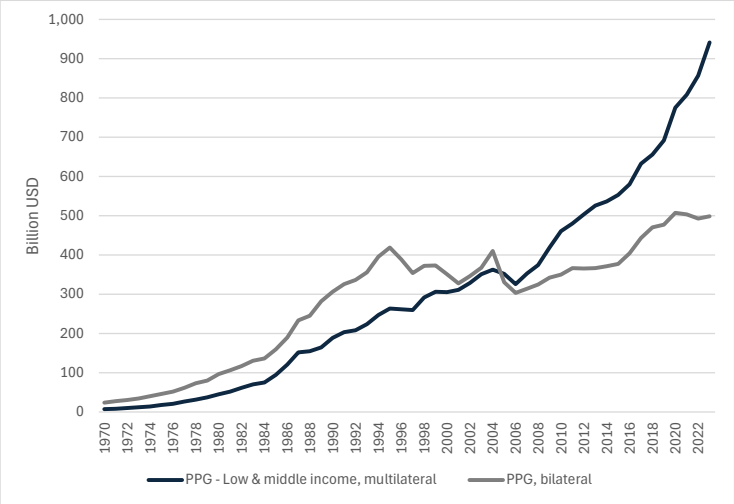
While the participation of multilateral banks expanded in the 2000s and bilateral flows remained relatively constant, the share of concessional versus non-concessional debt has remained largely stagnant since the 1980s (Figure 4). However, the most notable change has been the surge in private debt, which typically carries higher interest rates, and within this category, bond issuances have experienced particularly robust growth, now exceeding loans from commercial banks. Although this trend has been observed since the 1990s, it presented a marked acceleration post-2000 (Figure 3b).

The surge in bond issuance in developing economies can be explain as a result of the financial integration of two distinct groups, or two waves. The first occurred in the 1990s, encompassing the so-called "emerging market economies" (EMEs), which consist mostly of middle- and upper-income developing economies (Figure 5a). Subsequently, the 2000s witnessed the integration of "frontier market economies" (FMEs), predominantly low- and lower-middle-income countries, with their market access expanding significantly post-2008 (Figure 5b).

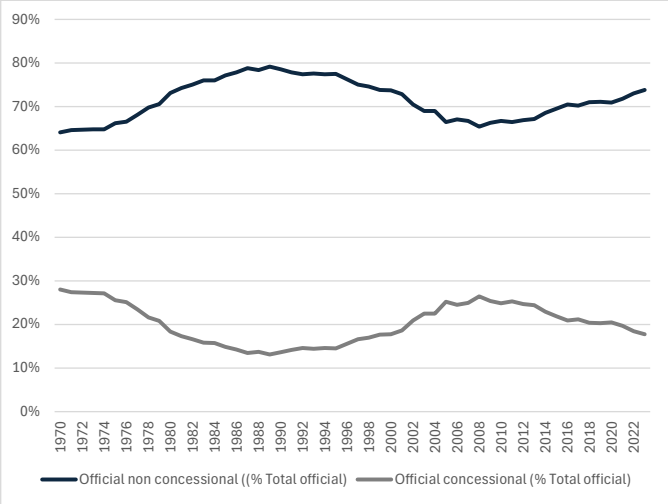
[2] While the share of private sector external debt (PNG) has increased, PPG still constitutes the majority of external obligations. This is particularly evident in low- and lower-middle-income countries, where PPG, combined with IMF credit and SDR allocations, accounts for nearly 70 percent of total external debt.

Figure 4: External Debt Owed to Official Creditors in Low- and Middle-Income Countries

(a) PPG owned to official creditors



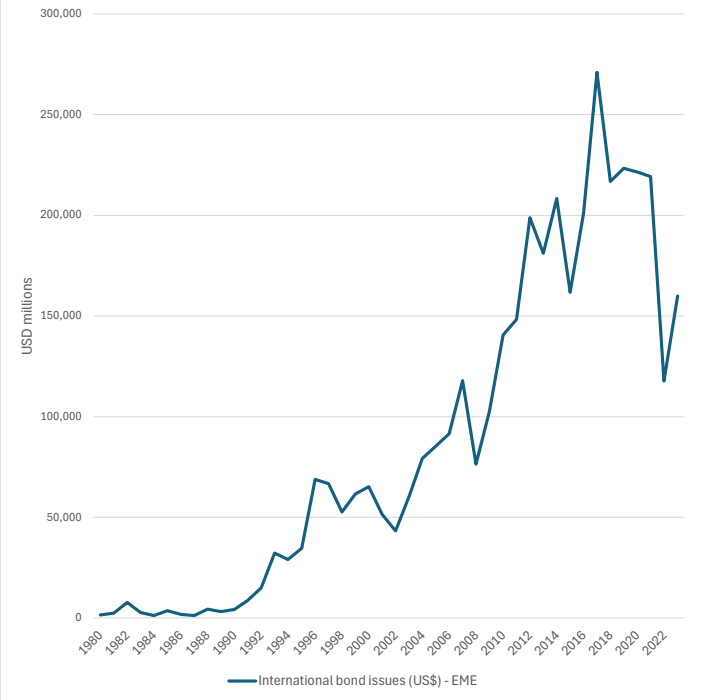
(b) PPG concessional debt



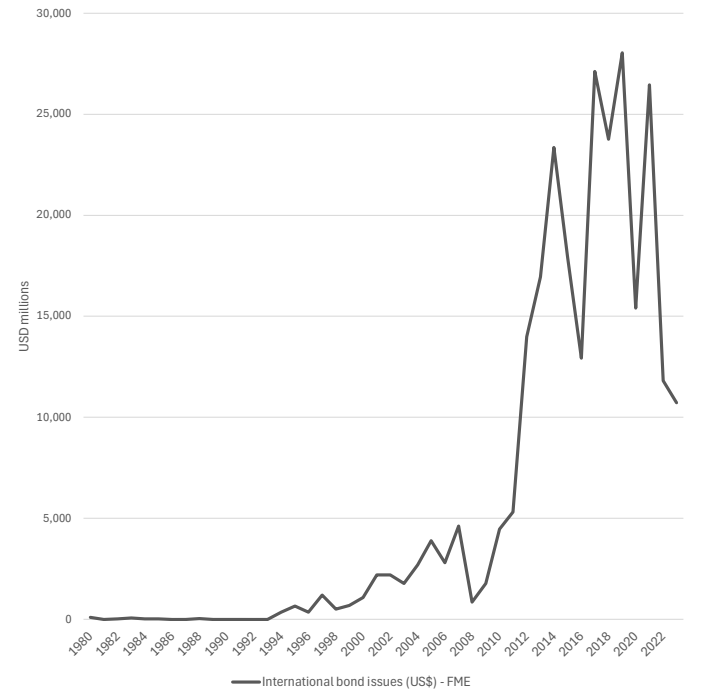
Source: World Bank Database (2024).

