



University of
Massachusetts
Amherst

Weaknesses of MMT as a Guide to Development Policy

Item Type	Working Paper
Authors	Aboobaker, Adam;Ugurlu, Esra Nur
DOI	10.7275/18878576
Rights	UMass Amherst Open Access Policy
Download date	2025-01-20 04:40:05
Link to Item	https://hdl.handle.net/20.500.14394/22275

Weaknesses of MMT as a Guide to Development Policy*

Adam Aboobaker[†] and Esra Nur Uğurlu[‡]

Abstract

This paper addresses the limitations of Modern Money Theory (MMT) as a guide to development policy. We explore two central questions on this topic: whether MMT policies 1) *ought* to be implemented in low- and middle-income economies and 2) *can* be implemented. In relation to the first question, we argue that the MMT literature mischaracterizes the essence of the development challenge for low- and middle-income economies. Our argument is that the chief long-run growth challenge faced by developing countries concerns structural transformation rather than general aggregate demand insufficiency. We use several formal representations of the consumption-investment trade-off in growth theory, found in the Harrod-Domar growth model, Kalecki's 1963 growth model, and Feldman-Mahalanobis model, to illustrate this point. Concerning the second question, we argue that even if MMT had the correct diagnosis of the principal growth challenge faced by developing countries, its chief policy recommendations would likely be counter-productive if implemented outside of select advanced economies. We draw from the international economics literature on currency hierarchy and exchange rate volatility to illustrate this point.

Key Words: MMT, structural change, macro policy, growth models, history of economic thought.

JEL Codes: O10, O41, E0, B0.

1 Introduction

Modern Money Theory (MMT) has recently generated considerable discussion. MMT has a growing following thanks to the brilliant success of its chief proponents in popularizing the theory, but much of the recent attention has been critical ([Epstein 2019](#), [Rogoff 2019](#), [Summers 2019](#)). While a significant amount of this attention has focused on MMT's applicability in advanced economies, particularly in the United States, critical engagement with questions over the applicability of MMT-inspired policies in developing economies has been more limited. Since MMT is now garnering more attention in

*We thank Peter Skott, John Sender and Gerald Epstein for their helpful comments and suggestions on an earlier draft of this paper. Any remaining errors are our own.

[†]Department of Economics, University of Massachusetts Amherst. Email: aaboobaker@umass.edu

[‡]Department of Economics, University of Massachusetts Amherst. Email: eugurlu@umass.edu

developing countries, amidst crises of legitimacy for orthodox macroeconomic policy (countries like South Africa and Turkey are a case in point), the need for formal criticisms of the MMT framework is becoming increasingly relevant. This is not to say that criticism of orthodoxy is unwelcome. Unfortunately, however, the wide applicability of MMT is often too simply assumed, and its academic advocates have made little attempt to qualify the approach's domain of applicability. The COVID-19 economic shock has amplified our concerns with these developments, as debt-monetization under the rubric of quantitative easing has appeared to be more appealing to policy-makers in a period where the prospects for tax financing are diminished by the collapse of incomes, while the 'flight to safety' dampens foreign demand for government bonds.

This paper addresses the limitations of MMT-inspired policies in developing countries. Firstly, we argue that the MMT approach mischaracterizes the essence of the economic development challenge for low- and middle-income countries. Our argument is that the long-run growth challenge faced by developing countries concerns structural transformation rather than general aggregate demand insufficiency. Secondly, we argue that even if MMT had the correct diagnosis of the principal growth challenge faced by developing countries, the chief policy recommendations emphasized by MMT might be counter-productive if implemented outside of select advanced economies. While the second point is made by some scholars in recent years, including [Vergnhanini and De Conti \(2017\)](#), [Vernengo and Caldenteu \(2019\)](#), and [Bonizzi et al. \(2019\)](#), the mischaracterization of the main economic development challenges by MMT has not received enough attention, aside from [Skott \(2019\)](#). The two issues we address in this paper reduce to whether MMT-policy 1) *ought* to be implemented in low- and middle-income economies and 2) *can* be implemented.

One of the main concepts we use in this paper to examine the desirability of MMT-inspired policies' is the consumption-investment trade-off, which stresses the idea that making room for investment in capital-scarce economies involves sacrificing present for future consumption. This concept has long been illustrated in a series of contributions to the development literature, including in the Harrod-Domar growth model, [Kalecki \(1963\)](#), Feldman/Mahalanobis model, and a more recent Harrodian representation in [Skott \(2019\)](#). Using the common theme to these papers, we argue that MMT advocates fail to consider the implication of their proposals for the composition of national output between consumption and investment. For economies suffering from a structural aggregate demand deficiency, standard counter-cyclical policies to stimulate present consumption and pursue full employment are desirable. However, for economies that require prolonged periods of rapid capital accumulation to attain higher future living standards, curtailing current consumption is needed to create space for a high investment share of output. This need begets serious political economy questions for growth strategy in developing countries, where inequalities and absolute poverty are often pronounced. In this paper, we illustrate that MMT advocates' writings on developing countries show a lack of appreciation for these previously well-recognized points in development discourse.

The rest of this paper is organized as follows. Section two provides a brief summary of MMT's theoretical underpinnings as well as its main policy proposals in the context of developing countries. Section three discusses the mischaracterization of development issues by MMT advocates. Section four addresses the limits to MMT-policies given the current international macroeconomic and financial context. Section five presents the formalizations of consumption-investment trade-off. Section six concludes.

2 A Brief Overview of MMT

MMT advocates often complain about the mischaracterization of their theoretical framework by critics¹. In this section, we will attempt to summarize MMT's core principles by drawing on the original writings of MMT authors. MMT, in significant part, builds on insights from Abba Lerner's work on 'functional finance,' which concludes that governments should set their fiscal position at a level consistent with 'functionally' defined outcomes such as price stability and full employment (Lerner 1943: 41). As such, MMT advocates setting the primary target of fiscal (and monetary) policy as maintaining full employment without excessive inflation.

The MMT approach also depends on neo-chartalism², which suggests that countries that issue sovereign currency do not need to levy taxes to pay for government expenditures (Wray 2015: 48). While there are some variations³, the definitions of monetary sovereignty by MMT scholars share the following features: a country is said to have sovereign currency if (1) the domestic currency is the unit of account, (2) taxes and government expenditures are paid, and debts are issued in this domestic currency, and (3) the currency is floating and non-convertible⁴ (Wray 2015: 41-45). Under neo-chartalism, the government spends its currency into existence, which taxpayers use to pay their tax obligations (ibid.). MMT suggests that households require the government to spend so that they can fulfil their tax obligations rather than governments needing the tax revenue to spend. In other words, according to MMT, the primary purpose of taxation is to "drive" the use of currency rather than provide revenue for government expenditures (ibid.: 278). Hence, currency issuance and tax imposition ensure widespread domestic use and acceptance of the currency⁵.

¹See, for example, Nersisyan and Wray (2020)

²See Mehrling (2000) for a critical discussion of chartalism.

³For instance, Kelton (2020) adopts the 'spectrum of monetary sovereignty view,' which sees monetary sovereignty as a continuum with some nations having a high degree of sovereignty and others having less, little, or none. See Bonizzi et al. (2019) for a summary of the differences among MMT advocates regarding their views on the spectrum view.

⁴Non-convertibility in this context means that the government does not promise to convert the domestic currency into something that they could run out, such as gold.

