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## Currencies Come and Go, but Employment Always Takes Root: Rethinking External Constraints and Monetary Sovereignty in the Periphery

by

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**ABSTRACT** 

This paper explores a development strategy for peripheral economies by advocating for a

paradigm shift from traditional economic models that rely on accumulating foreign reserves. It

proposes the job guarantee policy, an automatic stabilizer based on a reserve pool of employed

individuals, as a cornerstone for fostering sustainable and inclusive growth. Grounded in Modern

Money Theory (MMT), this study critiques the conventional approach that prioritizes external

reserves and highlights the potential of MMT in offering a more autonomous development path

for developing countries. A systematic review of the literature, using the PRISMA methodology,

reveals significant disagreement between MMT advocates and critics, particularly regarding

monetary sovereignty and the feasibility of implementing macroeconomic policies in peripheral

economies. The study emphasizes that, while external constraints remain, the MMT perspective

calls for flexible exchange rates (or, at least, discretionary intervention) and low interest rates as

part of a broader strategy to reduce dependency on foreign currencies. The proposed approach

prioritizes full employment, the mobilization of domestic resources, and structural

transformation through policies like import substitution. It offers a more equitable and stable

development path. Ultimately, this analysis underscores the potential of MMT-informed policies

to enable sustainable development, despite challenges in implementation and political resistance.

**KEYWORDS:** Job Guarantee; full employment; sustainable development; flexible exchange

rates; peripheral economies; Modern Money Theory; developmentalism; structuralism; Employer

of Last Resort; macroeconomic policies

**JEL CODES**: B52; E52; E62; F63; O23

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### 1. INTRODUCTION

This paper explores a development strategy for peripheral economies, proposing a paradigm shift that reorients the traditional approach toward a more stable and autonomous perspective. In contrast to the conventional goal of accumulating foreign reserves as a means of fostering economic growth and employment, this work advocates for the implementation of an automatic stabilizer based on a reserve pool of employed individuals—the Job Guarantee (JG), also known as the Employer of Last Resort policy (ELR). This program serves as a cornerstone of a sustainable and inclusive development strategy.

The theoretical foundation for this approach lies in Modern Money Theory (MMT), an emerging economic paradigm that challenges traditional conceptions of fiscal and monetary policy. By focusing on monetary sovereignty and functional finance, MMT provides an innovative alternative for developing countries, especially as a response to the implicit surrender that entails relying on the occasionally favorable, though volatile, winds of external agents' decisions to escape the position assigned to them in the internationally imposed social division of labor.

As we will discuss, MMT posits that sovereign states are not constrained by the need to maintain balanced budgets or adopt austerity policies. Rather, they can implement expansive fiscal policies geared toward achieving full employment and price stability. This entails a paradigm shift from the conventional approach of sacrificing domestic resources to maintain a favorable exchange rate and avoid external constraints, advocating instead for policies such as the JG that ensure full employment and maximize the use of available domestic resources. Critics of MMT, however, raise concerns about whether this approach adequately addresses the external constraint and maintains the fiscal balance needed for exchange rate stability. They argue that policy choices are not purely political but are influenced by external factors. Despite these critiques, MMT offers responses by proposing a flexible exchange rate policy and the full mobilization of domestic resources, providing an innovative solution to the problem of involuntary unemployment and fostering economic stability without relying on austerity policies.

The primary objective of this work is to rethink the development strategy of peripheral economies, proposing an approach that prioritizes stability and autonomy. The aim is to avoid perpetuating dependency on foreign currencies as well as to avoid the trap of financialization, promoting instead capital accumulation through policies that mobilize the unemployed workforce and redirect resource allocation toward productive sectors. Throughout this research, we will conduct a systematic review of the positions within the debate on MMT's application in developing countries, using the PRISMA methodology. The findings will serve as a basis for establishing the terms of the discussion and for reflecting on the opportunities that an alternative such as MMT offers in comparison with the conventional approach of accumulating foreign reserves. This paper is part of a research project addressing a gap identified in the literature regarding the application of the MMT's policy prescriptions and recommendations inless developed countries. It complements the pioneering work developed by Kaboub (2008), Mario (2018) and Sylla (2023).

The remainder of this paper is structured as follows. After the introduction justifying the aim of the study, Section 2.1 develops the methodology used to choose the papers reviewed based on the PRISMA methodology. Section 2.2 consists of a critical review of selected works. In the third part we discuss the results of the previous section and try to draw inferences and propose policies from the MMT approach. Finally, the fourth section concludes and advances future lines of research.

# 2. MONETARY SOVEREIGNTY AND THE PERIPHERY: A REVIEW OF THE PROBLEM

## 2.1. Methodology of Paper Selection

Given the popularity of MMT in media and social networks, attention to this approach has extended into the academic sphere. To examine how and in what terms this debate has translated into indexed journals—and specifically for the study of economically peripheral countries or so-called developing countries—a systematic review was conducted using the Preferred Reporting

Items for Systematic Reviews and Meta-Analyses method (PRISMA).<sup>1</sup> The following search terms were used in the WOS and Scopus databases: ("modern money theory" OR "modern monetary theory") AND ("developing countries" OR "periphery" OR "sovereignty"). Both searches were conducted on October 23, 2023.

The decision to use these two internationally recognized databases is justified by their influence on academic career development. For this reason, we believe they will best reflect the extent to which and since whenthe issue under analysis holds a place of interest in researchers' agendas. In WOS, the search was conducted by "topic," whereas in Scopus, it used "Article title, Abstract, Keywords." From these searches, we identified 23 publications in WOS and 31 in Scopus.

The search results were refined by inclusion and exclusion criteria following a two-step strategy. In the first step, we applied the criteria available within each database, refining the search by document type and language. Additionally, by selecting the option for secondary documents in Scopus, seven additional texts were retrieved. Only two of these texts were journal articles and thus included in this study.

As a result of this selection process, we obtained 20 publications in WOS and 28 in Scopus, totaling 30 unique texts after removing duplicates between the two databases. The temporal evolution of these publications is shown in Figure 1. As can be seen, the temporal dynamics of publications on this topic are directly related to the increased prominence of MMT in public debate, particularly due to fiscal stimulus measures introduced worldwide to combat the COVID-19 pandemic.

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<sup>&</sup>lt;sup>1</sup> For the development of the PRISMA method, an adaptation of Page et al. (2021) has been made.

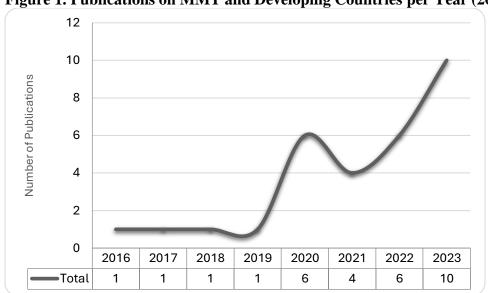


Figure 1. Publications on MMT and Developing Countries per Year (2017–23)

Note: Own elaboration

Clearly, as shown in Figure 1, there has been a growing effort within the academic community since 2020, as indicated by the number of publications per year, to discuss and study, through the framework of MMT, the specific policies and contexts of developing countries.

Table 1. Inclusion and Exclusion Criteria Used to Refine the Search

Exclusion
Communication to a conference, book
chapter or book data
Other languages
Developed countries or discussion of
theoretical foundations
Other issues: energy transition, de-
growth or the fight against the
pandemic
National dimension
Not available in open access

Note: Own elaboration.

In a second step, additional inclusion and exclusion criteria were applied to select the articles to be included in the review (Table 1). After reading the abstract of each study, a second round of exclusions was conducted, removing articles that do not directly discuss or study the contexts of developing or peripheral countries from an MMT perspective.