Figure 5: International Bond Issues in Emerging and Frontier Market Economies, 1980-2023

(a) Emerging Market Economies



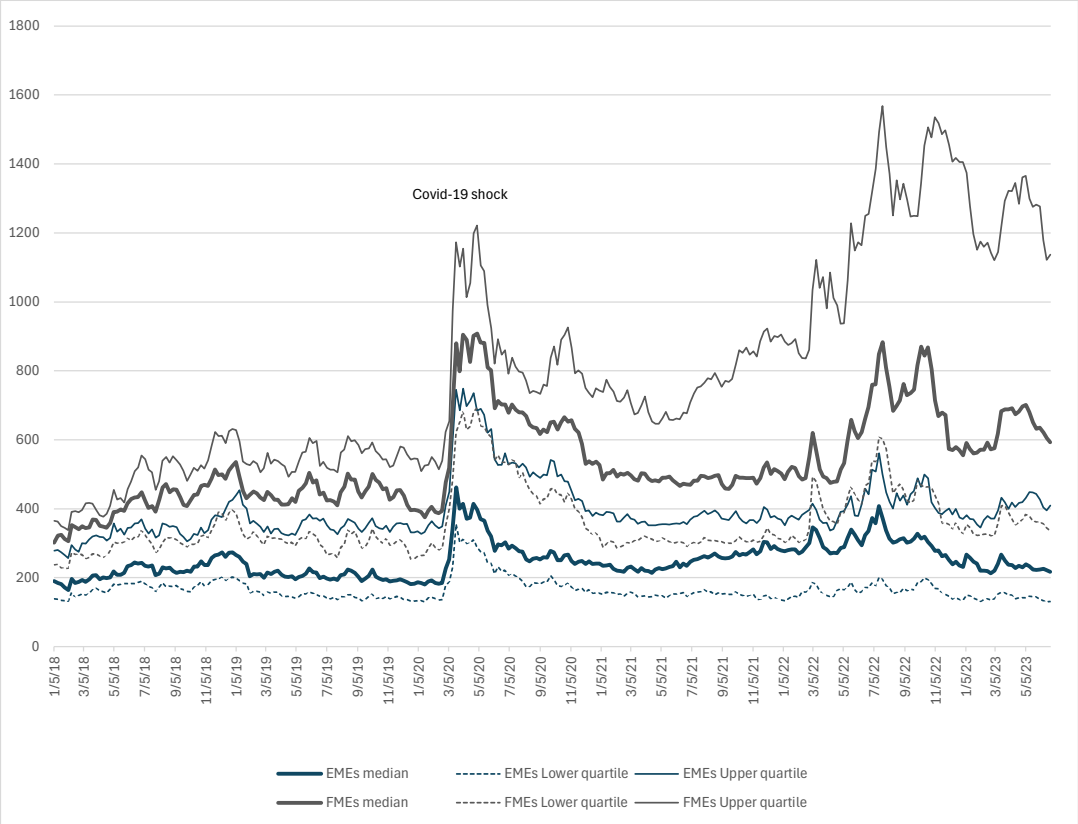
(b) Frontier Market Economies



Source: EIU Database.

As illustrated in Figure 6, bond spread dynamics — a proxy for borrowing costs in international financial markets — of EMEs and FMEs exhibit similar co-movements during shocks. However, while EMEs have largely seen their spreads revert to pre-COVID levels more recently, this has not been the case for most FMEs. This latter group of countries is still facing a sustained and persistent increase in borrowing costs, which highlights their struggle to roll over their foreign currency external debt.

Figure 6: J.P. Morgan EMBI Global Sovereign Spread in Emerging and Frontier Market Economies, 2018-2023

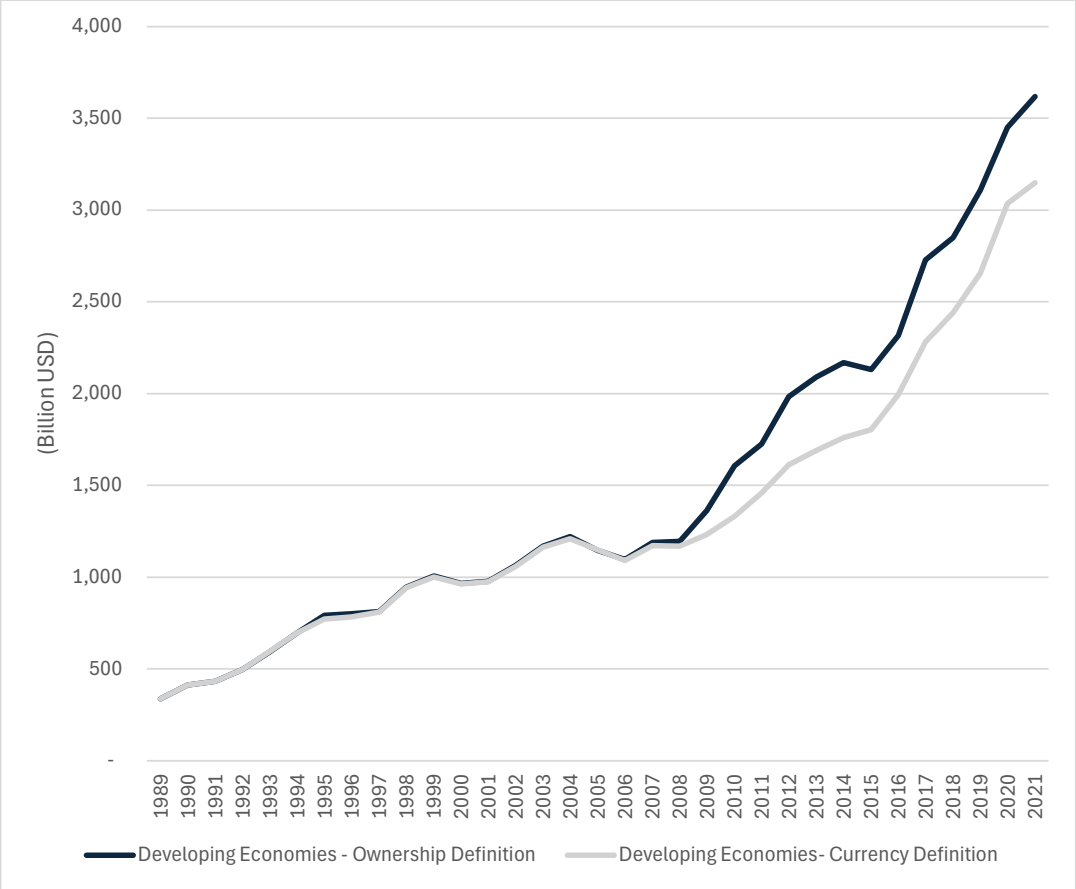


Source: Refinitiv

An additional aspect of external debt composition involves the currency denomination of these liabilities. A key feature of the World Bank's external debt database presented in Figures 1 through 5 is its definition based on *ownership*: external debt is considered to be a debt owed to nonresident creditors, repayable in both foreign and domestic currencies. Traditionally, especially in developing economies, governments and private residents borrowed almost exclusively from foreigners through foreign currency-denominated liabilities, with domestic currency-denominated debt predominantly held by residents. This led to an overlap in the definitions of external debt based on *ownership* and *currency of denomination*. However, there has been an increase in foreign investment in local-currency-denominated debt in some developing economies more recently (Onen, Shin, and Von Peter 2023). This trend can be seen in the expanded dataset of public foreign currency liabilities constructed by Arslanalp and Tsuda (2014) as shown in Figure 7.[3]

[3] This dataset covers the currency composition of foreign exchange (FX) debt and information about the type of lender (foreign official, foreign private, domestic central bank, domestic commercial banks and domestic nonbank). It is based on several cross-country databases and is also used by the IMF according to its new framework for assessing sovereign risk and debt sustainability for market access countries.

Figure 7: External Debt Levels According to Different Definitions in Developing Economies, 1989-2022



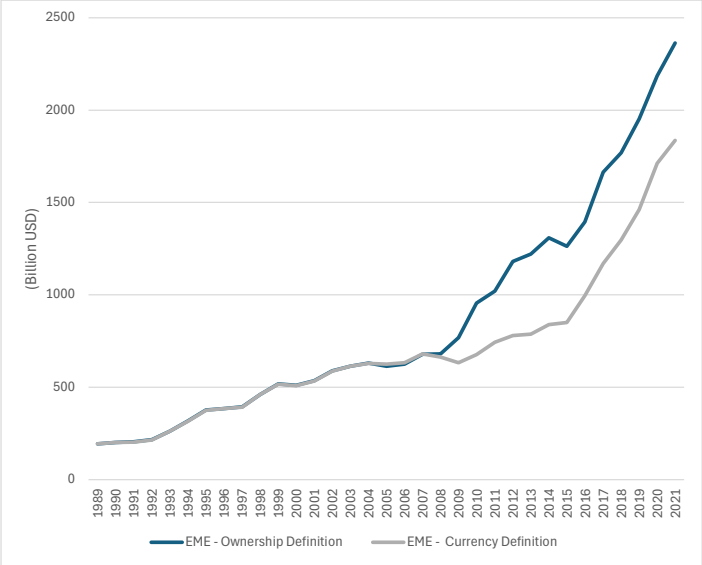
Source: Authors' calculations based on Arslanalp and Tsuda (2014).