⁵Incidentally, this perspective on the role of taxation might be particularly persuasive when considering the history of

Following these ideas, MMT argues that a sovereign government cannot become insolvent in its own currency (Wray 2015: 286, Fazi & Mitchell 2019). In other words, it cannot be forced into involuntary defaults on its obligations denominated in its currency. This implies that a sovereign government can ‘afford’ to purchase anything for sale, including labor, insofar as it is priced in its currency (Wray 2015: xi).

With regard to policy advice, MMT advocates an expansion in government spending when total spending in an economy is too low and an increase in taxes when there is a need to damp down the economy to prevent excess inflation. Concerning monetary policy, MMT recommends keeping interest rates very low in the long run. Since a government with a sovereign currency cannot default on the payment of a debt denominated in its currency, the international markets, MMT advocates argue, will not doubt their payment capacity. As such, MMT contends that countries with a sovereign currency are free of any market constraints in its policymaking; the only constraints are political and self-imposed (Wray 1998: 75).

Concerning open economy issues, MMT proposes the adoption of a flexible exchange rate regime as a way of relaxing constraints on the ability of developing countries to implement MMT-policies (Wray 2015, Kaboub 2007). MMT suggests that as much as a country can afford purchasing goods priced in its currency, it can also purchase foreign currency by offering up its currency in exchange. Therefore, the adoption of a flexible exchange rate regime constitutes one of the requirements for monetary sovereignty and, hence, MMT’s applicability. Although some MMT scholars, such as Wray (2015: 286), acknowledge that there might be limits to this⁶, these limits are paradoxically overlooked by MMT scholars that have a developing country focus. For instance, Fadhel Kaboub, described by some as the leading development-oriented MMT scholar, in discussing open economy constraints in the Tunisian economy, argues that:

“If the Tunisian government adopts a flexible exchange rate regime and allows free convertibility of the TND [Tunisian Dinar] in international exchange markets, then Tunisia can practically import anything it wants by simply offering to exchange TNDs for whatever other currency is required for that purchase. There will always be a demand for TNDs, albeit at a devalued exchange rate.” (Kaboub 2007: 24)

capitalist development in many developing countries, particularly former colonies. See Arrighi (1970: 208) for a comment on the role of hut and poll taxes in stimulating proletarianization in Rhodesia. In-kind payment was initially accepted but later discouraged to induce the payment of tax through wage employment. See Bundy (1972) for discussion on the South African case.

⁶Wray states “It [a sovereign government that issues its own “nonconvertible” currency] might be able to buy things for sale in foreign currency by offering up its own currency in exchange – but *that is not certain*” (emphasis added)

MMT's treatment of the trade balance stands out from most conventional analyses in the literature. MMT views imports as a benefit and exports as a cost in 'real' terms (Mitchell et al. 2019). Accordingly, while exporting nations bear the cost of producing the output and not getting the benefit, importing countries enjoy obtaining the output that they did not have to produce. It is for this reason that net exports are viewed as net costs, while net imports are seen as net benefits (Wray 2015: 218). As Bonizzi et al. (2019: 48) note, this interpretation only considers the immediate benefits of increased current consumption and accumulation of physical capital, accompanied by a larger trade deficit while ignoring its implications on the longer-run accumulation of cross-border financial positions.

MMT advocates for the state fulfilling a role as Employer of Last Resort (ELR) as a means to achieve the full employment objective. The ELR is a proposal for a government-funded program whereby the government employs all unemployed labor who are ready, willing, and able to work in a public sector project at a basic wage rate (Tcherneva 2012; Kaboub 2012: 307). In this way, governments can introduce a mechanism to respond to business cycle fluctuations by absorbing excess labor supply when the private sector downsizes and can release workers when the economy is booming⁷. The end target of an ELR program is to achieve full employment at all stages of the business cycle.

Building on MMT's central premise that governments that issue sovereign currencies are not financially constrained, ELR advocates argue that there is always the financial capacity to pay for ELR programs (Kaboub 2007: 4, Tcherneva 2012). Wray (2015: 217) notes that since most developing nations have a sovereign currency, they can 'afford' to buy whatever is for sale in the domestic currency, including unemployed labor⁸.

3 Misdiagnosis of the Problem

The main problem with an MMT approach to development challenges in a low-income or middle-income economy concerns the diagnostic aspect. The MMT approach, in general, seems geared toward managing either the issues of short-run stabilization or 'secular stagnation.' That is, this approach is suited toward managing downturns in business cycles or long-run aggregate demand insufficiency. But this is not sufficient to drive economic development and structural change, which has significant long-run and supply-side dimensions.

⁷The ELR advocates argue that, besides helping to achieve the full-employment target, the ELR comes with other benefits, stabilizing effects on wages and prices, creation of socially useful infrastructure, the ability to address different forms of discriminations, and effectiveness in poverty reduction (Tcherneva 2012).

⁸Wray also suggests that international aid in the form of foreign currency could be welcome in the financing of ELR programs, particularly if the poverty-reducing impacts of the ELR increase imports. However, Wray advises against building up foreign currency indebtedness, as it could be challenging to service it.

Another reason why MMT's relevance to the specific problems faced by developing countries is limited is that MMT does not pay enough attention to the constraints that have historically hindered development policy. Where the literature on late industrialization has typically focused on industrial and trade policies, MMT's domain of relevance is strictly fiscal and monetary. This would be less surprising if there were a significant economics tradition that highlighted the centrality of general aggregate demand stimulus to drive development. Instead, there is a long tradition of macroeconomic theory, going back to authors like [Rao \(1952\)](#) and [Chakravarty \(1979\)](#), which has stressed the *inapplicability* of Keynesian policies as a lever for driving the development process.

The problems with MMT's diagnostic of development issue is well illustrated by the notion that the ELR can be meaningfully implemented in countries with vast reserves of hidden or observable unemployment. In essence, the application of MMT-inspired policies to developing countries amounts to a crude conflation of 'Keynesian unemployment' with 'Marxian unemployment.' To develop this point, it is worth stressing how classical development theory and some significant post-Keynesian macro theorists have characterized the underdevelopment challenge. From its early stages in the 1950s, development economics sought to highlight two structural features of developing economies: surplus labor/hidden unemployment and capital goods insufficiency. These two features are linked – it was argued that through a process of rapid capital accumulation, surplus labor can be absorbed, and a developing economy can approach maturity. The development problem and issue of unemployment in developing countries then, as post-Keynesian theorists such as Joan Robinson put it, is *not* a problem of deficiency of effective demand, but a deficiency in the acquisition of capital goods:

“Keynesian remedies can be effective as a solution to a problem of under-utilization of capacity, but it is evident that they cannot create a capacity that doesn't already exist” [Quoted from [Lavoie 2014: 278](#)].

Robinson was not the only eminent post-Keynesian to adopt this position. Michal Kalecki was similarly dismissive of the idea that the problem of underdevelopment was one of deficient effective demand:

“The problem of unemployment in underdeveloped countries differs fundamentally from that in developed economies. In the latter, unemployment arises on account of inadequacy of effective demand. During periods of depression unemployed labor coexists with underutilized equipment. The situation may, therefore, be tackled by measures designed to stimulate effective demand, such as loan financed government expenditure. Unemployment and underemployment in underdeveloped countries are of an entirely different nature. They result from the shortage of capital equipment rather than from deficiency of effective demand.” ([Kalecki 1960: 3](#))

These two quotes highlight the importance, both for Robinson and Kalecki, of the difference between 'Keynesian' and 'Marxian' unemployment. In the early stages of economic development, 'the reserve

army of the unemployed’ or ‘surplus labor’ exerts downward pressure on wages. This helps capitalists to generate high profits, which can be used for capital accumulation. As the pace of accumulation accelerates, capital accumulation outpaces the growth in the labor force, which builds excess capacity into the economy. Once the existing stock of capital rises above a level that is more than sufficient to employ the available labor, unemployment becomes ‘Keynesian’ in the sense that it is associated with the insufficiency of effective demand, which can be addressed by expanding government expenditures. On the other hand, approaching the matter from a somewhat stylized perspective, addressing unemployment in developing economies requires an increase in the size of the capital stock to a level sufficient to employ the available labor. In other words, raising employment and living standards in developing economies necessitates an increase in productive capacity via high levels of investment (Kriesler 2012).

