Working Paper Series
Open Society University Network Economic Democracy Initiative

Modern Money Theory on Fiscal and Monetary Policies: Empirics, Theory and Policymaking

Working Paper 04

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ABSTRACT

Drumetz and Pfister (2021) make several claims about the inadequacy and fallacies of Modern Money Theory (MMT) and conclude that MMT is nothing more than a political manifesto; there are no theoretical and empirical foundations behind it. This paper addresses this last point by focusing on the fiscal and monetary policy aspects of their criticisms. Contrary to what they claim, MMT is backed by a large body of empirical evidence, a rich institutional analysis, and a well-developed theoretical framework (including mathematical models). MMT provides a detailed analysis of the coordination between the fiscal and monetary branches of government, emphasizes that fiscal deficits are a stylized fact, and uses theoretical tools grounded in institutional realities to explain this stylized fact. In line with a large body of work, MMT concludes that fiscal policy, the provision of an elastic currency, and financial regulations have contributed to economic stability and growth; however government involvement can be improved by changing the policymaking praxis. MMT also concludes that fine-tuning of the economy via monetary policy is not effective and does not attribute the "great moderation" to better monetary management.

JEL Codes: E12, E58, E61, H62, H63

Keywords: Modern Money Theory, Monetary Policy, Fiscal Policy, Policy Coordination, Public Debt Sustainability

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According to Drumetz and Pfister (2021), MMT views of monetary systems are odd, its theoretical claims unsubstantiated, underdeveloped, or nonexistent, and the implementation of its policymaking recommendations would generate massive instability by monetizing the public debt, hiring people into useless activities, and neglecting external constraints. It is not possible to provide a detailed reply to most of these (now standard) criticisms of MMT, which is already done elsewhere (Tymoigne (forthcoming)). For example, the claims regarding MMT and monetary systems (MMT considers monetary instruments to be pure assets, neglects the unit of account function, does not have a theory of value of money, lacks historical evidence, and focuses mostly on the state as monetary issuer) are all incorrect.

This paper focuses on the claims Drumetz and Pfister make about the theory and praxis of monetary and fiscal policies promoted by MMT. In terms of the interaction between the monetary and fiscal branches of a national government, they argue MMT never explains what that entails. They associate MMT with monetization of the public debt, radical changes in the interaction between the central bank and the Treasury, and rapid increases in government spending. They argue that MMT pushes for fiscal dominance, which will trigger inflation expectations, raise interest rates, generate financial instability and slow economic growth. In terms of monetary policy, they argue that MMT does not explain the transmission mechanisms of monetary policy. MMT also does not provide any prescriptions beyond a zero-rate policy, which will lead to financial instability. In terms of fiscal policy, they argue that fiscal policy is difficult to use for stabilizing the business cycle; especially given the type of fiscal policy MMT is supposed to promote (public debt monetization, limitless fiscal space). Finally, in terms of public debt sustainability, they argue that it is implausible that interest rates can be permanently below the growth rate and that MMT overstates its case by saying that a Treasury will never default because of monetary sovereignty. They conclude by stating that MMT does not provide any theoretical or empirical evidence for its claims about monetary and fiscal policies.