Despite this trend, the ability to issue external debt denominated in domestic currency remains limited among a few developing countries and concentrated among the EMEs. As Figure 8 shows, while for FMEs (8b), the external debt stays almost the same when calculated based on ownership or in the currency of denomination, this is not the case for EMEs (8a). Notably, most countries currently experiencing debt distress are concentrated within FMEs (UNCTAD, Development Secretariat 2023).

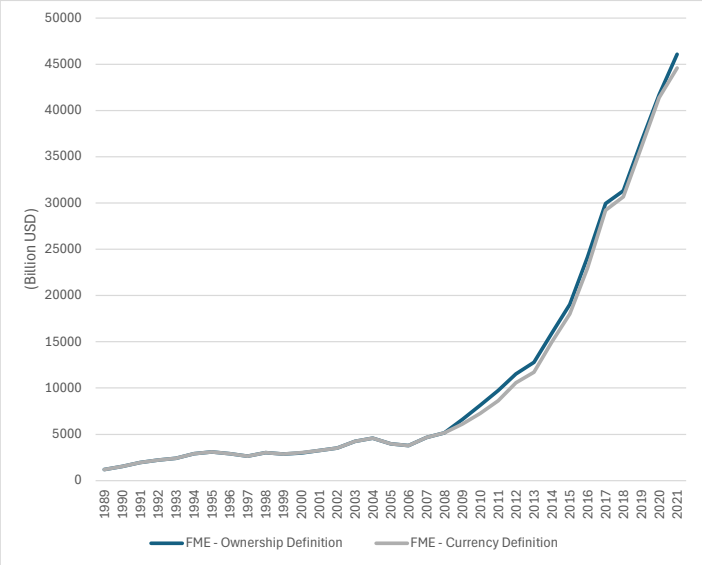
To cope with external shocks that can result in capital outflows, currency depreciation or a decline in export earnings, developing economies have been accumulating foreign reserves that can act as an external buffer or a safety net to mitigate the negative impacts of external instability on the domestic economy (Allegret and Allegret 2018). As shown in Figure 9, there is also a divergence in the relative size of international reserve assets held by these two groups. While both groups have expanded their foreign reserve holdings over time, EMEs have exhibited a more pronounced upward trajectory (as shown in Figure 9a). Additionally, the relationship between foreign currency-denominated public debt and international reserves varies between the two groups. In FMEs, this ratio declined sharply in the early 2000s but began trending upwards following the 2008 global financial crisis. In contrast, this indicator for EMEs has remained relatively stable (Figure 9b).

Figure 8: External Debt Levels According to Different Definitions in Emerging and Frontier Market Economies, 1989-2022

(a) Emerging Market Economies



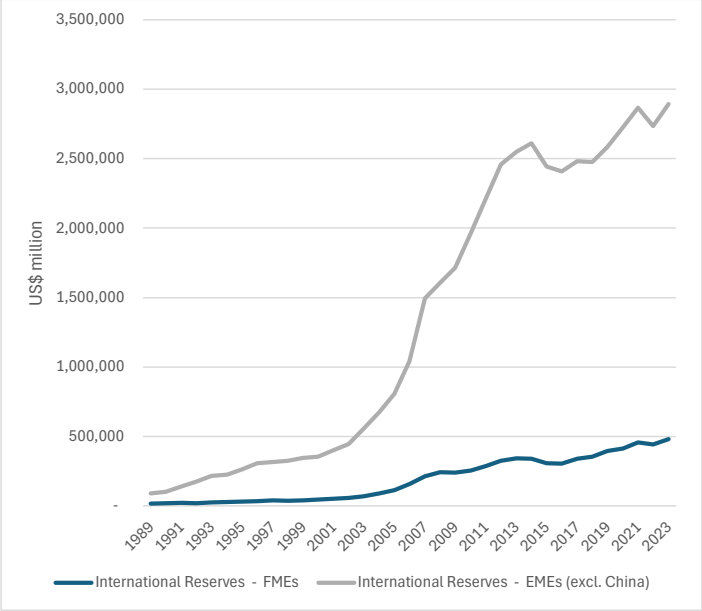
(b) Frontier Market Economies



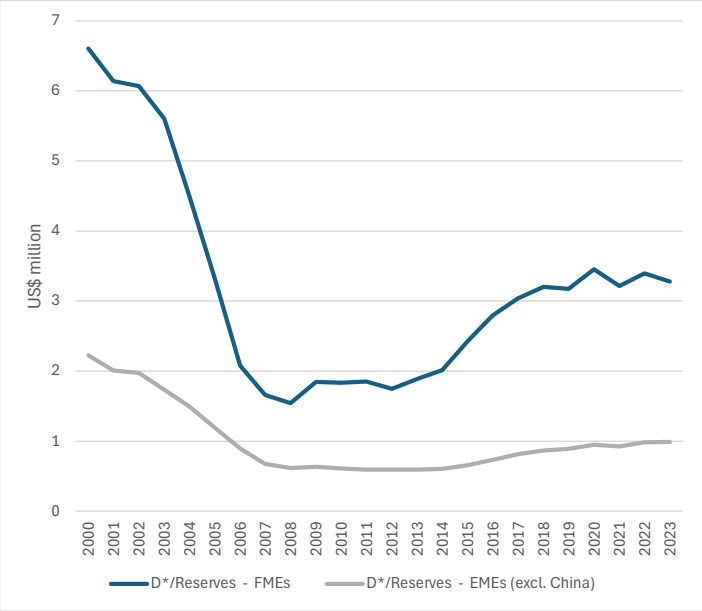
Source: Authors' calculations based on Arslanalp and Tsuda (2014).

Figure 9: Foreign Reserves and External Debt in Foreign Currency in Emerging and Frontier Market Economies, 1989-2023

(a) International Reserves levels



(b) Reserves ratio



Source: Authors' calculations based on Arslanalp and Tsuda (2014) and EUI Database.

In light of the evolving composition of external debt, the next section will explore how the increase of bond issuance as a significant source of financing and the emergence of foreign liabilities in domestic currency affect the balance of payments constraint and debt sustainability in developing economies.

BALANCE OF PAYMENTS CONSTRAINT AND EXTERNAL SUSTAINABILITY

In the balance of payments constraint literature, there are different approaches to integrating the dynamics of net foreign capital flows. Moreno-Brid, Nalin, and Pérez-Medina (2023) identify three distinct methods: (i) connecting these flows to domestic imbalances (following the threegap model's literature), (ii) linking them to business cycles and (iii) analyzing their impact on long-term external debt sustainability. This paper adopts the latter approach, focusing on the sustainability of external liabilities and its implications for economic policy.

The balance of payments constraint can be understood through two interrelated dimensions: productive (or structural) and financial. The structural dimension, central to Prebisch's 1949 analysis, refers to an economy's reliance on foreign technology and imports, often leading to a high import coefficient. However, this productive aspect does not necessarily impose a constraint if the economy can adequately finance its import needs. It is the interaction between these structural characteristics and the ability to finance them that determines the size of the balance of payments constraint.