Kalecki argued that in developing nations, the attempt to secure full employment could easily lead to inflationary tendencies if the productive capacity is not improved (Sawyer 2007)⁹. He discussed this possibility through his ‘forced savings’ argument, addressing the effect of aggregate demand stimulus in the context of inelastic wage-goods supply. This perspective was highlighted by Thomas Palley in the context of a discussion with MMT advocates regarding the economic rationale for South Africa’s Expanded Public Works Program (EPWP). Palley argued that a job guarantee was likely to have complex political ramifications if it stimulated demand for wage-goods when the South African economy did not have the capacity to produce more of these wage goods¹⁰. He argued that this would stimulate wage-goods inflation and hence lower the real-wages of private and public sector workers who were not direct beneficiaries of EPWP jobs. As far as we can tell, MMT advocates have not put forward compelling responses to these classical criticisms of simplistic transplantation of macro policy ideas from advanced economies to low-income and emerging market economies. This has led to the proposal of treating significant reserves of hidden and visible unemployment as absorbable through the public sector – a proposal which, in the many low- and middle-income countries affected by this issue, entails growing the government share of output to a degree seemingly unappreciated by the advocates of this

⁹Some MMT scholars acknowledge the real constraints to increasing government expenditures. For instance, Kelton (2020) notes that “[j]ust because there are no financial constraints on the federal budget doesn’t mean there aren’t real limits to what the government can (and should) do. Every economy has its own internal speed limit, regulated by the availability of our real productive resources—the state of technology and the quantity and quality of its land, workers, factories, machines, and other materials. If the government tries to spend too much into an economy that’s already running at full speed, inflation will accelerate.” (emphasis in the original). While Kelton’s analysis is incomplete, insofar as it glosses over the political economy constraints of overcoming the institutional barriers to increasing the supply of wage goods and food, it is nonetheless an important step forward for some MMT advocates to acknowledge that there could be real constraints to increasing government expenditures. We find it puzzling that more development-oriented MMT scholars, such as Kaboub, overlook these constraints.

¹⁰<https://www.youtube.com/watch?v=wH-lnn1mICA&feature=youtu.be&t=1m3s>.

proposal. In the paragraphs below we address the desirability and feasibility of this suggestion.

The policy advocacy of leading MMT scholar Bill Mitchell provides an illustrative example. For Mitchell, the notion that South Africa's high rate of (visible) unemployment, over 30 percent by broad definition, is structural in nature is wrong. "By any standards, the unemployment problem in South Africa is what economists call a demand deficiency situation rather than a structural problem." Further, solving the problem is simple: "The solution to South Africa's unemployment problem is to generate more work" (King-Dejardin & Santos 2009: 115). In other words, the scourge of un- and under-employment can easily be addressed by ELR programs. This is not how expanded public works programs (EPWP) have been understood in South Africa. As a leading South African labor market specialist has put it: 'Unlike [African National Congress] politicians and sundry hacks, EPWP management is ... usually at pains to dispel the perception that the EPWP is a "panacea" for "the unemployment problem of the country"' (Meth 2011: 6).

Moreover, for Mitchell (2012), the use of ELR programs in developing countries like South Africa constitutes a development strategy insofar as it "can serve [as] an industry policy to promote a quickening of this move to a high-wage, high productivity economy by placing pressure on market economy employers through the wage floor it establishes." Yes, "some employers would close their operations because they would not be able to operate at the higher costs... [but] economic development always involves a movement from lower productivity-higher cost production to higher productivity-lower cost production"¹¹. It is hard to situate Mitchell's proposals within established development theory – in fact, this approach seems almost specially disposed to bringing about a situation of 'pre-mature maturity', impeding the developmental use of duality. That is to say, where the wage premium plays an important role in spurring the growth of the high productivity sector in classical development theory (like the Lewis model), Mitchell's approach spectacularly flips the script by attempting to drive the transition to a high-productivity economy through collapsing the wage-premium and seemingly at a high cost to the low-productivity sector. This cavalier attitude toward policies that put firms out of operation is concerning considering it is advocated in contexts with already high unemployment and where the informal sector employment is often crucial for keeping heightened rates of absolute poverty at bay¹².

While Mitchell fails to recognize the nature of unemployment in developing countries characterized by vast reserves of hidden or visible unemployment, Wray (2015) notes two challenges to implement

¹¹<http://bilbo.economicoutlook.net/blog/?p=19981>

¹²The low-productivity sector is bound to have higher rates of exploitative practices than the high-productivity and clearly it will be ideal to transition to greater rates of formal sector activity from both the social and economic standpoints. But there are major qualitative differences between achieving a high share of formal sector employment through: 1) growing the formal sector versus 2) through decimating the informal sector.

ELR programs in these countries¹³. First, he notes that small developing nations may produce a small range of commodities and import a large number of types of goods they do not produce. Secondly, he acknowledges the significant sectoral disparities characterizing these economies, whereby a small formal sector coexists with a large informal sector that generates most of the production and employment. He argues that if implemented under these conditions, the introduction of an ELR program would likely trigger a flood of workers from the informal sector towards the ELR jobs. This would bring about a significant increase in monetary incomes and demand for consumption goods, resulting in deterioration of the trade balance and quick loss of international reserves. These dynamics, Wray argues, would likely result in an exchange rate and economic crisis.

As a remedy to these challenges, Wray suggests that an ELR program in a developing nation would need to keep the program's wage close to the average wage earned in the informal sector. For Wray, the poverty-reducing capacity of the program could still be maintained by including a compensation package into ELR programs that would provide some necessities including domestically produced food items, clothing, shelter, and some essential services such as healthcare, childcare, and education. He argues that the in-kind nature of these transfers will decrease the chance that monetary income substitute imports for domestic production. Nevertheless, wage income the ELR provides and the provision of necessities will generate a net positive impact on aggregate demand, which would create pressure on the trade balance. This pressure will be intensified if production by ELR programs requires imports of capital equipment. Wray suggests that careful planning by government, such as linking the provision of imports to export earnings or international aid, can help address these undesired impacts.

To assess these proposals, it is important to scrutinize the nature of obstacles to stepping up investment, given that the lack of productive capital is the major factor driving structural unemployment in developing nations. [Kalecki \(1966\)](#) discusses three major obstacles in this respect: (1) private investment may not be upcoming at an adequate rate due to lack of incentives, (2) there may be bottlenecks in physical resources to produce more investment goods, (3) there may be a problem of inadequate supply of necessities to cover the rising demand resulting from the increase in employment. Without formulating policies aimed at expanding the industrial sector through incentives and provision of the capital goods required to enhance capital accumulation, it is hard to see how Wray's alterations to the ELR program can address these obstacles, particularly the first two.