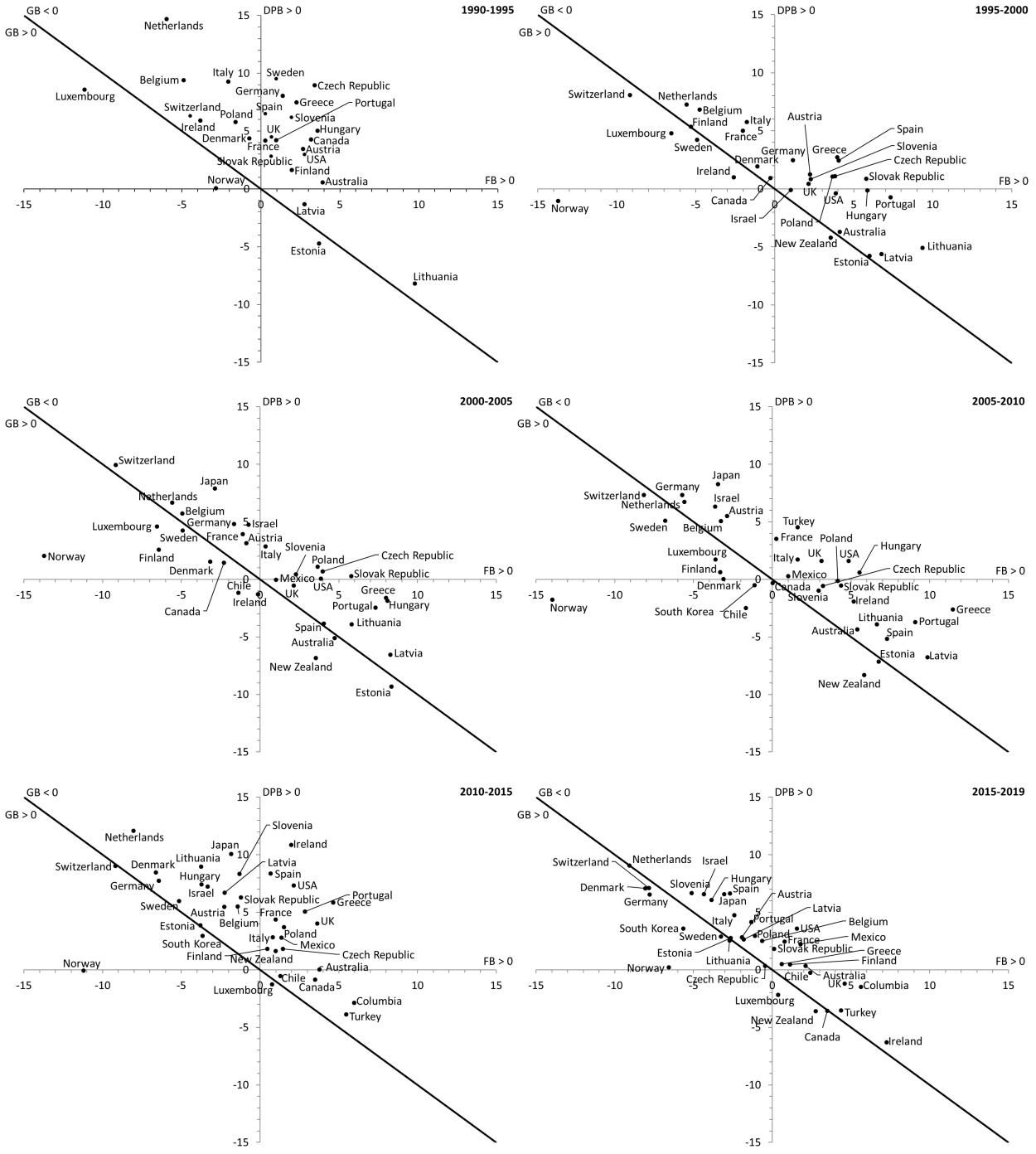
This paper shows that there is a large body of empirical evidence, institutional analyses, and theoretical results that backs MMT views on fiscal and monetary policies. This research has been developed by a wide range of researchers, some of whom adhere to MMT, and some who do not. In addition, MMT does not aim at monetizing the public debt and does not require radical changes to monetary and fiscal interactions. It does however demand a change in policymaking praxis in order to improve the government's ability to fulfill the public purpose.

MACROECONOMIC STYLIZED FACTS AND EMPIRICAL EVIDENCE

Fiscal deficits are normal and promote economic stability

In most countries, the government sector runs a deficit and the domestic private sector runs a surplus, while the foreign sector balance varies across countries and time (Figure 1).

Figure 1: Sectoral balances in OECD countries, percent of GDP



Source: Organisation for Economic Co-operation and Development (National Accounts at a Glance, Net Lending/Borrowing).