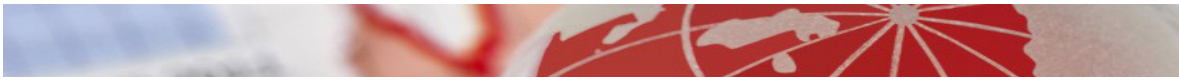
This interaction is particularly crucial for developing economies, many of which face what Eichengreen, Hausmann, and Panizza (2005) term "original sin" – the inability to borrow abroad in their domestic currency. Consequently, these economies do not have unlimited access to international means of payment, making them vulnerable to hard currency shortages and external debt sustainability problems. This section formalizes this constraint and examines the sustainability conditions for external liabilities in more detail.

The Balance of Payments Constraint

The proposition that – for most countries – the major constraint for economic growth is the balance of payments is highlighted by Thirlwall (1979) and the derived models of the balance of payments constraint growth literature (Thirlwall and Hussain 1982; McCombie and Thirlwall 1995; Moreno-Brid 1998; Barbosa-Filho 2004; Bhering, Serrano, and Freitas 2019; Moreno-Brid, Nalin, and Pérez-Medina 2023). Nevertheless, Prebisch (1959) can be considered the *"true forerunner of the balance of payments constrained growth model"* (Thirlwall 2013, p.85). In this latter perspective the division between two asymmetric poles: the "center" and the "periphery" comes at the forefront (Prebisch 1962; Ocampo 2018). According to Prebisch (1949), for peripheral (or developing) countries[4] with underdeveloped and less diversified productive structures, the balance of payments result was more binding since import and/or external financing needs could impair their growth and development.

Thus, from the structuralist perspective, the balance of payments constraint is the inability to reach potential output due to a lack of capacity to pay for the imports required to increase economic activity levels (Prebisch 1950; Thirlwall 1979). This constraint will be higher, the higher the import coefficient (and the demand elasticity of imports), but can be relaxed when the capacity to export increases either due to a structural change (change in price elasticities) or to cyclical and exogenous factors such as an increase in the external demand for domestic products or an improvement in the terms of trade associated with a commodity price cycle (Medeiros and Serrano 2006).

[4] In this paper, peripheral countries/economies and developing countries/economies will be used synonymously.



To formally illustrate the balance of payments constraint, we start our discussion with the simple Balance of Payments (*BoP*) accounting identity where current account deficits can be financed either trough financial flows (*FA*) or changes in foreign reserves (ΔR)

$$CA = \Delta R - FA \tag{1}$$

Financial flows can be decomposed into net portfolio flows (*NPF*), foreign direct investment flows (*FDI*) and changes in stocks of external debt denominated in foreign currency (ΔD^*). For simplicity, we consider that most part of FDI behave like portfolio flows and abstract from other determinants that might be relevant in particular cases.

$$FA = NPF + \Delta D^* \tag{2}$$

The current account is broadly simplified as the result of the trade and service balance

($X - M$), and the primary income balance, or net foreign transfers *NI*, that records net flows of profits, interest and dividends from investments in other countries.[5]

In financially integrated developing economies where financial flows result in a high amount of interest profits and dividends payments, net income balance tends to be negative and therefore has a negative sign (representing outflows) in equation 3 where *M* stands for total imports.

$$CA = (X - M) - NI \tag{3}$$

We denominate exports (*X*) as the sum of exports and remittances received. While these flows can be considered as exogenous (at least in the short-run), import levels tend to be a function of the domestic demand adjusted by the economies' import coefficient (*m*). Since national accounts are usually denominated in domestic currency while the balance of payments is the international currency, we further adjust the domestic output level (Y) by the nominal exchange rate *e* to arrive at the dollar denominated output level ($Y^* = \frac{Y}{e}$).

$$M = mY^* \tag{4}$$

We can combine equations 4, 3 and 1 to find the level of Y^*, which will correspond to the long-run output in foreign currency consistent with the balance of payment constraint (Y^*_{BP}). In the bounder condition, when $\Delta R = 0$, this level can be written as in equation 5.

$$Y^*_{BP} = \frac{X - NI + FA}{m} \tag{5}$$

In terms of equation 5, the balance of payments constraint means that the actual level of output Y^*_t cannot exceed the balance-of-payment-constrained level of output Y^*_{BP} without incurring a loss of foreign reserves ($\Delta R < 0$). Everything else equal, a level of activity higher than Y^*_{BP} results in a loss of foreign reserves (which cannot go forever), and the opposite can be true for lower activity levels:

$$Y^*_{BP} < Y \rightarrow \Delta R < 0 \tag{6}$$

[5] Since for some developing the net remittance flows from migrant workers are relevant and can be considered a free-of-cost foreign currency revenue we include them on the export level as will be discussed next.

It is important to emphasize that no mechanism guarantees that this level of output is consistent with the current level of output Y^* nor with the level of output compatible with potential output Y_p^*. In fact, in developing economies $Y^* < Y_{BP}^* < Y_p^*$.

From equation 5, it can be noted that a higher import coefficient *m* is associate with a lower output level consistent with the balance of payments, and therefore a higher constraint. This is one of the structural characteristic of developing economies balance of payments problems. The constraint can be relaxed when a country has accumulated foreign reserves or in times of global economic growth, which increases exports, remittances received, and prices of exported products. Financial flows can also increase the output level consistent with the balance of payments directly by providing foreign currency. However, since there are costs associated with interest rates, dividends, and profits sent abroad that increase net income (increasing *NI*), the final effect depends on the growth rate of the external foreign currency liabilities created by these flows.

Sustainability of External Liabilities

External finance can be considered "adequate" when the resulting stock of liabilities does not lead to liquidity or solvency problems. An external liquidity crisis is typically viewed as a short-term concern arising from maturity mismatches between assets and liabilities. This situation depends on the volume of maturing foreign currency denominated liabilities compared to a country's foreign exchange reserves. When creditors refuse to roll over maturing debts and the stock of reserves is insufficient to meet these obligations, a liquidity crisis can escalate into a solvency crisis (Medeiros and Serrano 2006). Therefore, solvency and liquidity problems can become interconnected, which underscores the importance of having access to global financial safety nets that can provide support during periods of acute liquidity stress, helping to prevent the escalation of a short-run liquidity problem into a more severe solvency crisis.

While addressing liquidity shortages is crucial, the analysis of this paper will primarily focus on long-term solvency. Specifically, the aim is to explore the conditions under which the growth of external liabilities does not follow an explosive trajectory in relation to a country's repayment capacity, even when we abstract from cyclical fluctuations and short-term maturity mismatches.

EXTERNAL LIABILITIES LEVELS AND INDICATORS OF EXTERNAL SUSTAINABILITY Given the scope of the analysis, external vulnerability is defined as the risk of an economy experiencing sustainability problems or facing a shortage of dollars in the long-run. Consequently, the paper will examine the boundary conditions related to the stock of external liabilities. Traditionally, the literature focuses on the stock of external liabilities relative to gross domestic product (Vaggi and Prizzon 2014; Moreno-Brid 1998; Botta et al. 2023). However, due to currency mismatches between external debt and domestic resources, the analysis will instead concentrate on two primary indicators using exports levels (that include remittances) as the reference point since they account for the total "free of cost" inflow of foreign currency (Bhering 2021).