One of the few MMT scholars to have made contributions to the development literature is Jan Kregel. [Kregel \(2016\)](#) has been relatively clear in recognition that MMT must respond to questions regarding the existence of supply-side constraints if it is to engage meaningfully about the applicability of the

¹³Wray also argues that the limited administrative capacity of governments in developing nations could pose challenges for the implementation of ELP programs. We do not focus on this argument in this paper.

framework in developing countries. The problem of rigid wage-goods supply is one manifestation of these supply-side constraints, but development theory has also long emphasized the significance of savings constraints. While Kregel takes an important step vis-à-vis other MMT counterparts in recognizing this issue, it is unclear that he either incorporates or refutes relevant contributions in the development literature. He argues that most developing countries are not plagued by scarce resources, since they are labor and commodity rich, as if this sufficiently addresses the supply-constraint argument, which highlights the insufficiency of capital as opposed to labor, or as if classical development theory has been unaware of these points.

Furthermore, while Kregel may be correct to raise doubts about the ability to finance development externally through capital inflows, it is unclear whether this criticism can be levied against what he calls as the ‘supply-side approach’ in general. It is in one fell swoop that Kregel jumps from criticizing Domar’s position on the relevance of external finance for development to arguing that the problems of this approach imply the need for a demand-centred MMT-led approach to mobilizing domestic finance. [Kregel \(2016: 515\)](#) argues that:

“[I]ike Keynes’s theory, this approach was formulated with developed countries in mind, as an argument to support the use of Keynesian expenditure policies to produce full utilisation of productive capacity and full employment. But it seems to be just as applicable to developing countries with the appropriate adaptations noted above with respect to the appropriation of Keynes’s theory of effective demand and disguised unemployment”.

To his credit, Kregel does not seem to argue for addressing development issues primarily through general aggregate demand policy of the MMT variety: he, rightfully in our view, highlights the importance of the exchange rate as a key policy variable under the rubric of ‘New Developmentalism’, and in the context of the role for the manufacturing sector as an engine for development. He also highlights the need for controls on foreign capital flows¹⁴. Unfortunately, it is hard to situate these arguments within the broader thrust of the piece and the argument in favor of MMT-led development is left underdevel-

¹⁴Some MMT advocates mention capital controls as an important tool that can be used to increase monetary sovereignty; however, as [Epstein \(2019\)](#) notes, the treatment of this issue in the MMT literature is minimal. For instance, capital controls receive one-page space in the most recently published MMT textbook, [Mitchell et al. \(2019: 30\)](#). While Mitchell advocates more strongly for capital controls in his blog, MMT scholars do not discuss in any sufficient detail the details and institutional specificity of capital controls that are required to enhance nations’ monetary sovereignty. As another example, the only mention of capital controls we could find in Kaboub’s work on ELR is the following statement: “The proposed strategy [referring to ELR] ... require flexible exchange rates, currency convertibility, capital controls...”. Kaboub does not expand on this in the rest of the paper. Finally, MMT’s treatment of capital controls is not free of contradictions. For instance, while [Wray \(2015\)](#) states that capital controls might be needed to provide developing countries with more sovereignty, he also argues that relaxing capital controls could also be desirable insofar as it allows a nation to enjoy more benefits (imports) and fewer costs (exports).

oped.

Other MMT scholars, like [Tymoigne and Wray \(2013\)](#), in responding to critics like Palley on the domain of applicability of MMT, have stressed that the only constraints on developing countries with regard to implementing MMT policy concerns whether developing countries choose to take debt in a foreign currency (commit the ‘original sin’) or if they choose to peg the currency. As addressed in more detail below, these comments show a lack of appreciation for the policy bind commonly faced by developing countries.

If one of the main targets of a long-term development program is to increase capital accumulation, there should be incentives for firms in the industrial sector to carry out the required investment. In capital constrained economies, besides creating incentives, economic policy should also focus on creating resources for sustained capital accumulation. In our view, one of the most socially desirable ways of creating resources would be to reduce luxury consumption by high-income earners through taxation. While some MMT scholars, such as [Wray \(2015\)](#) consider the importance of curtailing luxury consumption, this view is in stark contrast with other MMT authors’ attitude towards distributional issues, such as [Kelton \(2019\)](#) and [Kaboub \(2007\)](#)¹⁵. [Kaboub](#) argues that under a floating exchange rate regime with convertible currency, individuals who can afford luxury goods should be free to pursue their consumption. We believe that MMT’s advocacy on the basis that it offers Pareto Optimal free lunches is concerning because it overlooks the importance of resource allocation to ‘finance’ capital accumulation. Also, this criterion abstracts from other desiderate of an allocation. Distributional conflict is, in our view, central to processes of economic development¹⁶.

4 Challenges to MMT in the International Macroeconomics Context

Much of the MMT literature views external constraints on policy choices as being self-imposed. Although some MMT scholars recognize the limitations on monetary sovereignty, MMT’s policy proposals for developing nations, in general, downplay binding external constraints ([Bonizzi et al. 2019](#): 53).

The international currency hierarchy literature and the concept of ‘Original Sin’ provide a relevant starting place to examine the extent to which developing countries possess ‘monetary sovereignty’.

¹⁵Kelton makes contradictory statements regarding the role of taxation. In a Bloomberg opinion piece entitled “The Wealth Are Victims of Their Own Propaganda, to escape higher taxes, they must embrace deficits,” [Kelton \(2019\)](#) argues that adopting MMT thinking can provide the rich an escape from paying high taxes. On the other hand, ([Kelton 2020](#): 25) advocates for taxing the rich to rebalance the distribution of wealth and income and protect the health of democracy. At best, MMT is unclear regarding its stance on the redistributive role of taxation and, at worst, defending the status-quo through not taking a strong position.

¹⁶In capitalist and non-capitalist economies, in theory and in practice. Section 5 expands on this point.

The international monetary system has a hierarchical and asymmetric institutional structure organized around a key currency, the US Dollar (Andrade & Prates 2013). In this hierarchical structure, currencies are positioned according to their degree of liquidity, which reflects their ability to perform the three functions of money on the international scale: means of payment, unit of account (denomination of contracts), and store of value (international reserve currency) (De Paula, Fritz, & Prates 2017). The relative size of an economy, the nature of integration with the world markets, geopolitical power, and the willingness to internationalize the domestic currency influence the extent to which currencies can perform these functions. The US Dollar, placed at the top of the hierarchy, is followed by currencies of other core countries, such as the Euro and Japanese Yen. Given their inability to perform the international money functions, currencies issued by developing nations are placed at the bottom of this structure (ibid.)

The hierarchy among currencies engenders various challenges for developing nations. It makes them vulnerable to capital flight and their currency markets more susceptible to the volatility of short-term capital flows (Andrade & Prates 2013). Furthermore, the asymmetric nature of this structure makes it challenging for most countries to borrow in domestic currencies domestically and internationally, both in the short and long term (Hausmann & Panizza 2003). The phenomenon of foreign currency borrowing, the ‘original sin,’ although not limited to, is overwhelmingly associated with developing nations.

There are a few reasons why developing countries often struggle to borrow in domestic currency and resort to borrowing in foreign currencies¹⁷. Firstly, some of the key intermediate goods, such as machinery and energy, are not always sold in domestic markets in domestic currency. As developing countries attempt to move away from producing agricultural commodities to manufacturing goods, the need to import capital goods, mostly from advanced economies, increases. Furthermore, technological dependence results in a strong inelasticity of imports to growth, particularly with respect to the capital or technology-intensive imports of intermediate goods. Given their integration into the world economy as exporters of primary commodities and low-value-added manufacturing products, export revenues do not typically suffice to pay for these imports. As a result, developing countries have a structural tendency to run trade deficits and obtain foreign currency to meet their payment obligations. This tendency for trade gaps and foreign exchange constraints have long been theorized in the classical structuralist literature, for instance, in seminal works of Prebisch (1962) and Thirlwall (1979)¹⁸.