Table 2. Papers Excluded and Reason for Exclusion

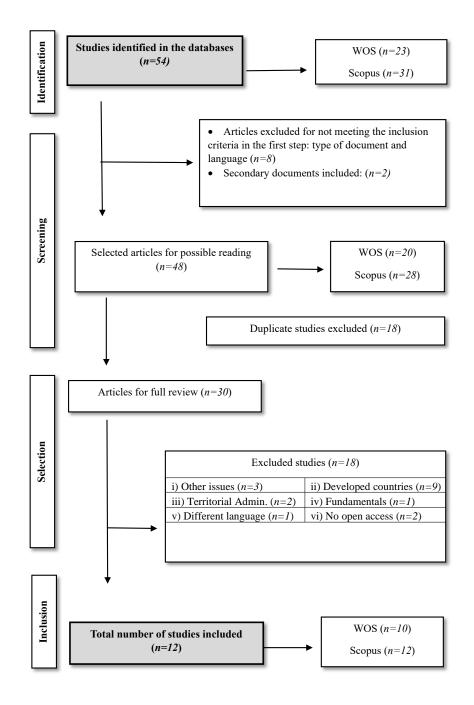
	Reason		Doggen for
Paper	for	Paper	Reason for exclusion
	exclusion		exclusion
Olk et al. (2023)	i	Tymoigne (2020)	iii
Medlen and Chen	i	Vim (2021)	iii
(2023)		Kim (2021)	111
Diesendorf and Hail	i	Pantelopoulos and Watts	iii
(2022)		(2021)	111
Prinz and Beck (2022)	ii	De Aguiar (2022)	iv
Lapavitsas and Águila (2020)	ii	H1 L- (2020)	:
		He and Jia (2020)	iv
Armstrong (2022)	ii	Watts and Juniper	
		(2023)	V
Lavoie (2022)	ii	Dubyanskiy (2023)	vi
Cruz y Parejo (2018)	ii	Rafferty (2023)	vii
Tcherneva and	iii	A1 (2022)	::
Tymoigne (2023)		Appel (2023)	vii

Note: Ownelaboration.

Thus, we excluded: (i) studies that base their analysis on a conception of sovereignty used to address issues such as energy transition, de-growth, or pandemic response; (ii) those focused on developed economies; (iii) those analyzing policy coordination between different territorial administrations within a national space; (iv) those that discuss MMT's theoretical foundations in general terms; (v) those not available in English, Portuguese, or Spanish; and (vi) those we were unable to access, either due to lack of open access or inability to obtain them through other

methods, including earlier versions such as working papers. A total of 18 articles were excluded in this second phase (Table 2).

Figure 2. Research Framework: Flowchart of the Study Selection Procedure



Note: Own elaboration.

### 2.2. Critical Review of Literature: For and Against MMT

After applying inclusion and exclusion criteria in two phases, we selected 12 articles for review. The studies identified through the PRISMA methodology that address the topic of Modern Money Theory (MMT) and developing economies, periphery, and sovereignty can be neatly classified into two opposing positions. The results reveal notable discrepancies between economists aligned with MMT and those associated with the balance-of-payments—constrained growth approach, particularly from the structuralist tradition. These discrepancies center on evaluating the validity of MMT's postulates, not only in terms of analysis but also regarding the formulation of macroeconomic policies applicable to developing economies. Fundamental divergences focus on the extent of monetary sovereignty within a hierarchical international monetary system, specifically the feasibility of applying a job guarantee program, MMT's proposal to apply the functional finance approach to fiscal policy, and, ultimately, on how to manage the external constraint might limit exchange rate policy options.

A prominent aspect of the divergent views is the discussion on the existence and relevance of an international currency hierarchy that conditions the liquidity and acceptability of domestic currencies in developing nations. This hierarchy is said to arise from the assumed limitations imposed by peripheral economies' position in the world system, especially within the context of globalization in international financial systems. Another central point of disagreement centers on the extent to which this currency hierarchy dictates the choice of currency for domestic transactions and international trade, as well as its role as a savings instrument. This raises the question of whether developing nations are forced to issue debt in reserve currencies, thereby compromising monetary sovereignty. Thus, the central debate revolves around whether, although theoretically a state could choose a floating exchange rate regime compatible with maximum monetary sovereignty, it may in practice be compelled to manage the exchange rate or even end up in a dollarized regime, creating a spectrum of monetary sovereignty where nations' policy options are no longer entirely free. A secondary perspective seeks to determine whether the currency hierarchy dictates the development model (mercantilist strategies, import substitution, etc.) or, conversely, whether the development model compels a particular exchange rate regime. Ultimately, the debate focuses on how developing countries can manage the external constraint and whether this constraint arises from macroeconomic policy choices or if, conversely, these

choices are conditioned by the currency hierarchy. These considerations are crucial to evaluating the viability of MMT prescriptions in developing nations.

Aboobaker and Urgulu (2023) argue that the true challenge for long-term growth in developing nations is linked more closely to structural transformation than to an overall insufficiency of aggregate demand. They argue that MMT proponents have inadequately considered the implications of their proposals for the composition of national output in terms of consumption and investment, confusing, they contend, "Keynesian" unemployment with "Marxian" unemployment. Developing economies would require extended periods of rapid capital accumulation to secure future consumption by increasing their productive capacity. Since they characterize the job guarantee policy as mere aggregate demand stimulus, reducing its utility to short-term stabilization problems, they suggest that this policy is counterproductive for issues related to long-term growth and supply expansion. Moreover, the analysis of the international currency hierarchy reveals that developing countries face significant challenges due to the asymmetric structure of the international monetary system. The position of currencies within this hierarchy affects their capacity to perform key international functions, influencing vulnerability to capital flight and the difficulty of incurring national currency debt over the short and long term. Technological dependence and the need to import capital-intensive intermediate goods contribute to persistent trade deficits in developing countries. The structural nature of balance-ofpayments deficits and fiscal balance issues are interrelated. Even when operating under a floating exchange rate regime with a convertible currency, fiscal policy conduct in open economies must consider balance of payments constraints. Thus, the "Original Sin" phenomenon, primarily associated with developing nations, is explained by the structural tendency to incur trade deficits and rely on foreign currency to meet payment obligations. Additionally, foreign investors' reluctance to hold currencies issued by developing countries limits these countries' capacity to borrow in their national currency. The currency hierarchy also necessitates higher returns on assets denominated in peripheral currencies to compensate for their lower liquidity. Ultimately, developing countries must design their fiscal and monetary policies under the threat of capital flight, resulting in policy choices that are far from autonomous.

Belluzzo et al. (2021) address the question of state sovereignty in a globalized environment where financial markets exert substantial influence over national economic policies. They argue that MMT may oversimplify the complex relationships between the state, the market, and society. The discussion on MMT's application in developing countries is framed within the broader context of the external constraint, which includes limitations imposed on a country's economic policy due to external factors such as the exchange rate, international interest rates, and the availability of external financing. These challenges include a careful study of the interaction between monetary and exchange rate policy, as well as dependence on external capital flows and global market conditions. On the one hand, a country's ability to finance its public spending by issuing currency may be limited by considerations related to exchange rate stability and inflation, especially for vulnerable currencies or under inflationary pressures. On the other hand, lack of confidence in the national currency and the potential for capital flight could hinder the application of MMT in these countries, especially if expansive fiscal policies are perceived as inflationary or irresponsible by foreign investors.

The text by Bonizzi et al. (2019) criticizes MMT's lack of acknowledgment of external constraints and advocates for a broader conceptualization of development strategy, considering the impact of a hierarchical international monetary and financial system, within which developing countries occupy a subordinate position. They highlight the need to move beyond MMT's simplified view of unlimited acceptance of the national currency and the presentation of foreign currency borrowing as a choice rather than as a structural constraint. The discussion extends to policy recommendations for developing countries, questioning the minimization of binding external constraints. They also argue that MMT's view of foreign demand for financial assets does not align with the reality of international trade systems. The central question ultimately becomes whether MMT's proposals for increasing monetary sovereignty are sufficient to provide policy autonomy to the governments of developing countries and overcome externally imposed constraints. This question leads to how developing countries might address the need for foreign currency to conduct imports of technology and capital goods during the industrial transformation process without resorting to foreign currency debt. The authors conclude that, in conditions of limited autonomy and the measures that can be taken to increase the degree of available policy autonomy, MMT literature does not provide a substantial contribution.