The first indicator is the current account deficit over export ratio (equation 7) that reflects the impact of the import coefficient on the external financing needs. The higher this indicator, the higher the amount of external financing needs of the economy. A high trade deficit, however,

will not necessarily result in balance of payments problem unless creditors refuse to refinance the external liabilities (Medeiros and Serrano 2006).

$$\frac{M - X}{X} \tag{7}$$

Since credit restrictions occur when external debt levels are considered high, the second indicator depends on the stock of net external liabilities *NEL* resulting from debt commitments and portfolio financial flows described in equation 2. We assume that debt commitments in foreign currency D^* can be divided into two broad categories. The first relates to official bilateral and lending D_o^* and private debt that mainly refer to bonds D_b^*, denotes the share of this last type of lending. As noted in the previous section, these later types of liabilities have become increasingly important in developing economies, and therefore, differentiating between these two types of debt becomes more relevant.

$$D^* = D_o^* + D_b^* \tag{8}$$

Not only have developing economies increased their issuance of bonds in international markets, but more foreigners have also begun to invest in domestic financial markets. Although most developing countries issue bonds in foreign currency, a group of mostly emerging market economies has been able to overcome the "original sin" by issuing domestic currency bonds and have seen an increase in foreign participation in their domestic equity market (Shin and Peter 2023). To account for this difference in our model, we include investment by foreigners in domestic bonds and stock markets as portfolio flows in our model that results in a stock of portfolio liabilities, which can be divided between domestic and foreign currency denominated portfolio liabilities (B^*) and domestic currency liabilities (B) adjusted by the nominal exchange rate (e).

The net stock of external liabilities *NEL* will be a result of the former liabilities adjusted by the level of international reserves:

$$NEL = D_o^* + D_b^* + B^* + \frac{B}{e} - R \tag{9}$$

Thus, a higher level of international reserves reduces net external liabilities, providing a buffer against external shocks. Additionally, a part of external liabilities is denominated in domestic currency, a currency depreciation reduces external liabilities as the currency risk is shifted to external creditors.[6]

As previously discussed, creditors may refuse to roll over external liabilities when they reach a level deemed excessively high. To assess this risk, a solvency indicator is presented in equation 10, which compares net external liabilities to the country's repayment capacity (X). The advantage of adjusting for foreign reserve, rather than relying on a gross indicator, is that it can reveal different vulnerabilities based on the asset side of the balance of payments, which might otherwise be masked by a gross indicator and underscores the role of international reserves as a buffer against external shocks and their potential to enhance a country's creditworthiness in the eyes of international creditors.[7]

$$d_{NEL} = \frac{D_o^* + D_b^* + B^* + \frac{B}{e} - R}{X} \tag{10}$$

One controversial point in this approach relates to the effect of the exchange rate. As presented earlier, while it has been common for many developing economies to borrow in foreign currency after opening their capital account, some developing economies have recently managed to issue external liabilities in their own currency, overcoming the so-called *original sin*. In these cases of *redemption*, as seen in equation, a currency devaluation can reduce external debt levels, making the economy less prone to balance of payments vulnerabilities.

[6] Note that when all debt is denominated in foreign currency, the model reverts to the model developed in Bhering, Serrano, and Freitas (2019).

[7] For instance, consider two countries with identical high levels of external debt. One country has low reserves, while the other has significantly higher international reserves. According to a gross indicator, these countries would exhibit similar vulnerabilities. However, the net indicator, which accounts for reserve assets, would correctly indicate that the country with higher reserves is in a more favorable position to manage its external obligations.

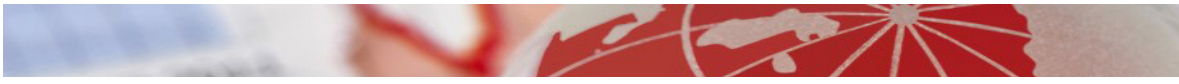
Nevertheless, scholars from different theoretical perspectives have argued that merely shifting currency mismatches from borrowers (developing countries) to lenders (foreign investors) is insufficient to reduce vulnerabilities. When exchange rate risk is transferred, international investors face currency mismatches on their balance sheets. On the asset side, they hold sovereign bonds denominated in various local currencies issued by emerging economies, often seeking higher returns, while their liabilities remain primarily in hard currencies, particularly the US dollar. Due to the limited depth of financial markets in developing countries, high hedging costs, or deliberate investment strategies, most investors do not fully hedge against exchange rate fluctuations. Consequently, exchange rate movements become critical determinants of investment gains and losses through valuation effects. Given this exposure, these scholars argue that foreign investors often become reluctant to hold and more prone to sell local-currency bonds from emerging economies during periods of heightened global risk aversion. Consequently, these economies become more vulnerable to the volatility and pro-cyclicality of capital flows associated with local currency-denominated bonds, risking capital flight and sharp currency depreciation. Such depreciation further reinforces investor exits, deepening exchange rate instability. Therefore, from this perspective, although emerging economies have become less susceptible to traditional external crises, they remain exposed to fluctuations in global financial conditions, suggesting an *original sin redux* (Carstens and Shin 2019; Onen, Shin, and Von Peter 2023; Shin and Peter 2023).

Concerns about portfolio flows—typically short-term and driven by risk-adjusted interest rate differentials—have been raised by various authors, who emphasize that these flows can be a key driver of sharp exchange rate movements and even explosive behavior (Andrade and Prates 2013; Kaltenbrunner 2015; Serrano, Summa, and Aidar 2021). However, for the present analysis, it is important to highlight that when a country can issue foreign liabilities denominated in local currency, exchange rate depreciation reduces the real value of its debt which, in turn, improves the debt sustainability indicator (equation 10) and reduces external vulnerability. Therefore, regardless of how the foreign investors behave after a shock due to their currency mismatches, the directed effect is that debt and the amount that has to be paid to foreigners is reduced.

Therefore, in this approach, it is essential to distinguish between the type and denomination of external liabilities. Portfolio flows—such as purchases of equities and bonds denominated in local currency, as well as foreign direct investment through share acquisitions in domestic markets—do not inherently create currency mismatches. However, these flows can be very volatile and subject to fluctuations, which raises concerns about their reliability as a source of long-term financing. In contrast, liabilities denominated in foreign currency pose direct risks of liquidity or solvency crises. An increase in portfolio flows can positively contribute to reducing external vulnerabilities when these inflows are directed toward repaying foreign currency-denominated debt, accumulating foreign reserves, or making investments that reduce import needs. On the other hand, if these inflows are primarily used to finance growing current account deficits—without corresponding investments that diminish import dependency or enhance export capacity—they risk becoming unsustainable, ultimately undermining the economic stability they initially seemed to support.

EXTERNAL SUSTAINABILITY CONDITIONS AND CRISIS Starting from the general condition, which is that the growth rate of net obligations do not increase indefinitely in relation to the growth rate of repayment capacity. With a given level of trade deficit, the growth rate of net external liabilities (g_{NEL}) will depend on portfolio flows, the growth rate of exports (g_x), the growth rate of imports (g_m), and on the average cost of the external financing (r^*).

$$g_{NEL} = \frac{(1+g_M)M - (1+g_x)X - NPF}{NEL} + r^* \tag{11}$$



The average interest rate is affected by the types of loans, which consist of concessional, commercial and bilateral loans from foreign investors. While all three types of loans generally use an external short-term policy rate as a benchmark—such as the US Federal Reserve rate—the markups applied can vary significantly. Concessional loans have a lower markup, offering more favorable terms for borrowers, while commercial loans carry the highest markups, making them the most expensive. Bilateral loans typically have terms that fall between these two extremes. Thus, the differences in loan types and interest rates can significantly affect the overall borrowing costs for developing countries that rely on foreign debt. The average costs of liabilities is represented in 12, where *i* represents the cost of each different type of debt.

$$r^* = \frac{i_o^* D_o^* + i_b^* D_b^* + i_B \frac{B}{e} + + i_{B^*} B^* - i^* R}{D_o^* + D_b^* + \frac{P}{e} - R} \tag{12}$$

If we denote external loans in foreign currency as $D^* = D_o^* + D_b^*$ we can write the share of foreign currency denominated external liabilitie s as α (equation 13).