¹⁷Borrowing in foreign currency can be made by households, firms, or the government. Here, we refer to the borrowing made by firms.

¹⁸The theoretical work is supported by real-world examples of how the lack of access to foreign exchange might constitute a constraint on economic development. For instance, the difficulties and opportunities to access foreign exchange were crucial in shaping the political economy of East Asian countries’ industrialization strategies in post-war years. See Fischer (2018) for an in-depth analysis of the importance of overcoming foreign exchange constraints in East Asian

The second reason why many developing countries resort to foreign currency borrowing relates to foreign investors' unwillingness to hold the currencies these economies issue¹⁹. A country can borrow in domestic currency only as much as its lenders are willing to provide, and in the current international system, due to the differences in the ability of different currencies to perform international money functions, the demand for currencies other than a small number of key currencies is limited. [Jeanneret and Souissi \(2016\)](#) documents that outstanding international debt securities are denominated primarily in four currencies: the US Dollar, the Pound Sterling, the Euro, and the Japanese Yen. [Eichengreen and Hausmann \(2005\)](#) similarly show that more than 90% of all international financial contracts are denominated in five currencies. These findings are striking in the context of roughly 150 existing currencies that could alternatively be used ([Fritz et al. 2018](#)).

The concept of currency hierarchy requires that monetary returns of assets denominated in peripheral currencies have to compensate for their lower liquidity relative to that of core currencies to induce foreign investors to demand such assets and to prevent capital outflows by domestic investors ([De Paula et al. 2017](#)). This applies to sovereign bonds issued by developing nations. Furthermore, if the markets perceive an increase in government spending as a sign of a lower commitment to debt retirement, this can result in a self-fulfilling expectation of exchange rate depreciation and higher long-term interest rates. Indeed, many developing nations resort to fiscal tightening to compensate for the negative effects of currency depreciation²⁰ on their fiscal balance and to inspire global investors' confidence (*ibid.*) In practice, these are reasons why interest rates are often set at higher levels in developing countries that advanced economies, which suggests that standard Keynesian monetary tools for stimulating expan-

industrialization.

¹⁹The following statement by Wray (2015: 124) acknowledges this point “Many developing nations will not find a foreign demand for their domestic currency liabilities. Indeed, some nations could be so constrained that they must issue liabilities denominated in one of these more highly desired currencies in order to import. This can lead to many problems and constraints- for example, once such a nation has issued debt denominated in a foreign currency, it must earn or borrow foreign currency to service that debt. These problems are important and not easily resolved.”

²⁰This raises the question ‘why not allow the depreciation?’ – a substantial literature has emerged linking real exchange rate depreciation to long-run growth (see [Demir and Razmi \(2020\)](#) for a review of the literature) – but this may raise questions about whether the real exchange rate is a target or a tool. Using fiscal policy as a tool to target full employment, it will only be by fluke that the real exchange rate corresponding to the desired fiscal expansion is consistent with the target level of undervaluation required by structural transformation imperatives. N targets require at least N independent instruments ([Tobin 1993](#)). This obviously leaves room for monetary policy to pursue an exchange rate target. But MMT advocates subordinate the role of monetary policy to financing fiscal policy, through debt-monetization. Beyond a target range, excessive depreciation may drive inflation risks that raise contractionary concerns especially under inflation targeting regimes. Secondly, despite these widely expected benefits of undervalued RER policies, many developing countries pursue policies aimed at keeping their exchange rates overvalued ([Steinberg 2015](#)). By not engaging with concerns around depreciation or undervaluation of exchange rates, MMT dismisses the reality of “fear of floating” prevalent across many developing nations ([Calvo & Reinhart 2002](#)).

sion are constrained in an important sense, particularly in the absence of capital controls. This also means that contrary to what is argued by MMT advocates, fiscal austerity is not always self-imposed; developing countries are subject to discipline by the international financial markets.

Thirdly, the lack of development of domestic financial markets can force developing countries to borrow in international markets. Domestic financial markets in developing nations are often characterized by credit constraints and higher interest rates charged on lending (De Paula et al. 2017, Bonizzi et al. 2019). These problems are exacerbated by the unwillingness of domestic private actors to borrow or hold domestic assets and currency whose value is often volatile. These factors restrict the ability of the financial system to provide long-term credit necessary for industrialization.

What does the structural nature of balance of payments (BoP) deficits and dependence on foreign debt mean in practical terms for the issue at hand? Firstly, the structural nature of balance of payments deficits and the issues of fiscal balance are interrelated. Introducing restrictions on the imports of (luxury) consumption might be one potential way of relaxing the BoP constraints, which implies that higher taxes might be needed. This suggests that even when operating under a floating exchange rate regime with a convertible currency, the conduct of fiscal policy in open economies has to take the balance of payments constraints into consideration (Skott 2019).

Secondly, alongside (net) foreign debt accumulation, private and public sectors in developing nations can be subjected to mismatches on their respective balance sheets. This problem occurs when assets are mostly in domestic currency, whereas their liabilities are denominated in foreign currencies. When developing countries are subject to vagaries of international capital flows and exchange rate volatility, as is often the case in flexible exchange rate regimes, an increase in currency mismatch on balance sheets would further increase the risk premiums.

While flexible exchange rate regimes may lessen some more immediate problems of thinking about the relevance of MMT in developing countries, insofar as the pressure to accumulate foreign currency to defend the integrity of the currency peg disappears, they come with their own set of challenges and sources of instability that requires grappling with. Relying on domestic currency borrowing under a flexible exchange rate system will likely devalue the domestic currency due to capital outflows and pressures on the current account balance. To Kaboub (2007), this does not represent a problem because developing countries will be able to import *anything* they want merely by offering their domestic currency, and there will always be a demand for those currencies, albeit a devalued exchange rate. However, this suggestion can have severe implications for inflation and external debt financing (Bonizzi et al. 2019).

A decline in the value of the domestic currency will likely put upward pressure on domestic prices.

Kaboub (2007) and Wray (2006) claim that depreciation will increase only the *relative* prices of commodities with significant import content, which they refer to as “relative price effect” rather than “inflation.” However, given that developing countries are often net importers of key intermediate goods, such as capital goods and energy, which enter the production process of almost everything, a rise in the prices of these key goods will be reflected in the overall price level. Furthermore, in the case of continuous pressure on the exchange rate for a significant period or a rise in the *overall* price level triggering a price-wage spiral, domestic currency financing under a flexible exchange rate regime has the potential to trigger inflation²¹. The empirical evidence indicates that the effect of currency depreciation on inflation, known as the exchange-rate pass through, tends to be stronger in developing nations than advanced economies (Mohanty & Scatigna 2005)²². The concerns regarding the pass-through impact is also an important reason why many developing nations adopt an asymmetric stance with respect to their exchange rate policy whereby central banks tend to tolerate real exchange rate appreciations by remaining inactive in the case of an appreciation while fighting against depreciation beyond some threshold (Benlialper et al. 2017).