Prates (2020) explores the relationship between monetary sovereignty, currency hierarchy, and policy space in emerging market economies. It is argued that the policy space in these economies is determined by the degree of monetary sovereignty and the position of the national currency within the international currency hierarchy. The author emphasizes the central bank's role as the lender of last resort and regulator of the monetary and financial system to maintain the convention of currency acceptability, a function considered insufficiently acknowledged in MMT literature. Regarding exchange rate regimes, it is argued that floating rates do not provide greater policy space in emerging markets, introducing the concept of "fear of floating." The author also critiques the misinterpretation of current and capital accounts in determining whether a country is lending or borrowing, emphasizing the importance of considering gross capital flows to understand a country's financial integration into the international monetary and financial system. In terms of monetary sovereignty and policy space, the analysis distinguishes between central countries and those issuing peripheral currencies from emerging economies. Six different scenarios are identified in relation to the degree of monetary sovereignty and policy space, highlighting the vulnerability of emerging markets to the decisions of global portfolio investors. A more detailed analysis is needed to determine the specific policy space of each emerging market economy, considering factors such as the relative position of its currency in the hierarchy, external constraints, and the "macroeconomic regime." This last factor encompasses not only the exchange rate regime but also the degree of financial openness, which affects the effectiveness of exchange rate policy and the capacity of the peripheral economy to manage international repercussions.

Razmi (2023) examines MMT principles in the context of an open economy and concludes that it does not offer a suitable framework for analysis or policy design. The Tobin-Markowitz portfolio balance approach is used in an open economy with a flexible exchange rate to analyze the interactions between goods and asset markets, highlighting the importance of portfolio considerations and expectations in a model that assumes fiscal/monetary authorities' ability to accommodate any level of spending while keeping the short-term interest rate constant. The author's findings reveal that MMT faces an instrument insufficiency problem, as an authority aiming to manage both full employment and low inflation would need additional tools beyond

fiscal policy. The introduction of expectations and foreign debt brings additional complexities. The paper discusses how MMT affects the goods market framework, which is described as Keynesian, with a flexible exchange rate and cost-driven, distribution-conflict inflation. The analysis also addresses the relationship between increased government spending and currency depreciation, underscoring existing differences with conventional models like Mundell-Fleming due to MMT's fixed interest rate approach. The author criticizes MMT advocates for neglecting the effects of changes in distribution on prices, resulting in a lack of explicit linkage between margins, wages, and prices. It is argued that exchange rate expectations may create dynamic instability in the system, reintroducing inflation control as an economic policy objective and partial autonomy for the central bank. Additionally, the discussion covers how foreign debt may contribute to system instability, concluding that the instrument assignment prescribed by MMT may leave a country vulnerable to undesired outcomes, even if it issues debt in its own currency. Vernengo and Pérez Caldentey (2020) examine the limits of fiscal policy in countries that rely on borrowing in foreign currency. Topics such as exchange rate depreciation, capital controls, inflation and hyperinflation, and national currency debt in developing countries are analyzed. The authors argue that MMT literature overemphasizes exchange rate regime choice and overlooks the role of capital controls and the balance-of-payments constraint. The importance of Latin American structuralist ideas for understanding the limits of fiscal policy in the periphery is highlighted. It is argued that what limits policy space is not the choice between a fixed or flexible exchange rate but the need to obtain foreign currency to import essential goods and pay off foreign currency debt. A trade deficit must be balanced with positive capital flows and/or changes in international reserves, but a growing current account deficit may be unsustainable in the long term for developing countries. The authors discuss how currency depreciation can increase debt service costs and cause deleveraging in the corporate sector, potentially leading to increased demand for foreign currency and devaluation pressures. They argue that the external constraint is a concern even if the national currency is not convertible, due to the need to import essential goods. High interest rates may be necessary to attract capital flows and maintain political stability, which may limit the effectiveness of expansionary fiscal policy in developing countries. In summary, the text highlights the complexity of fiscal policy in developing countries, emphasizing the importance of considering external constraints, exchange rate regimes, capital controls, and the limits and possibilities of fiscal policy in these contexts.

Bykov et al. (2021) focus on analyzing the economic growth drivers in China between 2010 and 2017 using the input—output methodology. Perspectives on Chinese growth are explored, considering both internal and external factors such as exports and foreign direct investment (FDI). The findings indicate that domestic demand was a significant driver of Chinese economic growth during this period, countering the notion that exports and FDI are the main drivers of growth. The study highlights that industrial policy and import substitution have also contributed to internal growth, enabling the modernization of China's industrial sector and meeting domestic demand with locally produced goods. Additionally, a correlation is noted between the money supply, GDP, and the contribution of domestic demand to GDP, suggesting that monetary policy has been used to stimulate domestic demand. Contrary to traditional views, it is argued that stimulating domestic demand in China does not lead to a trade balance deterioration due to factors such as monetary and financial sovereignty and industrial competitiveness. The Chinese experience is suggested as offering lessons for stimulating growth in other countries, though it is noted that factors like specialization in raw materials may limit the direct application of these lessons in countries like Russia and Belarus, indicating the need to modernize both the financial system and industry to fully leverage China's lessons.

Gomes and Martins (2023) examine the degree of monetary sovereignty in Brazil and its capacity to determine fiscal policy, focusing on an empirical evaluation of the conditions surrounding its external and domestic debt. The central question posed is whether Brazil, as a peripheral nation, can truly be considered monetarily sovereign. The authors emphasize that, since adopting the real, Brazil has met the basic characteristics of a country with a sovereign currency, though its dependence on foreign currency has fluctuated over time, impacting economic policy autonomy. They identify a decline in both gross and net external debt, suggesting reduced foreign currency dependency. Brazil has also accumulated significant international reserves, providing flexibility in its economic policy, especially regarding the exchange rate. Furthermore, the decrease in the proportion of public debt linked to the exchange rate indicates a relaxation of external constraints and an increase in Brazil's fiscal autonomy. Based on this analysis, the potential economic barriers resulting from the external constraint, local debt renewal challenges, and interest rate limitations have not been empirically evident in Brazil. In recent years, Brazilian authorities have exercised some autonomy in defining economic

policy, albeit constrained by the institutional framework governing monetary and fiscal policy, and the relationship between the Central Bank of Brazil and the National Treasury. Therefore, despite institutional limitations, it is inferred that Brazil possesses the political capacity to establish a fiscal framework aimed at full employment and reducing inequality. Fiscal policy limitations are primarily self-imposed, stemming from an economic perspective centered on austerity.

Kotilainen (2023) discusses the lack of focus in International Political Economy (IPE) literature on democratic legitimacy in monetary governance. A discrepancy is highlighted between MMT, which emphasizes the role of the nation-state, and calls for supranational democratic economic governance. The debate arises between proponents of national economic autonomy and advocates for reorganizing economic governance toward a less state-centered structure. Kotilainen argues in favor of a supranational exercise of monetary sovereignty, noting that states may struggle to maximize the benefits of their currency monopoly due to limited resources. The text explores the relationship between cosmopolitanism and monetary sovereignty, emphasizing the need for institutional reforms to address global challenges with predominantly national means of action. It is suggested that globalization has eroded both the effectiveness of national policy and the legitimacy of state sovereignty, prompting demands for supranational governance structures. The idea of a cosmopolitan democracy is proposed, recognizing the significance of local political entities alongside the need for broader institutions to address global issues. The text suggests that while national exercise of monetary sovereignty can align with economic cosmopolitanism, a cosmopolitan condition is required for its legitimacy. This condition means that national monetary policies should neither interfere with the goals and strategies of other states nor hinder their capacity to pursue cosmopolitan economic policies. In the long term, it is suggested that developing a world currency, accompanied by a global central bank and a federal fiscal union, could better align macroeconomic policies with cosmopolitan objectives. MMT is seen as implicitly supportive of fiscal unions and potentially providing useful guidelines for designing supranational macroeconomic governance institutions. In sum, a more supranational approach to monetary sovereignty is advocated, though significant political challenges are acknowledged. The importance of synthesizing ideas from both perspectives is emphasized to

enrich economic theory and policy and to design more suitable institutions for global governance.