$$\alpha = \frac{D^* + B^*}{D^* + B^* + \frac{B}{e}} \tag{13}$$

Denoting the average cost of foreign currency liabilities as i_D^*, the cost of gross external liabilities (R = 0) – which includes the external interest rate (i^*) and the specific risk premium charged – can be simplified as in equation 14

$$r = \alpha i_{D^*} + (1 - \alpha)(i_B - \frac{\Delta e}{e}) \tag{14}$$

From the balance of payments equation, when changes in reserves are equal to zero and portfolio flows are determined by exogenous factors such as interest rate differentials—discussed in detail later—current account deficits or surpluses lead to changes in net external liabilities (ΔNEL), as described in equation 15, where (r^*) represents the average cost of net external liabilities.

$$X - M - r^* NEL_{t-1} = NPF - \Delta NEL \tag{15}$$

In sustainability analysis however, we impose the condition that a country stops loosing reserves (ΔR = 0). Dividing the previous equation by the level of exports, we can arrive at equation X to analyze the sustainability of external liabilities in terms of the gross indicator $d = \frac{D_o^* + D_b^* + B^* + \frac{B}{e}}{X}$, where g_x is the growth rate of exports.

$$d = \frac{M - X - NPF}{X} - \frac{(1 + r)}{(1 + g_x)} d_{t-1} \tag{16}$$

When $d = d_{t-1}$, we arrive at the stability result in equation 17:

$$d \frac{(g_x - r)}{(1 + g_x)} = \frac{M - X - NPF}{X} \tag{17}$$

Portfolio flows are driven primarily by expected financial gains – or risk adjusted interest rate differentials – and do not automatically fill external financing needs. Consequently, in the long run, the constraint expressed by Thirlwall's Law ($g_x \approx g_m$) in a model with zero net capital flows, prevails as a stability condition; otherwise, a persistent trade deficit will lead to debt accumulation exceeding the growth of export revenues. Therefore, the impact of financial flows on the balance of payments constraint is primarily a level effect – meaning that while external financing can boost output in the short run, import growth rate cannot diverge too much from export growth rate (Moreno-Brid 1998; Bhering, Serrano, and Freitas 2019; Moreno-Brid, Nalin, and Pérez-Medina 2023).

Nevertheless, in this approach, although the long-term growth remains constrained by Thirlwall's Law, the level effect can still play a critical role within the context of a development strategy. In other words, when a country seeks to diversify its productive structure and achieve higher levels of output and economic growth, it may experience an increase in import requirements. To finance these additional imports, a net inflow of capital becomes necessary and access therefore the amount and type of access to external finance becomes relevant (Amico 2020). Whether these financial flows are sustainable or not can have significant implications for the country's growth trajectory. When these financial flows result in a reduction of the import coefficient or promote export growth, there can be a permanent improvement in the external accounts. However, if these liabilities increase at a faster pace than the country's ability to accumulate foreign currency, they can increase external vulnerabilities. Therefore, another condition for external debt to be sustainable in the long-run is that the average cost of net external liabilities has to be lower than the rate of growth of exports ($g_x > r^*$), otherwise a country may struggle to generate sufficient foreign-currency revenue to meet interest rate payments, which can escalate the ratio of external debt relative to exports over time (Bhering, Serrano, and Freitas 2019).

As noted in Bhering, Serrano, and Freitas (2019), the sole focus on debt-to-export ratio and the current account to export ratio can lead to an unrealistic conclusion: a country with a low level of indebtedness, as measured by the ratio d, would appear to face the same balance of payments constraints as a country with a significantly higher level of indebtedness, as long as both maintain a relatively stable, non-explosive trajectory for d. Therefore, to asses default risk or external sustainability it is important to consider the possibility of a limited amount of external credit.

That is, although debt is frequently rolled over, the risk of default arises when a country loses access to new financing or must refinance under unfavorable conditions (higher r^*). The ability to secure such financing depends heavily on the perceived level of risk and the external indebtedness d. When d becomes sufficiently high ($d \geq d_{max}$), the domestic economy can no longer finance external deficits. Furthermore, we assume that this maximal debt-to-export ratio can vary with external financial conditions. Thus, it can be decomposed into an independent, country-specific (structural) parameter and another component that is a function of external risk considerations—such as global liquidity or commodity boom cycles—that may be transitory or permanent. Another important factor influencing d_{max} is the level of foreign reserves, which can buffer against external shocks and provide greater leeway for sustaining higher debt.

$$d_{max} = \vartheta + \beta risk \tag{18}$$

As a result, the stability condition with credit restriction can be written as in equation

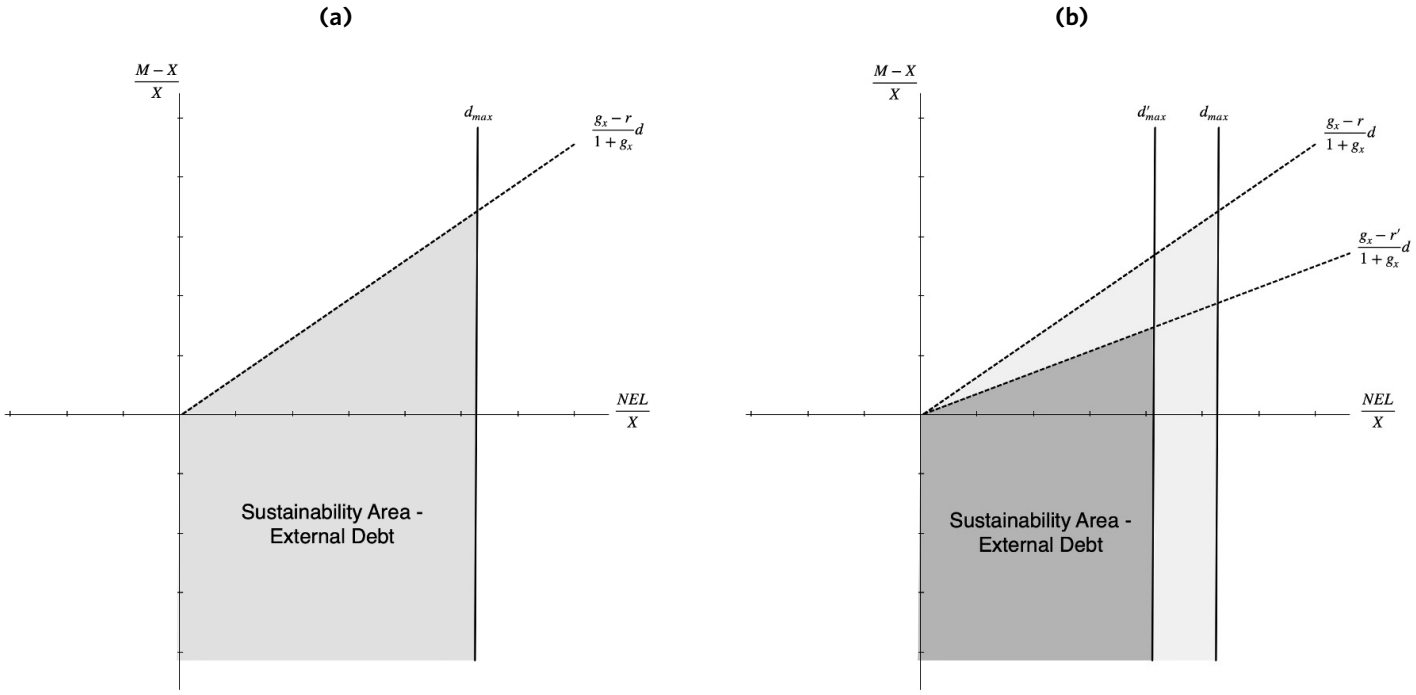
19, where sustainability also involves the possibility of credit restriction based on how external liabilities levels are assessed.

$$\frac{M - X - NPF}{X} = \frac{g_x - r^*}{1 + g_x} d_{max} \tag{19}$$

With these indicators and the credit constraint, it is possible to delineate a sustainability area for external liabilities, as illustrated in Figure 10a.