Secondly, the free-floating exchange rate regimes can lead to cyclical crisis given that capital flows often follow a speculative and volatile logic that results in exchange rate volatility (Vergnhanini & De Conti 2017). Short run capital flows constitute the primary determinant of exchange rate dynamics in developing countries, which are shaped by expectations. Given that the currencies of developing nations have a lower liquidity premium in relation to the key currencies, in times of increasing uncertainty, assets denominated in these currencies become the first victims of the “flight to safety,” i.e., flight to assets denominated in the key currencies. On the contrary, under more promising circumstances, international investors tend to hold illiquid assets denominated in peripheral currencies, given that they generate higher overall returns. The existence of a hierarchical currency structure conditions the behavior of exchange rates because any sudden change in financing conditions in core nations or in expectations can trigger a rapid response in exchange rates. Operating under high vulnerability to portfolio flows and exchange rate risk, developing country government may find themselves in a position to choose between domestic currency financing of imports or preventing the exchange rate from collapsing (Bonizzi et al. 2019). Often, they adopt some kind of administrated exchange rates with different degrees of intervention to avoid sudden defaults that could be caused by currency mismatches and to avoid the inflationary pressures.

²¹In response to these points, some MMT scholars, such as Tymoigne and Wray (2013), advocates for exchange rate pegging. As Vergnhanini and De Conti (2017) rightly points out, this would fully undermine one of the main conditions of monetary sovereignty. Besides, there is great evidence indicating that pegged exchange rate regimes significantly constrain the policy space and are subject to speculative attacks

²²This difference stems mainly from a larger proportion of traded goods (particularly foodstuffs) in the households’ consumption baskets observed in lower-income economies.

Overall, MMT’s assertion that a country with a sovereign currency cannot default on its public debt is misleading insofar as it does not take into consideration that the international demand for the assets denominated in developing country currencies is limited and volatile. Also, developing countries have to design their fiscal and monetary policies under the threat of capital flight, which results in the adoption of policies that are far from being autonomous.

5 The consumption-investment trade-off

That the MMT route to development is out of keeping with development theory is illustrated by a series of contributions to the literature going back a considerable period. The consumption-investment trade-off has been key to influential iterations of development theory and policy for nearly a century. For instance, Kalecki (1970) argued that making room for investment in capital-scarce economies involves sacrificing present for future consumption, particularly restraining consumption of nonessentials out of higher incomes through appropriate fiscal policy. Formal representations of variations of this argument have been provided in the influential Harrod/Domar model, the Feldman/Mahalanobis model, as well as models developed by Kalecki. In this section, we outline these models and their key conclusions.

The consumption-investment trade-off is visible in the classic Domar growth model. This is an interesting feature of the model considering the purpose of the model was to extend the static insights of Keynesian economics to a dynamic, long-run setting. The model takes both the income and the capacity generating effects of investment into account. The demand side of the model is given by the importance of investment and the multiplier to the determination of changes in income. Equation 1 is an identity giving potential output, κ , such that ρ is the constant capacity-capital ratio and K is the capital stock. Equation 2 gives the change in the capital stock, by definition equal to I (investment), equal to S at the static equilibrium, and s is the marginal propensity to save. A dot over a variable denotes a time-derivative, a hat denotes a growth rate.

$$\kappa = \rho K \quad (1)$$

$$\dot{K} = I = S = s\kappa \quad (2)$$

Equation 1 and 2 imply that along the equilibrium time path a higher accumulation rate requires a higher marginal propensity to save, as seen in equation 3:

$$\hat{\kappa} = \hat{K} = s\rho \quad (3)$$

A clearer representation of the trade-off can be found in the Feldman model. Against the backdrop of the Feldman model were the rich Soviet industrialization debates. At the inception of these debates, Soviet industry was under strain and “the possibility of securing output increases by more intensive utilization of available equipment was diminishing as capacity limits were approached” [Erlich \(1950:](#)

59). These challenges would be aggravated by forms of demand-side stimulus: the demise of feudal lords post revolution freed up the use of agricultural surpluses produced by peasants to be consumed rather than appropriated by the landlords predisposed to consuming luxury imports. Large scale unemployment, meanwhile, was compatible with high rates of capacity utilization for the simple fact that “[t]he total productive capacity of the then existing Russian industry and the size of its capital-making facilities were insufficient to absorb the labor reserve which had been inherited from the agrarian structure of the old regime” (Erllich 1950: 63-64). Fixing a labor market disequilibrium of this magnitude by “mere reliance upon the smooth movement of resources from one small section of the economy to another and upon a more intensive utilization of them would clearly not suffice” (Erllich 1950: 77). In short, the development challenges faced by the Soviet Union in this period, stimulating industry and absorbing excess labor, were not problems of deficient aggregate demand or, in other words, Keynesian in nature.

MMT-inspired development perspectives dismiss the political and economic questions central to these debates²³. Class conflict and a host of political economy issues are pushed to the periphery. Why broach the subject of distributional conflict (in the time of Preobrazhensky, the ‘peasant question’²⁴) when addressing the issue of financing development, if all that is necessary is leveraging the state’s capacity to create money? By taking this approach, Chartalists, in effect, shift the supply-side issue of how to finance/create space for development through ‘forced savings’, penalizing luxury consumption or otherwise into the demand-side issue by asking ‘how much should government expenditure grow to absorb surplus labor’.

Preobrazhensky was one of the leading Soviet intellectuals of the early 20th century, his 1924 article “*the Fundamental Law of Socialist Accumulation*” is considered to be the opening gun in the Soviet debate on industrialization. For Preobrazhensky it was clear that while substantial additions to the capital stock would have beneficial effects on future supply, there would be costs to current consumption. This could be achieved in a regressive or progressive way. The more desirable latter way could be attained by penalizing usury and hoarding (Erllich, 1950: 81).

The Feldman model captures some aspects of Preobrazhensky’s argument. It depicts two sectors/departments, one producing investment goods (department 1) and the other producing consumer goods (department 2). The model can be summed up in a few equations, simply derived in Domar (1957) and re-interpreted below:

²³See Mitra (1977) for a stimulating characterization of these debates.

²⁴Financing development in a worker’s state was to be done, not through the exertion of downward pressure on wages as in the industrial revolution, but through a pricing policy grounded in industrial monopoly – de facto taxation was to be implemented through shifting the terms of trade (Erllich, 1950: 72-73).

Using the simplifying assumption that the capital coefficient across each sector is v , where γ is the share of total investment allocated to department 1 (producing investment goods), I is output of department 1, C is output of department 2 (producing consumer goods), I_1 is the allocation of investment to the investment goods sector's capital stock and I_2 the allocation to the production of consumer goods, we have:

$$I = \frac{K_1}{v} \quad (4)$$

$$I_1 = \frac{\gamma}{v} K_1 \quad (5)$$

$$I_2 = \frac{1-\gamma}{v} K_1 \quad (6)$$

$$C = \frac{1}{v} K_2 \quad (7)$$

This implies:

$$\hat{I} = \hat{K}_1 = \frac{I_1}{K_1} = \frac{\gamma}{v} \quad (8)$$

$$\hat{C} = \hat{K}_2 = \frac{I_2}{K_2} = \frac{1-\gamma}{v} \frac{K_1}{K_2} \quad (9)$$

Using equations 8 and 9, we can obtain a differential equation for $\frac{K_1}{K_2}$ given by equation 10:

$$\left(\frac{\hat{K}_1}{\hat{K}_2} \right) = \frac{\gamma}{v} - \frac{1-\gamma}{v} \frac{K_1}{K_2} \quad (10)$$

This equation has a stable stationary solution such that:

$$\frac{K_1}{K_2} \rightarrow \frac{\gamma}{1-\gamma} \quad (11)$$

Looking at 8 and 9, and plugging the stationary solution into the latter, the growth rate of each sector asymptotically equals $\frac{\gamma}{v}$. Hence the model shows that the growth rate of the economy as a whole is directly related to the allocation of the capital stock between consumption and investment. Given that γ takes a constant value varying between 0 and 1, increasing the economy's growth rate requires allocating more resources to investment than consumption.