Kregel's (2020) essay examines the interaction between monetary sovereignty and external demand for the national currency, underscoring how the latter can significantly restrict the former. It is emphasized that any country seeking to meet its external debt obligations must provide its currency abroad in adequate quantities to facilitate those payments. Consequently, to maintain a global balance of earnings, such countries must sustain national benefits even amid international trade deficits. Failure to do so may jeopardize their international position, raising doubts about their ability to maintain genuine fiscal autonomy. Being an international reserve currency, therefore, implies a partial surrender of sovereignty, as a global supply of the currency must be ensured, irrespective of domestic policy needs.

Nersisyan and Wray (2016) point out that, despite MMT's emphasis on the role of the state in the monetary system, it does not imply that states are omnipotent or free from constraints. State capacity varies significantly across different temporal and geographic contexts. Even in modern, developed, and prosperous capitalist economies, states face internal political limitations, resource constraints, external pressures, and self-imposed restrictions. The latter include commitments to fixed exchange rates, such as the promise to convert national currency on demand into foreign currencies or, historically, into gold, as well as internal operating procedures.

Serrano and Pimentel (2017) provide a detailed analysis of the relationship between economic policies, external conditions, and public debt dynamics in peripheral countries like Brazil. They highlight the influence of factors such as international interest rates, US monetary policy, China's economic growth, and external debt management in local currency on the improvement of Brazil's macroeconomic conditions during the early 21st century. US monetary policy, along with the improvement in relative prices of exported commodities and China's economic growth, has contributed to better external conditions in peripheral regions. This has enabled greater capital flow mobility toward peripheral countries and reduced the likelihood of balance of payments crises. The importance of Brazil's external solvency and liquidity is also underscored, as well as the fact that much of the accumulated external debt is denominated in local currency.

This has reduced the country's vulnerability to exchange rate fluctuations and allowed the Central Bank to reduce basic interest rates without excessive risk of currency depreciation. Under such conditions, the authors discuss the drastic shift in Brazilian economic policy from 2015, with recessionary and income-concentrating measures that led to a deep recession. It is argued that these measures were adopted in response to perceived pressure from credit rating agencies, although the logic behind this justification is questioned, given that the agencies do not have a direct impact on long-term interest rates of local currency public debt. It is emphasized that the notion of "running out of money" is used as a justification for austerity policies that aim to reduce the state's size, though this approach may undermine efforts toward a more inclusive and sustainable national development project. The authors conclude that, despite external pressures and economic policy decisions, countries with sovereign currency, like Brazil, have room to manage public debt and monetary policies independently.

In summary, the analysis of various studies reveals a debate regarding the applicability of MMT's policy prescriptions —most notably the JG— in developing economies, with conflicting views on its viability and effectiveness in managing economic policies. Discrepancies regarding monetary sovereignty and external constraints, as well as the influence of currency hierarchy on peripheral countries' capacity to implement autonomous fiscal and monetary policies, are highlighted. Additionally, the importance of considering structural limitations within the international monetary system and the need for policies promoting inclusive and sustainable development is underscored, in contrast to austerity measures driven by external pressures. Despite tensions and challenges, it is concluded that countries with sovereign currency still have leeway to independently manage public debt and monetary policies, though this leeway may be conditioned by various external and internal factors.

# 3. INFERENCES AND POLICY SUGGESTIONS BASED ON THE LITERATURE ANALYSIS: THE EXTERNAL CONSTRAINT WAS ALWAYS THERE

MMT conceptualizes currency as a state monopoly. According to this framework, tax collection in the state-defined unit of account is not necessary for financing public expenditure; rather, it

compels citizens to accept the monopolist's currency. Although currency can be supplied by the state to the private sector without an exchange, notably in the form of interest payment or other income transfers, the main way to acquire the currency needed to pay taxes is by supplying goods and services to the state or by exchanging them with others who have done so (Wray 1998a; Tcherneva and Cruz 2020; Garzón et al. 2023).

The notion of monetary sovereignty is central to MMT theorists (Kelton 2011; Medina Miltimore 2016; Mitchell 2016). A sovereign state does not need to operate with balanced budgets or enforce austerity policies that compromise full employment. There is no risk of involuntary insolvency, and thus this should not influence policy decisions. Such a state is not beholden to bond vigilantes, independent central bankers, savers, investors, or private banks. Nersisyan and Wray (2016) clarify that MMT

...does not imply that states are omnipotent or free from constraints. State capacity varies considerably across time and space. Even if we limit our discussion to wealthy, developed modern capitalist economies, states face internal political constraints, resource limitations, external constraints, and self-imposed restrictions. These self-imposed restrictions range from fixed exchange rate commitments (promises to convert their currency on demand into foreign currencies or, in the past, into gold) to internal operational procedures. (1301)

Monetary sovereignty provides fiscal flexibility to public finances and shifts governmental policy priorities, moving away from the "sound finance" paradigm toward the functional finance approach (Lerner 1943; Nell and Forstater 2003; Armstrong 2019). Moreover, in line with PostKeynesian thought, the interest rate is determined exogenously by the central bank and understood as a distributive variable (Rochon and Setterfield 2007; Tymoigne 2020). MMT proponents specifically assert that the natural interest rate is zero (Forstater and Mosler 2005). Full employment, price stability, and financial stability should thus become central to policy design, with the government addressing pressing issues in alignment with public will (Mitchell and Muysken 2008; Tcherneva 2020; Mario 2020).

The critiques of MMT reviewed in this chapter do not focus so much on the nature of money or the functional operation of fiscal and monetary policies in sovereign economies—concepts that appear generally understood. Instead, they concentrate on challenges posed by the application of Functional Finance, particularly Job Guarantee programs and low interest rates in developing or

peripheral economies, which must contend with the need to maintain favorable exchange rates. Limitations to monetary sovereignty arise from the existence of an international currency hierarchy, which is an extension of power relations that structure unequal and dependent economic relationships between countries (Aboobaker and Ugurlu 2023; Belluzzo et al. 2021; Bonizzi et al. 2019; Prates 2020; Razmi 2023; Vernengo and Pérez Caldentey 2021). Other scholars, such as Kregel (2020), Bykov (2021), and Gomes and Martins (2023), propose less extreme positions, consistent with a perspective in which there is a spectrum of monetary sovereignty and a potential evolution toward greater degrees of sovereignty, as shown in the analysis by Serrano and Pimentel (2017).

The international monetary system is characterized by a hierarchical and asymmetrical structure centered around a dominant currency, the US dollar, establishing a liquidity-based order of preference that generates interdependence among nations. As Nair (2023) notes, the international liquidity of a currency stems from institutional, structural, and cyclical factors. Shifts in global liquidity preferences can impose recessionary pressures on developing economies, regardless of their national actions. This reflects the constraints imposed by the subordinate position of developing economies within an international monetary and financial system structured around unequal and interdependent power relationships. Currency demand remains limited except for a select few countries (Aboobaker and Ugurlu 2023; Bonizzi et al. 2019). As Nair (2023,14) states, the periphery, in order to "acquire the means of international payment, must compromise its portfolio through the creation of costly liabilities or adjust its economic production structure to obtain the means of payment."

In contrast, MMT proponents argue that it is unnecessary to sacrifice real internal resources for this purpose. Whilst recognizing that strategic or development considerations might be a reason for limiting imports, it should be obvious that imports represent a benefit and exports a cost (Mosler 1995). However, imports are limited by exports plus the rest of the world's (ROW) savings desires of the country's IOUs—i.e., the willingness of the ROW to "finance" a current account deficit (Mario 2020).