The sustainability area can shift in response to changes in d_{max} and refinancing conditions or the cost of external liabilities, represented by r^*. Figure 10b illustrates these changes in the event of financial tightening. When such tightening occurs, a country's profile of external liabilities and its position within the sustainability area will determine its exposure to credit constraints and its capacity to meet external payment obligations as they come due. In this scenario, if the external shock is not

Figure 10: Sustainability Area of Foreign Currency Liabilities



Source: Author's elaboration.

temporary, even a modest current account deficit can lead to a situation where the total stock of non-renewed credit lines appears as a substantial gross outflow of capital. This rapid outflow can quickly deplete the country's foreign exchange reserves and ultimately trigger a solvency crisis. On the other hand, a positive external shock will have the opposite result. Interestingly, when domestic currency external liabilities are relevant and other variables do not change, r^* will decrease, thereby expanding the sustainability area.

As a result, the composition and the currency denomination of external liabilities play an important role in determining a country's vulnerability to the balance of payments crisis. While higher reserves and domestic currency-denominated debt can mitigate some risks, the heavy reliance on foreign currency debt, especially when concentrated in short-term and costly bonds, leaves many developing economies vulnerable to external shocks and can affect the economic policy space.

ECONOMIC POLICY IN A CONTEXT OF BALANCE OF PAYMENTS CONSTRAINT

In the approach taken here, policy space is understood as the space a country has to implement demand management policies (or other policies to affect aggregate demand, such as industrial policy). This space is determined by the gap between the current output level and the output consistent with the balance of payments constraint. From this perspective, the United States enjoys substantial policy space due to the dollar's status as the key currency. This allows it to finance trade deficits without concerns regarding any maximum sustainable debt level d_{max} level. Countries with better access to external financing — typically advanced economies — tend to have more policy space than developing countries. The latter, which often have high import coefficients and limited access to external long-term financing at favorable rates are more vulnerable to external liquidity shortages and external sustainability problems.

As noted earlier, although the long-term growth remains constrained by Thirlwall's Law, as long as external debt is sustainable, they can have a positive level effect on the balance-of-payments constrained output and, therefore, on policy space, which can play a critical role within the context of a development goals. If we denote the sustainability condition from the previous section as *b* (see equation 20)[8], we can derive the new balance-of-payments-constrained output - or the limit for policy space - as shown in equation 21, assuming that the level of imports is a function of domestic demand $M = mY^*$.

$$b = \frac{(g_x - r^*)}{(1 + g_x)} d_{max} \tag{20}$$

$$Y^*_{BP} = \frac{X(1 + b) + NPF}{m} \tag{21}$$

Thus, the effect of external debt on the balance-of-payments-constrained output will depend on the level of the external credit constraint and the sign of *b*, that is, the cost of external liabilities relative to the growth rate of exports and the level of the external credit restriction. With the level of exports given, $r > g_x$ results in $b < 0$, creating an unsustainable foreign debt situation and a constraint in output since generating current-account surpluses to address this imbalance is typically achieved by restricting imports through a reduction in production and overall economic activity. Conversely, a more favorable situation emerges when the cost of liabilities is lower than the export growth rate ($r < g_x$ results in $b > 0$). In this case, the presence of external debt can positively influence the long-term balance-of-payment-constrained output level. This more manageable debt allows for increases in domestic demand trough demand management policies.

Monetary Policy and the Interest Rate Floor

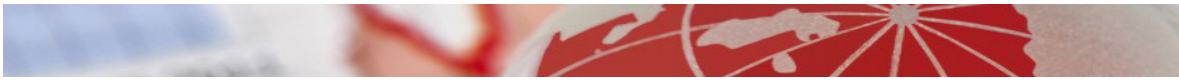
Additionally, the presence of portfolio flows (*NPF*) can also play a role in influencing the balance-of-payment-constrained on output in equation 21. These flows can either relax or tighten the constraint, depending on their direction. Positive net portfolio inflows can alleviate the constraint, allowing for higher levels of output, while negative flows (outflows) can reduce the level of output compatible with balance of payments sustainability.

Portfolio flows consist of investments in bonds and equity markets, and changes in this account will therefore depend on the expected risk-rewards consideration regarding speculative gains. Following Serrano, Summa, and Aidar (2021), portfolio flows can be simplified as in equation 22, where *i* is the domestic benchmark or policy rate that affects the return on domestic bond markets, i^* is the foreign interest rate of the international currency (the US dollar), risk considerations (*risk*) and the expected exchange rate devaluation $\frac{e^e}{e}$. When the expected return on investments in peripheral economies' domestic financial markets is sufficiently high, portfolio inflows will increase. Conversely, when the expected return on domestic financial markets is low, portfolio flows will decrease or even turn into outflows when foreign and domestic investors seek higher (or safer) returns abroad.

$$NPF = \gamma \left[\frac{(1 + i)}{(1 + i^*)(1 + risk)\frac{e^e}{e}} - 1 \right] \tag{22}$$

As a result, these portfolio flows are sensitive to monetary policy decisions. Higher domestic interest rates, adjusted for risk and expected currency devaluation, can attract capital inflows, potentially relaxing the balance of payments constraint. Conversely, low interest rates may trigger capital outflows, tightening the balance of payments constraint. This dynamic creates a potential limitation on

[8] Note that to calculate this condition, the average interest rate should increase to reflect the potential impact of moving from *d* closer to *dmax*. Here, we assume that the cost already reflects this maximal ratio.



expansionary monetary policy, as policymakers must consider the risk of triggering capital outflows that could lead to balance of payments problems.

In addition to reducing the space for increases in the level of output due to a tightening of the balance of payments constraint, portfolio outflows can also result in exchange rate devaluations. When external liabilities are denominated in domestic currency, these devaluations can reduce net external debt levels and the cost of external liabilities. However, in developing economies, exchange rate devaluations generally have a contractionary effect, regardless of the currency in which external liabilities are denominated. This is because devaluations lead to higher import costs, increased inflation and negative impacts on income distribution (Vernengo and Pérez Caldentey 2020; Rolim and Marins 2021; Morlin 2023).

Therefore, given of exchange rate devaluation can impose to developing economies, it may be important for monetary policy to set the domestic interest rate at a level sufficiently high as to avoid portfolio outflows stemming both from residents and non-residents. Using equations 22, 1, 2 and 3, it is possible to derive an interest rate floor for the domestic economy that does not put pressure on the financial account when $\Delta R = 0$, assuming there is relatively free capital mobility.

$$i_{floor} = [(1 + i^*)(1 + risk)] \left[\frac{M + NI - \Delta D^* - X}{\gamma} + 1 \right] - 1 \tag{23}$$

In other words, although these countries can set interest rates according to the central bank's preferences, domestic interest rates cannot be too low if authorities wish to avoid currency depreciation pressures. However, excessively high interest rates can also pose challenges, as they contribute to increases in the net primary income sent abroad. Recognizing this risk of volatile financial flows, the economic literature (including the IMF) has advocated using capital controls and prudential regulations as key mechanisms to prevent debt crises in developing countries (Erten, Korinek, and Ocampo 2021). These policy tools can help manage the composition and volume of capital flows, reducing the economy's vulnerability to sudden stops or reversals in capital movements. However, even with reserves and capital controls, it is hard to insulate monetary policy from external economic conditions completely.

Authors from various theoretical perspectives have increasingly questioned the efficacy of monetary policy as a tool for demand management.[9] However, even if we assume that monetary policy can significantly impact aggregate demand, the approach adopted here raises an additional concern regarding a higher lower bound constraint imposed by the balance of payments in developing economies. Consequently, fiscal policy should be the preferred tool for managing economic activity. Not only does it have the potential to stimulate demand more directly through government spending, but it also plays a crucial role in promoting investments that can enhance development and reduce the import coefficient without directly influencing the exchange rate.