[Kalecki \(1963\)](#) similarly stressed the trade-off between growth (and thereby future consumption) and current consumption in his various writings.

$$Y = I + S + C \quad (12)$$

Equation 12 divides national income into three components: productive investment (I), the increase in inventories (S), and consumption (C).

$$\Delta Y = \frac{1}{m}I - aY + uY \quad (13)$$

Equation 13 establishes a relationship between the increment in national income (ΔY) and productive investment. The first term represents the productive effects of investment, i.e., the amount by which the national income is increased as a result of investment, where m denotes the capital-output ratio. The second term indicates how much the national income declines due to depreciation of the existing capital equipment, where a denotes parameter of depreciation. Finally, the last term represents the increase in national income due to improvements in the utilization of equipment, such as improvements in the organization of labor or more economical use of raw materials.

Dividing both sides by Y gives us the growth rate of national income, denoted by r . Re-arranging the terms yields:

$$\frac{I}{Y} = (r + a - u)m \quad (14)$$

Kalecki assumes that the volume of inventories changes proportionally to the national income, i.e. $S = \mu \Delta Y$. Dividing both sides of this equation by Y gives:

$$\frac{S}{Y} = \frac{\mu \Delta Y}{Y} = \mu r \quad (15)$$

, where μ represents the ratio between the volume of inventories and the national income (the so-called ‘average period of turnover of inventories’).

Using equations 14 and 15, the growth rate of national income can be written as:

$$r = \frac{1}{m + \mu} \frac{I + S}{Y} - \frac{m}{m + \mu} (a - u) \quad (16)$$

Let’s denote the share of productive accumulation in total income by $i = \frac{I+S}{Y}$. The share of consumption is then given by $1 - i$. Finally, let’s denote $m + \mu$ by k and call k the ‘capital-output ratio for total capital’ since this indicates the sum of fixed capital and inventories required to produce a unit increment in national income. Using these notations, equation 16 can be re-written as:

$$r = \frac{i}{k} - \frac{m}{k} (a - u) \quad (17)$$

Equation 17 forms the basis of Kalecki’s discussion of economic growth in most of his writings (Sawyer 1985). This equation can also be used to indicate the inter-generational trade-off between growth and (immediate) consumption because holding k , m , a and u constant²⁵, an increase in r re-

²⁵Kalecki notes that in a capitalist system, u reflects changes in the degree to which it is possible to find a market for the output of existing productive capabilities. On the other hand, in a socialist economy, utilization of productive capacity is determined by planning. As such, u in a socialist economy reflects the effects of technical and organizational improvements that do not require significant capital outlays and hence can be taken as constant. In our exposition of Kalecki’s

quires a rise in i and hence a fall in the consumption to income ratio (ibid.). In other words, accelerating the growth of national income requires a rise in the relative share of productive capital accumulation in national income, and a concomitant decline in the share of consumption, which will adversely affect the level of consumption in the short run.

How do these arguments relate to questions over MMT-style policies in developing countries? It is relatively straight-forward to show, as Skott (2019) has done, that fiscal policy is relevant to the consumption-investment trade-off. Alternatively, if fiscal policy is monetized by the central bank to the end of absorbing surplus labor, this implies a growth in the size of the government sector scaled by the capital stock. This must come at the expense of the rate of accumulation as shown by Skott (2019) in a Harroddian setting.

Equation 18 is given by the standard national income identity, divided through by the capital stock.

$$\frac{Y}{K} = \frac{C}{K} + \frac{I}{K} + \frac{G}{K} \quad (18)$$

This equation can be re-written as below, where $\frac{Y}{K} = \sigma$ (fixed at the ‘normal’ rate of capacity utilization), $\frac{I}{K} = g$, $\frac{G}{K} = \theta$, which is a constant determined by how many goods and services the population determines the state should provide, and $W =$ wealth.

$$g = \sigma - \frac{C}{K}(Y, W) - \theta \quad (19)$$

To avoid any potential misunderstanding of equation 19, it should be noted that a lower consumption rate or government expenditure rate does not automatically *cause* a higher investment rate but is instead required to *make space* for more rapid accumulation. Importantly, recognition of this does not preclude an active role for the state – in fact, upon achieving a higher warranted rate, there is a major role for the state to induce higher rates of accumulation through industrial, trade, and monetary policies – but this is distinct from increasing θ .

To summarize these models, they all feature capacity constraints, whether in the form of constant capacity-capital ratios (ρ in the Domar model), capacity utilization (u in the Kalecki model), output-capital ratio (σ in the Skott model) or constant γ lying between zero and 1 in the Feldman model. Capacity constraints drive the trade-off between investment and other forms of aggregate demand.

6 Conclusion

As things stand, MMT does not constitute a valid approach to macroeconomic policy in a developing country. This tradition must recognize that there are some important structural limits on fiscal and monetary space of developing country governments. Further, it is necessary to identify that the challenges

model, we take u as a constant in line with the Harroddian assumption of constancy of capacity utilization in the long-run.

of developing countries go beyond the scope of influence of standard Keynesian tools. Keynesian tools are necessary but not sufficient for addressing growth challenges in developing countries. In this respect, it is important to distinguish between policy for short-run stabilization and long-run structural transformation. A more nuanced approach to state intervention in developing countries ought to focus on how to conduct trade and industrial policies that create a suitable environment for industrial growth. Recognizing and organizing against this state of affairs is the art of a long tradition of heterodox and mainstream development thought – a tradition MMT makes little contribution to and shows no regard for.

References

- Andrade, R. P., & Prates, D. M. (2013). Exchange rate dynamics in a peripheral monetary economy. *Journal of Post Keynesian Economics*, 35(3), 399–416. doi: 10.2753/PKE0160-3477350304
- Arrighi, G. (1970). Labour supplies in historical perspective: A study of the proletarianization of the African peasantry in Rhodesia. *The Journal of Development Studies*, 6(3), 197–234. doi: 10.1080/00220387008421322
- Benlialper, A., Cömert, H., & Öcal, N. (2017). Asymmetric exchange rate policy in inflation targeting developing countries. *Institute for International Political Economy Working Papers*.
- Bonizzi, B., Kaltenbrunner, A., & Michell, J. (2019). Monetary sovereignty is a spectrum: Modern monetary theory and developing countries. (89).
- Bundy, C. (1972). The Emergence and Decline of a South African Peasantry. *African Affairs*, 71(285), 369–388.
- Calvo, G. A., & Reinhart, C. M. (2002). Fear of floating. *The Quarterly Journal of Economics*, 117(2), 379–408.
- Chakravarty, S. (1979). Keynes, Classics and Developing Economies. *Reflections on Economic Development and Social Change. Essays in Honour of VKRV Rao*, New Delhi: Allied Publishers.
- Demir, F., & Razmi, A. (2020). The Real Exchange Rate and Development. Theory, Evidence, Issues, and Challenges. *UMass Amherst Economics Working Papers*.
- De Paula, L. F., Fritz, B., & Prates, D. M. (2017). Keynes at the periphery: Currency hierarchy and challenges for economic policy in emerging economies. *Journal of Post Keynesian Economics*, 40(2), 183–202. doi: 10.1080/01603477.2016.1252267
- Domar, E. (1957). A Soviet Model of Growth. In *Essays in the theory of economic growth* (pp. 223–261).
- Eichengreen, B., & Hausmann, R. (2005). *Other People's Money—Debt Denomination and Financial Instability in Emerging Market Economies*. Chicago: Univ. of Chicago Press.
- Epstein, G. A. (2019). *What's Wrong with Modern Money Theory?: A Policy Critique*. Cham: Springer International Publishing. doi: 10.1007/978-3-030-26504-5
- Erlich, A. (1950). Preobrazhenski and the economics of Soviet industrialization. *The quarterly journal of economics*, 64(1), 57–88.
- Fazi, T., & Mitchell, B. (2019). For MMT. *Tribune Magazine*.
- Fischer, A. M. (2018). Debt and development in historical perspective: The external constraints of late industrialisation revisited through South Korea and Brazil. *The World Economy*, 41(12), 3359–3378. doi: 10.1111/twec.12625
- Fritz, B., de Paula, L. F., & Magalhães Prates, D. (2018). Global currency hierarchy and national policy space: A framework for peripheral economies. *European Journal of Economics and Economic Policies: Intervention*, 15(2), 208–218. doi: 10.4337/ejeep.2018.02.11