However, critics contend that it is insufficient to merely appreciate the benefits of a trade deficit, such as higher current consumption or capital accumulation; the implications of cross-border financial positions cannot be ignored (Bonizzi et al. 2019). A currency ranked low within the international hierarchy faces a significant external constraint. The disciplining power of national and international financial markets is much greater than the unilateral decision-making capacity of most states regarding public debt management and economic policy (Belluzzo et al. 2021). The problem of importing capital and intermediate goods to sustain economic functioning and growth is exacerbated (Vernengo and Pérez-Caldentey 2020). Practically, these are reasons fiscal austerity is not always a self-imposed choice in peripheral countries; it is not an internal policy option. They are simply compelled to act by the discipline of international financial markets (Aboobaker and Ugurlu 2023). While there is room for expansionary fiscal policy if the balance of payments constraint is not reached, such policy must aim to expand the external constraint. Here, a contradiction arises, as Mario (2020, 107) points out, discussing this same position regarding the "reformulation" of Functional Finance from a structuralist perspective for developing countries: "How is it possible to use the fiscal deficit to displace the external constraint if, insofar as it is not displaced, the government must achieve a fiscal balance?"

Regarding the option of incurring debt in domestic currency within a flexible exchange rate system, this is not considered viable. Capital outflows and pressures on the current account will likely devalue the national currency, leading to imbalances in the public and private sectors' financial positions, especially when these sectors rely on imports to function. These issues are further compounded by the reluctance of domestic private agents to borrow or hold domestic currency assets due to their typically volatile value. In a formulation recalling the loanable funds theory, Aboobaker and Ugurlu (2023) argue that these factors limit the financial system's capacity to provide the long-term credit needed for industrialization, as loans in domestic currency frequently become foreign currency deposits, creating destabilizing currency mismatches in bank balances.

MMT proponents do not deny the existence of the external constraint, defined as a limit on imports equivalent to the sum of exports plus net financing provided by the rest of the world. Even if we accept the notion that emerging economies' currency markets are shallow, there will

always be some demand for the currency for tax payments, and there will always be an exchange rate that makes such transactions feasible. What MMT provides is a clearer understanding of the implications of this constraint. From a sectoral balance perspective, the "implication in terms of fiscal balance is that in steady-state conditions, the deficit tends to be smaller than it otherwise would have been" (Tymoigne 2020, 68). MMT focuses on the "real resource limitations of nation-states, particularly those that are territorially small and/or resource-poor," which may become excessively reliant on foreign resources and, consequently, on foreign currencies (Kotilainen 2022, 96).

As Mario (2020) explains, public debt in foreign currency constitutes what could be termed a "hard" external constraint. While a country can reduce imports, it is more challenging to reduce the amount of foreign currency owed. Such indebtedness is not a structural constraint but rather the result of political choices rooted in particular development models. This "hard" external constraint, especially when there is high mobility of short-term capital flows, eliminates or creates asymmetries in the degrees of freedom that constrain interest rate and exchange rate policies (Serrano and Pimentel 2017). Highinterest rates are necessary to attract capital flows and counter poor export performance. High-interest rates not only impose a relative burden of interest payments but also create political conditions for enforcing austerity policies, as Vernengo and Pérez-Caldentey (2020) note regarding the Brazilian experience. Furthermore, this situation presents a social equity problem as it primarily benefits financial rentiers. In addition to the difficulty of consistently finding an interest rate high enough to curb capital outflows and prevent devaluation, Mario (2020) observes that critics place greater emphasis on the substitution effects of interest rates, ignoring income effects.

Exchange rate flexibility allows for substituting internal price flexibility to achieve balance in the trade account (Kregel 2020), maximizing the fiscal space available for the government to spend as needed and achieve full employment (Mario 2020; 2021). Critics, however, question whether a floating exchange rate can indeed ensure a rebalancing of the trade account (Vernengo and Pérez-Caldentey 2020). The real exchange rate devaluation required to boost exports may be technically unfeasible (due to the low-price elasticity of exports) or politically impossible if it requires moderate wage growth, generating inflationary pressures through pass-through effects

(Bonizzi et al. 2019; Aboobaker and Ugurlu 2023). For these authors, the necessity of managing the exchange rate is justified not only to prevent balance of payments crises but also to avoid the pass-through effect on prices caused by depreciations. These authors argue that "the question is not between fixed and floating exchange rate regimes, but rather whether the external constraint is binding" (Vernengo and Pérez-Caldentey 2020). The choice of exchange rate regime could either widen or narrow the policy space depending on specific circumstances. However, they reject the notion that under a floating exchange rate regime, the interest rate target can be set in alignment with domestic policy goals, thus suggesting a compromise on full employment. As Bonizzi et al. (2019, 53) assert, "the government could find itself in a position where it must choose between continuing to issue domestic currency to purchase necessary imports or avoiding a collapse in the exchange rate."

There appears to be some misunderstanding of the MMT position. While a depreciation resulting from a trade deficit may not fully eliminate that deficit, it would still be increasing net real benefits –vis a vis eliminating that current account deficit- (Wray 2006; Mosler 2000). MMT advocates emphasize, rather, the possibility of maximizing the fiscal space offered by a floating currency regime and the sustainability of the external balance when there is no public debt denominated in foreign currency. Imports are, indeed, limited and, of course, that is an external constraint. However, full employment remains a policy choice within the control scope of the currency-issuing authority.

Bonizzi et al. (2019) argue that the causality between monetary sovereignty and exchange rate flexibility is inverse: developed countries with deep financial markets and well-developed monetary and financial institutions, whose currency is widely used and traded, can safely adopt floating exchange rate regimes; other nations have no choice but to operate with some form of managed exchange rate. The authors question the MMT assumption that exchange rates can function as an equilibrating mechanism in developing countries. The unwillingness of the foreign sector to hold domestic currency implies that large falls in the price of domestic currency may be required to stimulate any actor to buy it which would put into question that the foreign exchange market will quickly find a new lower clearing price.

To keep foreign currency debt under control, MMT critics argue that it is necessary to focus on exchange rate stabilization, which in turn requires limited spending to maintain a credible reserve of foreign currency to mitigate sovereign risk (Vernengo and Pérez Caldentey 2020; Serrano and Pimentel 2017; Gomes and Martins 2023). Since "their currencies face limited global demand, developing economies must work hard to acquire sufficient foreign exchange reserves to settle their payments and external debts" (Kotilainen 2022, 96). The social utility of investing in reserves is questionable, as it implies tolerating unemployment to control wages and imports (Mario 2020). Additionally, it imposes an added cost on the sovereign, who must allocate part of its purchasing power to acquire foreign currency—denominated debt, incurring a negative carrying cost (Nair 2023, 8). Indeed, currency purchases reduce rather than expand fiscal space.

This exchange rate strategy forces nations to adopt an asymmetric approach to exchange rate policy, as central banks can easily contain real exchange rate appreciations but can only prevent devaluation up to a threshold determined by available reserves (Aboobaker and Ugurlu 2023). The irony, perhaps lost on these authors, is that managed exchange rate policies are the primary cause of the dollar's "exorbitant privilege," allowing the US to sustain large trade deficits. In other words, this policy demands the export of real resources, often of low added value, from the periphery to the US and other central economies issuing reserve currencies (Tymoigne 2020, 61).