Note: GB is the government balance ($T - G$), DPB is the domestic private sector balance ($S - I$) and FB is the foreign balance (current account of the rest of the world, CAB_F). We know that $(S - I) + (T - G) + CAB_F \equiv 0$ so GB $\equiv$ - (DPB + FG).

While government deficits are an empirical regularity throughout the business cycle, they are not associated with financial instability and depressed economies. Fiscal deficits are not conducive to higher interest rates, higher tax rates, economic stagnation or recession, government bankruptcy or other negative consequences. There is ample evidence of a weak relationship between the fiscal balance and interest rates. Instead, interest rates are heavily influenced by monetary policy (Akram and Li 2017; Atesoglu 2003, 2005; Borio et al. 2017; Sharpe 2013; Akram and Al-Helal Uddin 2021; Akram 2021).When a national Treasury runs large deficits, it usually does so during a recession when tax revenues plummet. During a recession, the central bank also lowers its policy rates and all other interest rates tend to follow.

Given that interest rates are heavily influenced by monetary policy, another empirical regularity is that the Fisher effect does not hold on its own (e.g., Cooray 2002; Ghazali and Ramlee 2003), interest rates are not strongly linked to inflation and inflation expectations unless the central bank reacts to them (Tymoigne 2009). In addition, the rate on Treasuries tend to stay low relative to economic growth because monetary policymakers usually aim at promoting economic stability (a major exception is the failed US Monetarist experience that generated two recessions and contributed to the savings and loan crisis). Blanchard (2019) received a lot of attention for emphasizing this point recently, although it was recognized long before him and linked to monetary sovereignty (Fullwiler 2006; Aspromourgos et al. 2009; Wray 2015). Therefore, the public debt tends not to rise continuously relative to the size of the domestic economy unless the central bank promotes instability. More generally, a growing public debt does not usually translate into a rising share of interest payment in government spending unless the central bank raises its policy rate.

If the public debt is denominated in the national currency and the government is the monopoly supplier of that currency and taxes in that currency, a government cannot default for financial reasons. This does not mean that a default cannot occur. Cantor and Parker (1995, 3) provide some rare examples of such defaults and note that "domestic currency defaults have usually been the result of an overthrow of an old political order—as in Russia and Vietnam—or the byproduct of dramatic economic adjustment programs aimed at curbing hyperinflation—as in Argentina and Brazil". Involuntary defaults have occurred for technical reasons but are analytically irrelevant. Venezuela is counted by Moody's as having defaulted because "the person who was supposed to sign the checks was unavailable at the time" (Cantor et al. 2008, 17). The U.S. also defaulted in 1979 due to "unanticipated failure of word processing equipment used to prepare check schedules" (Zivney and Marcus 1989). If one had to estimate a default probability for debts issued by monetarily sovereign governments, it would be much lower than the 0.02 percent five-year median default probability used for AAA corporate bonds. A good first approximation for analytical purpose is to assume a default rate of zero on the public debt denominated in the domestic currency.

Another empirical fact is that active fiscal policy, especially through automatic stabilizers, has significantly stabilized the economy. Reinhart and Rogoff (2009) studied the impact of the public

debt on economic stability and concluded that a public debt-to-GDP ratio above 90% lowers economic growth. The main issue with their book is not a technical error that invalidates their result, but rather a theoretical one (Nersisyan and Wray 2010). They assume that fiscal deficits are a source of instability independently of the nature of the monetary system in place. However, a typical result found in the early warning system literature is that fiscal surpluses are a leading indicator of currency crises:

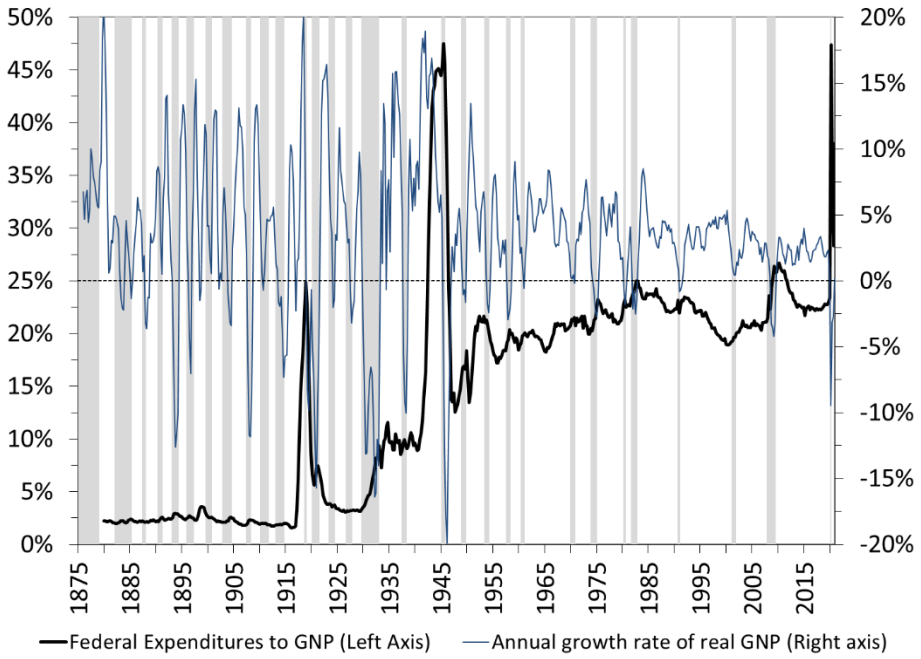
> This counter-intuitive result is now well documented in the literature: many of the countries hit by a crisis actually ran a fiscal surplus, noticeably Mexico in 1994 and the Asian countries in 1997. This fact led many authors to reject first generation models of currency crises for more elaborate models in which moral hazard plays a role (a country with a government surplus is more likely to bail out risky investment projects). (Bussière and Fratzscher 2002: 27)

The fact that fiscal surpluses are associated with crises is understandable if one accounts for national accounting relationships and the monetary relations they imply. It is not an issue of moral hazard due to bailouts but rather that fiscal surpluses drain incomes, cash flows, and safe assets out of other sectors of the economy.

The stabilizing effects of fiscal deficits can be observed in the dramatic changes in the behavior of the economy in the United States (Figure 2). Since the end of 1930s, contractions in the United States have been milder, shorter, and less frequent. By letting the fiscal balance accommodate the needs of the economic system and by quintupling its average share of spending in the economy compared to the 1880-1939 period, the US government has contributed to the stabilization of the economy post World War Two (Minsky 1986; Taylor et al. 2012; Cohen and Follette 2000). Similar trends are observed throughout the developed world, although the return of "free-market" thinking over the past 40 years has increased financial instability (Bordo et al. 2001; Tymoigne and Wray 2014).

Finally, a casual look at the evidence for the United States shows that the automatic association of fiscal deficits with inflation is unwarranted (Figure 3). Large fiscal deficits (such as those of World War Two or the COVID-19 pandemic) are not associated with high inflation and regular fiscal deficits of less than 5% of GDP are associated with a wide range of price dynamics. A fiscal deficit might be inflationary but not merely because it is a deficit; it depends on how tight the resource constraint is and the effectiveness of the measures taken to control inflation if resource supplies tighten. A fiscal deficit may also be associated with inflation but may have nothing to do with it if inflation comes from other sources than a shrinking output gap (rising energy costs, rising interest rates, supply chain issues, rising mark up, among others) (Minsky 1986; Rowthorn 1977; Lavoie 2014).