- Hausmann, R., & Panizza, U. (2003). On the determinants of Original Sin: An empirical investigation. *Journal of International Money and Finance*, 22(7), 957–990. doi: 10.1016/j.jimonfin.2003.09.006
- Jeanneret, A., & Souissi, S. (2016). Sovereign defaults by currency denomination. *Journal of International Money and Finance*, 60, 197–222.
- Kaboub, F. (2007). ELR-Led Economic Development: A Plan for Tunisia. *SSRN Electronic Journal*. doi: 10.2139/ssrn.986310
- Kaboub, F. (2012). From Neoliberalism to Social Justice: The Feasibility of Full Employment in Tunisia. *Review of Radical Political Economics*, 44(3), 305–312. doi: 10.1177/0486613412446042
- Kalecki, M. (1960). Unemployment in underdeveloped countries (C. A. Kisiel, Trans.). In J. Osiatyński (Ed.), *Collected Works of Michal Kalecki* (Vol. 5). Oxford: Clarendon Press.
- Kalecki, M. (1963). Introduction to the Theory of Growth in a Socialist Economy. In *Collected Works of Michal Kalecki: Volume IV: Socialism: Economic Growth and Efficiency of Investment* (pp. 3–111). Oxford University Press.
- Kalecki, M. (1966). The difference between crucial economic problems of developed and underdeveloped non-socialist economies. *Collected Works of Michal Kalecki*, 5.
- Kelton, S. (2019). *The Wealthy Are Victims of Their Own Propaganda, Rich Must Embrace Deficits to Escape Taxes*. <https://www.bloomberg.com/opinion/articles/2019-02-01/rich-must-embrace-deficits-to-escape-taxes>.
- Kelton, S. (2020). *The deficit myth: Modern monetary theory and the birth of the people's economy* (First ed.). New York: PublicAffairs.
- King-Dejardin, A., & Santos, L. K. (2009). *National Seminar on Reducing Unemployment and Poverty: International Experiences and Proposals for the Expanded Public Works Programme Phase II*. ILO.
- Kregel, J. A. (2016). The effective demand approach to economic development. In *Handbook of Alternative Theories of Economic Development*. Edward Elgar Publishing.
- Kriesler, P. (2012). Traverse. In *The Elgar Companion to Post Keynesian Economics, Second Edition*. Edward Elgar Publishing Limited.
- Lavoie, M. (2014). *Post-Keynesian economics: New foundations*. Edward Elgar Publishing.
- Lerner, A. P. (1943). Functional Finance and the Federal Debt. *Social Research*, 10(1), 38–51.
- Meth, C. (2011). Employer of Last Resort? South Africa's Expanded Public Works Programme (EPWP).
- Mitchell, W. (2012). *Employment guarantees should be unconditional and demand-driven*.
- Mitchell, W., Wray, L. R., & Watts, M. (2019). *Macroeconomics*. Red Globe Press.
- Mitra, A. (1977). *Terms of trade and class relations: An essay in political economy*. London: F. Cass.
- Mohanty, M., & Scatigna, M. (2005). Has globalisation reduced monetary policy independence? *BIS papers*, 23, 17–58.

- Nersisyan, Y., & Wray, R. (2020). 'This is Not Modern Monetary Theory'. <https://retirementincomejournal.com/article/are-we-all-mmeters-now-not-so-fast/>.
- Prebisch, R. (1962). The Economic Development of Latin America, and Its Principal Problems. *Economic Bulletin for Latin America*, VII(1).
- Rao, V. K. R. V. (1952). Investment, income and the multiplier in an under-developed economy. *Indian Economic Review*, 1(1), 55–67.
- Rogoff, K. (2019). *Modern Monetary Nonsense*. <https://www.project-syndicate.org/commentary/federal-reserve-modern-monetary-theory-dangers-by-kenneth-rogoff-2019-03>.
- Sawyer, M. (1985). *Economics of Michal Kalecki*. Macmillan International Higher Education.
- Sawyer, M. (2007). Kalecki on the causes of unemployment and policies to achieve full employment. *Unemployment: Past and Present, Basingstoke: Palgrave*, 7.
- Skott, P. (2019). Aggregate Demand Policy in Mature and Dual Economies. *UMass Amherst Economics Working Papers*.
- Steinberg, D. (2015). *Demanding devaluation: Exchange rate politics in the developing world*. Ithaca ; London: Cornell University Press.
- Summers, L. H. (2019). *Opinion — The left's embrace of modern monetary theory is a recipe for disaster*. https://www.washingtonpost.com/opinions/the-lefts-embrace-of-modern-monetary-theory-is-a-recipe-for-disaster/2019/03/04/6ad88eec-3ea4-11e9-9361-301ffb5bd5e6_story.html.
- Tcherneva, P. R. (2012). Employer of last resort. *The Elgar Companion to Post Keynesian Economics*. Northampton, MA: Edward Elgar, 161–165.
- Thirlwall, A. P. (1979). The balance of payments constraint as an explanation of the international growth rate differences. *PSL Quarterly Review*, 32(128).
- Tobin, J. (1993). On the theory of macroeconomic policy. In A. Knoester & A. H. Wellink (Eds.), *Six Tinbergen Lectures on Economic Policy* (pp. 1–8). Elsevier.
- Tymoigne, E., & Wray, L. R. (2013). Modern money theory 101: A reply to critics. *Levy Economics Institute, Working Papers Series*(778).
- Vergnhanini, R., & De Conti, B. (2017). Modern Monetary Theory: A criticism from the periphery. *Brazilian Keynesian Review*, 3(2), 16–31.
- Vernengo, M., & Caldentey, E. P. (2019). Modern Money Theory (MMT) in the Tropics: Functional Finance in Developing Countries.
- Wray, L. R. (1998). *Understanding Money: The Key to Full Employment and Price Stability*. Cheltenham: Edward Elgar.
- Wray, L. R. (2006). Understanding Policy in a Floating Rate Regime. *SSRN Electronic Journal*. doi: 10.2139/ssrn.1009577
- Wray, L. R. (2015). *Modern Money Theory*. London: Palgrave Macmillan UK. doi: 10.1057/9781137539922