MMT has supported the use of a targeted demand approach rather than the general spending approach favored by many Keynesians (Forstater 2003; Kaboub 2008; Murray and Forstater 2013; Tcherneva 2020; Nersisyan and Wray 2021; Sylla 2023). Surprisingly, Razmi (2023) criticizes MMT for an insufficiency of instruments, arguing that an authority targeting both full employment and low inflation would need another instrument beyond fiscal policy. If fiscal policy is directed toward employment, inflation will follow the path of labor costs. Razmi's argument, however, overlooks an essential aspect frequently ignored by MMT critics: the employment guarantee or JG discussed earlier. If the goal of fiscal policy is to avoid involuntary unemployment, the most effective way to achieve this is by directly employing unemployed workers. A guaranteed employment program has at least two advantages over discretionary fiscal policy. First, once implemented, the program functions as an automatic stabilizer. When the private sector lays off workers, the government hires them. During recovery, the private sector

rehires these workers at higher wages and conditions than the JG offers. Thus, there is no need to wait for stimulus bills to go through lengthy political processes to stabilize the economy. The government simply provides funding to hire all willing workers (Mitchell 1998; Mosler 1997; Wray 1998b). According to the principles of functional finance, the resulting size and balance of budget accounts are not significant. The program wage effectively becomes the minimum wage for the economy, which is stable in terms of ELR/basic labor, establishing the relative prices that adjust based on various market elements (Cruz et al. 2020; Cruz and Mario 2021). Additionally, the JG is not necessarily an expansionary policy; it can be implemented alongside spending cuts or tax increases, promoting a resource allocation shift that could even lead to self-sustaining payment through changes in the employment composition between JG and non-JG jobs (Nersisyan and Wray 2021; Cruz and Mario 2021). Unless it is believed that dollars are needed to create jobs and real resources cannot be mobilized using domestic currency, such a limit should not prevent full employment. Regardless of the existing production means, there will always be a feasible level of full employment, utilizing available techniques, even if they are outdated. It is preferable for jobs to be constructive rather than defensive—dedicated to enhancing and benefiting the community rather than merely alleviating the hardships of maintaining a significant portion of the population unemployed, with all its associated challenges (Tcherneva 2019).

A JG cannot be inflationary, as it operates according to the "buffer stock" principle. As Mosler (1995; 1997) explains, the price level is necessarily a function of the prices paid by the government, which acts as a monopoly issuer when it spends. Over time, the nominal wage for unskilled labor in the JG becomes the most stable price in the economy, effectively anchoring other prices to the domestic currency. Although it could be argued that a full-employment policy might lead to currency depreciation, this would not necessarily deteriorate the real terms of trade via currency devaluation (Mosler 1995; 1997). Depreciation in the exchange rate would alter relative prices, but even if this raises the price level and thus lowers the real wage, JG workers would still earn an infinitely higher wage than zero. Certainly, floating exchange rates can produce distributive effects; however, what might be considered the principal distributive issue—unemployment—has been eliminated (Cruz and Mario 2021, 1008).

Authors like Aboobaker and Ugurlu (2023) critique MMT proponents for neglecting the impact of eliminating less competitive firms in economies with high unemployment and informal labor markets, which they see as vital to controlling absolute poverty rates. Advocating for the maintenance of low-productivity sectors to lift an economy out of underdevelopment and improve the real exchange rate seems extravagant. Additionally, we are struck by the concern of Belluzzo et al. (2021) that eliminating unemployment could increase union power and affect private-sector cooperation. This is precisely about dismantling the "reserve army" of labor and socializing investment, effectively ending the private sector's monopoly that uses both variables to achieve its political ends.

Another significant point is that current account surpluses, by definition, cannot be simultaneously achieved by all nations and impose deflationary biases that limit global economic growth (Wray 2012; Mario 2020; Kotilainen 2022). Maintaining such surpluses further creates a distributive conflict, as all households are net importers while manufacturers are net exporters; the devalued currency of net-exporting economies forces households to subsidize the manufacturing sector to remain competitive. This requires reserve accumulation, which paradoxically cannot be allocated to capital goods acquisition for accelerating technological progress. Trade merely facilitates a race to the bottom, directing business and productive flows to areas with higher unemployment and lower labor costs. Consequently, to attract foreign companies, a nation must sustain high unemployment levels and offer high profit potential (Mosler 1995; 1997).

In general, MMT authors advocate for import substitution and a rethinking of development strategies toward the full mobilization of resources and domestic investment, either through public banking instruments or domestic investment markets (Mario 2021, Nersisyan and Wray 2023, Sylla 2023). It is well-known that public investment in infrastructure increases productivity and reduces private-sector costs, which should result in an improved real exchange rate. When complemented by a JG, this strategy is more inclusive and contributes to labor productivity improvement.

The growth strategy based on import substitution and full mobilization of economic resources receives scant attention from critics, who also avoid addressing the distributive issues stemming from neo-mercantilist or debt-based growth models. Fixed or managed exchange rate strategies depend on maintaining unemployment to protect the real income of those employed and provide access to a plethora of attractive, low-cost imported goods (Mario 2021). Fiscal responsibility merely postpones inevitable consequences: trade and fiscal deficits during a currency crisis. Peripheral countries remain trapped in a repetitive cycle of dollar accumulation, seeking to boost their economies through various strategies, such as infrastructure investments or international returns. However, as dependence on foreign currency reserves intensifies, it becomes more challenging to escape this cycle.

MMT theorists do not ignore issues of currency hierarchy and external constraints; instead, they shift attention from current account constraints to real resource constraints. They also apply a Minskyan perspective and sectoral balances approach to address debt problems denominated in currencies not issued by the national monopolist. This does not advocate ignoring a global system with a core of capital-intensive economies capturing more value and a periphery of capital-light, raw-materials economies with cheap labor. Certainly, functional finance is constrained by external limitations if the strategy merely involves aggregate demand stimulus, but the JG, as discussed, is far more than such an approach as suggested by authors like Aboobaker and Ugurlu (2023) and Razmi (2023). Additionally, the JG addresses distributive issues. Although it cannot be guaranteed to magically solve a poor country's problems, it is difficult to argue that a full-employment policy impoverishes a country by maximizing the use of its domestic resources, altering the composition between creative and defensive jobs. Ultimately, the JG explores more inclusive ways to lift an economy from underdevelopment by mitigating financial and macroeconomic instability. It does not claim to be a panacea for underdevelopment but rather advocates an autonomous approach to development, which might lead to slower growth in periods when currency accumulation accelerates while also smoothing the effects of the opposite situation, fostering more stable development and certainly affirming the monetary sovereignty of developing states.

Finally, at the global action level, MMT proponents have introduced several proposals aligned with Kotilainen's (2022) thought-provoking "cosmopolitan" approach. Lahiri and Darity (2024), while acknowledging that monetary sovereignty might avoid the financial constraints that hinder the pursuit of development strategies, consider that it does not address the problem of insufficient capital accumulation. Fostering domestic demand could therefore lead to structural dependence on imports and a dependence of foreign borrowing and destabilizing capital flows. Consideration of technological disadvantages and structural subordination leads the authors to analyze the impact of Global North reparation payments to the Global South in the form of transfers, labor-augmenting supply-side investments, infrastructure capacity building or technology transfers. In this vein, Mitchell and Fazi (2017) argue that, given the planet's unequal resource distribution, the international community has a responsibility to alleviate constraints imposed by trade imbalances in disadvantaged nations. They propose the elimination of current multilateral institutions, such as the World Bank and the International Monetary Fund, whose fiscal austerity policies, export-driven growth models, and rising levels of foreign-currency debt perpetuate economic disparities. Instead, they advocate creating new entities to promote public infrastructure, education, healthcare, and provide liquidity to maintain macroeconomic stability and prevent currency devaluation in countries facing balance-of-payments challenges. While these reparations and enhanced international aid programs would indeed shift the external constraint in favor of less developed economies, and should be evaluated by international development agencies, we must also bear in mind that political realities hamper their applicability as a policy tool available to developing nations.