Fiscal Policy and the Balance of Payments Constraint

As presented in the introduction, when all debt is denominated in domestic currency, there is not a "magic number" or a defined threshold value that compromises the ability of a government to repay its domestic currency-denominated debt, and formally, there is no issue of debt sustainability. However, a large public debt can have a negative distributive effect if interest rate payments on such debt are high since they can become a type of regressive income transfer. To tackle this effect, however,

[9] For instance, it has been observed that monetary interventions' impact on aggregate demand is neither systematic nor symmetric, as such interventions have a more direct influence on the term structure when base rates rise rather than when they fall (Levrero 2022). Additionally, the zero lower bound has presented further challenges for monetary policy (Pressman 2019) and has prompted a reevaluation of its role in macroeconomic stabilization (Blanchard, Dell'Ariccia, and Mauro 2013; Blanchard and Summers 2017).

the government does not necessarily need to reduce spending but can instead increase the tax rate on high-income class (Serrano and Braga 2022).

Additionally, increases in government spending result in an increase in domestic demand that, given the imported coefficient, increase the level of imports. If this level of demand is higher than the balance-of-payment-onstrained output, the country will be losing foreign reserves. Since this situation cannot last forever, government may also decide to limit spending according to this external constraint, which in developing economies is usually lower than the full-employment level.

To illustrate this constraints and policy options, we start with an open simple Keynesian model, divided between workers and capitalists.

$$M + Y = C + I + G + X \tag{24}$$

Consumption depends on the propensity to consume out of transfers wages after taxes, the wage share and an autonomous component Z, which include, among other autonomous components, capitalists' consumption. An additional assumption is that investment is exogenous to the model, but the government gurantees that it grows at a stable rate compatible with its spending growth either through regulation or other policy incentives.[10]

$$C = c_w[(1 - t_w)wY + Tr] + Z \tag{25}$$

The resulting output level can be written as:

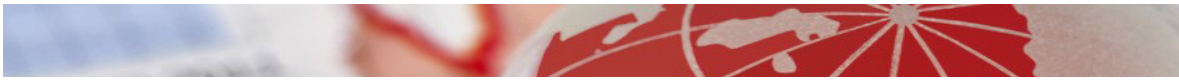
$$Y = \frac{c_w Tr + I + G + X + Z}{1 - c_w(1 - t_w)w + m} \tag{26}$$

To tackle effective demand, when the economy is below the balance-of-payment-constrained output ($\frac{Y}{e} < Y^*_{BP}$) the government has room to increase ↑ G – as a policy orientation – to drive Y towards Y_{BP}* (equation 21) and the growth rate towards the level where external liabilities grow at the same rate as exports. If this is indeed a policy goal, the level of government spending that creates enough effective demand to drive actual output towards the balance-of- payment-constrained output is given by G_{BP} as in equation 27, where $s = 1 - c_w(1 - t_w)w$ is the domestic private propensity to save.

$$G_{BP} = \frac{X[s + b(s + m)] - (s + m)NPF - m(c_w Tr + I + Z)}{m} \tag{27}$$

This level of government spending represents an upper limit compatible with the external accounts constraint. However, it's important to note that there is no automatic market mechanism that adjusts actual government spending towards this particular level. Actual government spending remains an exogenous component of autonomous demand, determined by fiscal policy decisions. If the government follows this policy orientation, debt levels may increase. However, when domestic government spending is made in domestic currency, there is no monetary constraint nor a maximal debt limit. Moreover, when these spending is also directed to a development strategy that reduces the size of the imported coefficient, it can help alliavete the balance of payments constraint in the long-run. Nonetheless, because interest rate payments can have a redistributive effect, the government may consider imposing a maximum limit on these payments as a share of output and adjust the tax rate on capitalists in order to guarantee that interest rate payments do not grow indefinitely when that is a policy concern as formalized by Serrano and Braga (2022) and Furman and Summers (2020).

[10] This assumption leads to the same result if we assumed that investment is induced by outputas formalized in Serrano and Braga (2022).



On the other hand, when an economy is already balance-of-payment-constrained ($\frac{Y}{e} > Y^*_{BP}$) and facing balance of payments problems, the adjustment need not fall solely on reducing government spending ($\downarrow G$). Policymakers may also consider allowing currency devaluations to reduce domestic demand through its impact on real wages and consumption. Alternatively, they can attempt to renegotiate the terms of external debt by adjusting costs, rescheduling payments, or seeking debt reduction from creditors, that is reducing r^* and/or d_{max} and increasing parameter b.

However, debt renegotiations can become increasingly complex, especially in the context of high heterogeneity among creditors as in today's global financial landscape. This diversity complicates the process of reaching consensus on debt restructuring terms. In such situations, and in the absence of other external liquidity facilities or new financial inflows, countries may resort to defaulting on their obligations or turn to the IMF for assistance. The IMF was initially established as an institution to provide member countries with *"with opportunity to correct maladjustments in their balance of payments without resorting to measures destructive of national or international prosperity,"* such as austerity and devaluations, as specified in its Articles of Agreement (International Monetary Fund 1944). However, in practice, IMF loans often come with conditionalities tied to austerity policies (Ray, Gallagher, and Kring 2022). Therefore, alternative proposals, such as issuing SDRs or offering debt relief, may be more effective in alleviating balance of payments constraints and expanding policy space for developing countries.

CONCLUSION

This paper expanded the balance of payments constraint approach by incorporating the impact of the evolving composition of external debt on both external debt sustainability and economic policy. Unlike previous balance of payments constraint models, this analysis explicitly considers external liabilities denominated in both domestic and foreign currencies, taking into account the varying costs of debt and their sensitivity to changing financial conditions. As a result, it stresses that the composition of external liabilities matters for both debt sustainability and shifts in the balance of payments constraint. While external debt denominated in domestic currency can alleviate the balance of payments constraint during periods of financial stress by reducing reliance on foreign exchange reserves, liabilities in foreign currency — especially those with higher interest rates and greater sensitivity to changes in financial conditions, such as bonds issued abroad — can tighten this external constraint.

The paper integrates this analysis with a broader concept of economic policy space and constraints – instead of the traditional view on fiscal space – and emphasizes that the policy mix available to governments can vary significantly based on whether an economy operates below or above the balance-of-payments-constrained output level. When output is below the constraint, policymakers can implement expansionary fiscal and monetary policies to stimulate economic activity. However, given the influence of domestic interest rates on the balance of payment constraint through its impact on the balance of payment constraint and its non-systematic impact on output, the paper highlights the importance of using fiscal policy strategically to increase aggregate demand and support other development goals in developing economies.

However, fiscal policy is constrained by two key factors: the balance of payments output constraint (which results in a maximum expenditure) and political limitations arising from concerns about the distributive effects of rising interest payments benefiting higher-income groups. While domestic policymakers can address the latter through domestic measures like adjusting tax rates to capitalist (or high-income individuals), the former requires a broader developmental strategy that includes targeted government spending and investment in sectors designed to reduce import dependence and improve export competitiveness. On the other hand, when output is above the constraint,

relying solely on contractionary policies may prove inefficient. Reducing government spending can have political limits, and the combination of austerity with exchange rate devaluation can result in stagflation, while raising interest rates to attract capital inflows may prove inefficient, particularly during times of external financial stress. Therefore, the international community can play an important role with institutions that serve as liquidity providers or lenders of last resort.

Overall, this paper advocates for reassessing conventional debt management and economic policy approaches in developing economies and emphasizes the necessity for a context-specific strategies that account for the complex interplay between debt composition, external constraints and domestic policy objectives.

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Boston University
53 Bay State Road
Boston, MA 02215

gdp@bu.edu
@GDP_Center
bu.edu/gdp

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