Sardoni and Wray (2007), on the other hand, examine Davidson's (1992) proposal to establish an International Monetary Compensation Unit (IMCU), inspired by Keynes's Bancor plan. This IMCU would be used exclusively by central banks in an international clearing system, with penalties for countries with persistent outflows or reserve accumulation in the IMCU. However, they question the feasibility of this plan, arguing that it overlooks the use of currencies in capital account transactions and doubts the effectiveness of exchange rate adjustments without capital controls. Indeed, until a fairer global governance is achieved to mitigate the current global disorder, the state level may be the most capable of achieving domestic full employment. This framework continues to offer a realistic model for protecting the domestic economy from

macroeconomic instability and addressing distributive conflicts in a more inclusive way than development strategies proposed by Structuralist authors and other critics, which are entirely beyond the reach of developing countries, reinforcing their dependency.

## 4. CONCLUSIONS: DIFFERENT RESOURCES AND DIVERSE FULL-EMPLOYMENT POSSIBILITIES

The paper thoroughly examines the debate surrounding the applicability of MMT in developing economies, highlighting key discrepancies and points of contention across different academic perspectives. This study is grounded in a systematic review, employing the PRISMA method to analyze academic literature on MMT and its relevance to peripheral or developing economies.

The review findings reveal a marked contrast between the views of economists who advocate for MMT and those aligned with more "traditional" or critical approaches, such as Structuralism. Significant divergences emerge in the assessment of MMT's foundational claims, particularly regarding the feasibility of achieving monetary sovereignty and implementing macroeconomic policies applicable to developing economies.

From opposing perspectives, questions arise about the ability of developing countries to implement autonomous fiscal and monetary policies, given the constraints imposed by these countries' roles in the international division of labor and the international currency hierarchy. Skepticism surrounds whether MMT proposals can sufficiently deliver policy autonomy or whether these remain limited by external factors beyond the control of these economies.

The MMT perspective acknowledges the importance of external constraints but diverges from critics in its interpretation. Beyond strategic considerations, increasing imports (and/or reducing exports) is certainly desirable; foreign exchange accumulation means using exports to acquire foreign currency instead of imports. The application of a JG policy, coupled with flexible exchange rates and low interest rates, might benefit from complementary policies, such as capital controls and focused import substitution policies. This path, though gradual and possibly

requiring the sacrifice of boom periods, is anticipated to promote greater macroeconomic stability, reducing external dependency in the medium to long term and enabling structural transformation of peripheral economies through the full employment of domestic resources.

This trajectory holds promise for expanding the external constraint and strengthening the exercise of monetary sovereignty, though it is not without challenges. Distributional effects resulting from current policy, along with the resistance from private sectors seeking to retain monopolies over investment and the labor market, present obstacles that demand political support—not only challenging to establish but also difficult to sustain over the necessary duration to adapt the JG to evolving domestic conditions, expectations, and unforeseen events. Without such endurance, economies risk reverting to a growth strategy based on sacrificing segments of the population in exchange for limited foreign currency accumulation, which historically has failed to benefit the most vulnerable links in the chain.

In conclusion, this analysis provides a comprehensive view of the tensions and challenges related to applying MMT in developing economies, without disregarding the constraints that critics argue MMT overlooks. While the external constraint operates, it does not invalidate MMT's policy recommendations. However, these policies must account for domestic conditions to take root effectively, establishing a solid foundation within the real resource and external constraint boundaries, thus enabling sustainable expansion of the external constraint. This approach may not be as rapid in certain phases but is envisioned as more autonomous for and controlled by developing countries. Full employment is achievable universally, yet its form will depend on available domestic resources and their directed use. This review is a milestone in ongoing research regarding the management of external constraints and monetary sovereignty in the periphery from the MMT perspective. Future lines of work will include the modelling of MMT-inspired policies such as the JG, floating rates and zero interest rate policies in less-developed economies using stock-flow consistent open economy models such as those developed by Godley and Lavoie (2007a; 2007b).

### REFERENCES

- Aboobaker, A., and Ugurlu, E. N. 2023. "Weaknesses of MMT as a Guide to Development Policy." *Cambridge Journal of Economics* 47(3): 555–74.
- Appel, H. 2023. "Pan African capital? Banks, currencies, and imperial power." *Journal of Cultural Economy*, 1-17.
- Armstrong, P. 2019. "Keynes's view of deficits and functional finance: a Modern Monetary Theory perspective." *International Review of Applied Economics* 33(2): 241–53.
- Armstrong, P. 2022. "A modern monetary theory advocate's response to 'modern monetary theory on money, sovereignty, and policy: A marxist critique with reference to the Eurozone and Greece'by Costas Lapavitsas and Nicolás Aguila (2020)." *The Japanese Political Economy* 48(1): 49–66
- Belluzzo, L. G., Raimundo; L. C., and Abouchedid, Saulo. 2021. "Gestão da riqueza velha e criação de riqueza nova: uma crítica à Modern Money Theory (MMT)." Economia e Sociedade, 30, 1-14.
- Bonizzi, B., Kaltenbrunner, A., and Michell, J. 2019. "Monetary sovereignty is a spectrum: modern monetary theory and developing countries." *Real-world Economics Review* 89: 46–61.
- Bykov, A. A., Tolkachev, S. A., Parkhimenka, U. A., and Shablinskaya, T. V. 2021. "China's Economic Growth in 2010–2017: Analysis from the perspective of the input-Output Model and Modern Monetary theory." *Finance: Theory and Practice* 25(2): 166–84.
- Cruz Hidalgo, E. and Mario, A. 2021. "Repensar la restricción externa en tiempos de pandemia: la política de empleador de última instancia para Latinoamérica." *Cuadernos de Economía* 40(SPE85): 999–1012.
- Cruz, E.; and Parejo, F. M. 2018. La concepción del 'dinero moderno' y su contribución a un nuevo marco político monetario-fiscal. Revista de EstudiosPolíticos, (181), 167-186
- Cruz Hidalgo, E., Rangel Preciado, J., and Parejo Moruno, F. M. 2020. "The two faces of abstraction: a monetary adjustment of Marx's Labor theory of value." *History of Economic Ideas* XXVIII(3): 39–64.
- Davidson, P. 1992. International Money and the Real World. New York: St. Martin's Press.
- de Aguiar, J. C. 2022. "National Unified Budget: A Proposal to Overcome the Division between the Union as Issuer and Subnational Entities as Users of the State Currency." Braz. J. Pub. Policy, 12, 108.

- Diesendorf, M., and Hail, S. 2022. "Funding of the Energy Transition by Monetary Sovereign Countries." *Energies*15(16), 5908.
- Dubyanskiy, A.N. 2023. "Reformatting the Russian Monetary System in Modern Conditions." Contemporary Europe-Sovremennaya Evropa 2: 131–41.
- Forstater, M. 2003. "Public employment and environmental sustainability." *Journal of Post Keynesian Economics* 25(3): 385–406.
- Forstater, M., and Mosler, W. 2005. "The natural rate of interest is zero." *Journalofeconomicissues* 39(2): 535–42.
- Garzón Espinosa, E., Cruz Hidalgo, E., Medialdea García, B., and Sánchez Mato, C. 2023. "The "Control Space" of the State: A Key Element to Address the Nature of Money." *Review of Radical Political Economics* 55(3): 448–65.
- Godley, W., and Lavoie, M. 2007a. *Monetary Economics. An Integrated Approach to Credit, Money, Income, Production and Wealth.* Houndmills and New York: Palgrave Macmillan
- Godley, W., and Lavoie, M. 2007b. "A simple model of three economies with two currencies: the eurozone and the USA." *Cambridge Journal of Economics* 31(1): 1-23.
- Gomes, I. B. S., Martins, and Norberto M. 2023.« MMT, monetary sovereignty and fiscal policy space in Brazil (1999-2019)." *Cuadernos de Economía* 42(88).
- He, Z.; Jia, G. 2020. "Rethinking China's local government debts in the frame of modern money theory." *Journal of Post Keynesian Economics* 43(2): 210–30.
- Kaboub, F. 2008. "Elements of a radical counter-movement to neoliberalism: Employment-led development." *Review of Radical Political Economics* 40(3): 220–27.
- Kelton, S. 2011. "Limitations of the government budget constraint: Users vs. issuers of the currency." *Panoeconomicus* 58(1): 57–66.
- Kim, H. 2021. "Sovereign currency and long-term interest rates." *International Review of Applied Economics* 35(3-4): 577–96.
- Kregel, J. 2020. "External debt matters: What are the limits to monetary sovereignty?" *The Japanese Political Economy* 46(4): 287–99.
- Kotilainen, K. 2022. "A cosmopolitan reading of modern monetary theory." *Global Society* 36(1): 89–112.
- Lahiri, B. and Darity JR, W.A. 2024. "Global North–South Reparations: Demand-side and Supply-side Policies with a Dynamic View of International Trade and Finance." *Development and Change* 55(4): 672–99.

- Lapavitsas, C.; and Aguila, N. 2020. "Modern monetary theory on money, sovereignty, and policy: A marxist critique with reference to the Eurozone and Greece." *The Japanese Political Economy* 46(4): 300–326.
- Lavoie, M. 2022. "MMT, sovereign currencies and the Eurozone. "*Review of Political Economy* 34(4): 633–46.
- Lerner, A. P. 1943. "Functional finance and the federal debt." Social Research 10(1): 38–51.
- Mario, A. 2018. El enfoque del empleador de última instancia para el pleno empleo y la estabilidad de precios: un análisis de su viabilidad económica a partir del caso argentino (2003-2015). Tesis doctoral, Facultad de Ciencias Sociales, Universidad de Buenos Aires.
- Mario, A. 2020. Teoría del dinero moderno y empleador de última instancia. UNM Editora.
- Mario, A. 2021. "MMT's policy prescriptions in Small and Open Economies: Addressing some Controversies." *Challenge* 64(4): 361–76.
- Medina Miltimore, S. 2016. El Leviatán desencadenado. Siete propuestas para el pleno empleo y la estabilidad de precios. Veintiunarazones para salir del Euro. Lola Books.
- Medlen, C., and Chen, Z. 2023. "Modern Monetary Theory in Historical Perspective." *Journal of Economic Issues* 57(1): 241–56.
- Mitchell, W. 1998. "The buffer stock employment model and the NAIRU: The path to full employment." *Journal of Economic Issues* 3(22): 547–55.
- Mitchell, W. 2016. "La Distopía del euro: Pensamiento gregario y negación de la realidad." LolaBooks.
- Mitchell, W. and Muysken, J. 2008. Full Employment Abandoned: Shifting Sands and Policy Failures. Edward Elgar Publishing.
- Mitchell, W. and Fazi, T. 2017. Reclaiming the State: A Progressive Vision of Sovereignty for a Post-Neoliberal World. Pluto Press.
- Mosler, W. 1995. "Soft currency economics." West Palm Beach, FL: Adams, Viner and Mosler.
- Mosler, W. 1997. "Full employment and price stability." *Journal of Post Keynesian Economics* 20(2): 167-182.
- Mosler, W. 2000. "Exchange Rate Policy and Full Employment." *The Economic and Labour Relations Review* 11: 12-22.

- Murray, M., and Forstater, M. (Eds.). 2013. Employment Guarantee Schemes: Job Creation and Policy in Developing Countries and Emerging Markets. Springer.
- Nair, N. 2023. "When Minsky and Godley met structuralism: A stock-flow consistent approach to the currency hierarchy." Levy Economics Institute Working Paper no. 1024.
- Nell, E. J., and Forstater, M. 2003. Reinventing Functional Finance. Edward Elgar Publishing.
- Nersisyan, Y., and Wray, L. R. 2016. "Modern Money Theory and the facts of experience." *Cambridge Journal of Economics* 40(5): 1297-1316
- Nersisyan, Y., and Wray, L. R. 2021. "Can we afford the green new deal?" *Journal of Post Keynesian Economics* 44(1): 68–88.
- Nersisyan, Y. and Wray, L. R. 2023. "Sovereign nations face resource constraints, not financial constraints". In L. R. Wray, P. Armstrong, S. Holland, C. Jackson-Prior, P. Plumridge, and N. Wilson (Eds.), Modern Monetary Theory (pp.67-86). Cheltenham, UK: Edward Elgar Publishing.
- Olk, C., Schneider, C., and Hickel, J. 2023. "How to pay for saving the world: Modern Monetary Theory for a degrowth transition. "*Ecological Economics* 214, 107968.
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... and Moher, D. 2021. "The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. "Bmj, 372.
- Pantelopoulos, G., and Watts, M. 2021. "Voluntary and involuntary constraints on the conduct of macroeconomic policy: An application to the UK." *Journal of Economic Issues* 55(1): 225–45.
- Prates, D. 2020. "Beyond Modern Money Theory: a Post-Keynesian approach to the currency hierarchy, monetary sovereignty, and policy space." *Review of Keynesian Economics* 8(4): 494–511.
- Prinz, A. and Beck, H. 2022. "Modern Monetary Theory, Fiscal Dominance and the European Central Bank."
- Credit and Capital Markets, (4), 431-456.Rafferty, D. T. 2023. The International Monetary System's Structural Flaws, a Process of Economic Development, and the Job Guarantee. Review of Radical Political Economics, 55(4), 651-659.
- Razmi, A. 2023. "MMT and policy assignment in an open economy context: Simplicity is useful, oversimplification not so much." *Metroeconomica* 74(2) 328–50.

- Rezende, F. 2016. "Financial fragility, instability and the Brazilian crisis: a Keynes-Minsky-Godley approach." Minds (Multidisciplinary Institute for Development and Strategies): Discussion paper, 1.
- Rochon, L. P. and Setterfield, M. 2007. "Interest rates, income distribution, and monetary policy dominance: Post Keynesians and the" fair rate" of interest." *Journal of Post Keynesian Economics* 30(1): 13–42.
- Sardoni, C. and Wray, L. R. 2007. "Fixed and flexible exchange rates and currency sovereignty." Levy Economics Institute Working Paper no. 489.
- Serrano, F., and Pimentel, K. 2017. Será que "Acabou o Dinheiro"? Financiamento do gasto público e taxas de juros num país de moeda soberana. Revista de Economia Contemporânea, 21, e172123.
- Sylla, N. S. 2023. "Imperialism and Global South's Debt: Insights from Modern Monetary Theory, Ecological Economics, and Dependency Theory". In N. S. Sylla (Ed.) Imperialism and the Political Economy of Global South's Debt (pp.193-222. Emerald Publishing Limited, Leeds.
- Tcherneva, P. R. 2019. "The federal job guarantee: Prevention, not just a cure." *Challenge* 62(4): 253–72.
- Tcherneva, P. R.; and Tymoigne, E. 2023. Seismic shifts in economic theory and policy: From the Bernanke Doctrine to Modern Money Theory. Journal of Post Keynesian Economics, 47(4), 853–874.
- Tcherneva, P.R., and Cruz-Hidalgo, E. 2020.Regímenes de dinero, poder y monetarios: por qué la naturaleza del dinero sí importa. Revista de Economía Crítica, 29, 1-15.
- Tymoigne, E. 2020. Monetary sovereignty: Nature, implementation, and implications. Public Budgeting and Finance, 40(3), 49-71.
- Vernengo, M., and Pérez Caldentey, E. 2020. "Modern Money Theory (MMT) in the tropics: functional finance in developing countries." Challenge 63(6): 332–48.
- Watts, M. and Juniper, J. 2023. "The contribution of MMT to modern macroeconomics." *European Journal of Economics and Economic Policies: Intervention* 20(1): 43-55
- Wray, L. R. 1998a. Understanding Modern Money. Books.
- ——. 1998b. "Zero unemployment and stable prices." *Journal of economic issues*, 32(2): 539–45.

 —. 2006. "Understanding Policy in a Floating Rate Regime." Macroeconomics: Monetary and Fiscal Policies eJournal.
 —. 2012. "Imbalances? What Imbalances? A Dissenting View." Levy Economics Institute Working Paper no. 704.