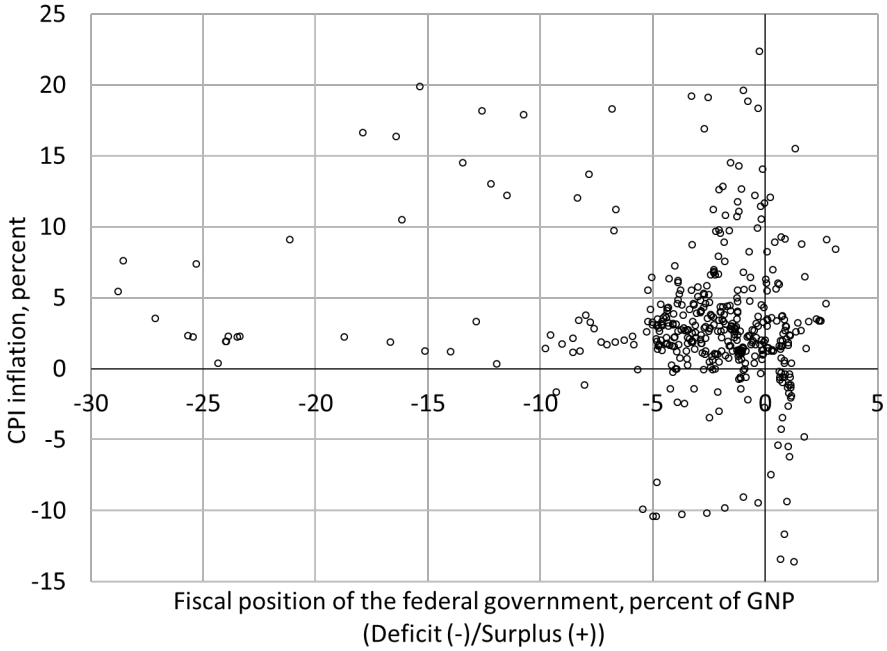
Figure 2: The U.S. Business Cycle: 1875:1-2021:1 (Base: 2012)



	Size of Federal Spending (% GNP)	Number of Contractions	Average Frequency (Years)	Average Length (Months)	Average Value of Declines in Real GNP	Average Growth Rate of Real GNP	Average St. Dev. of Real GNP
1880-1939	4.2	16	3.8	21.8	-5.82%	3.15%	7.47%
1947-2021	21.3	12	6.3	11.1	-1.94%	3.07%	2.71%

Sources: National Bureau of Economic Research, Bureau of Economic Analysis, Gordon (1986).

Figure 3: Fiscal policy and inflation in the US, Q1 1913 to Q1 2021



Sources: *Treasury Bulletin*, National Bureau of Economic Research, *Monthly Receipts, Outlays, and Deficit or Surplus, Fiscal Years 1981-2021*, Bureau of Labor Statistics.

EXPLAINING THE STYLIZED FACT

Endogenous fiscal balance and recessionary austerity

In order to explain the empirics, MMT does not rely on the mainstream theoretical work of the past 50 years, most of which is a step backward to the pre-1940s "microeconomics, markets, imperfections" way of analyzing national issues. Instead, MMT relies on the theoretical work developed by Keynes, Post Keynesian economists, and "old" Institutional economists, among others, as well as its own theoretical development (e.g., Godley and Lavoie 2007; Hein 2018; Fullwiler 2007; Wray et al. 2018;). A central theoretical conclusion is that the fiscal balance is not under the control of policymakers but rather adapts to the needs of the economic system. Most government spending is not discretionary and tax revenues are heavily influenced by the state of the economy. While policymakers do set some spending (discretionary spending represents about 30 percent of the budget in the United States), do determine tax rates and can make some predictions about total spending and tax revenues at the end of the year, they have no control over budgetary dynamics during the year. Like private aggregate saving, the fiscal balance is a residual outcome of the economic process and any attempt by the federal/national government to proactively influence the balance will most likely fail because the non-federal sector (state and local governments, the domestic private sector, and the foreign sector) desires to record a surplus. If the national government has a fiscal balance that is not consistent with the desires of the non-federal sector, national income will adjust upward or downward as subsets of the non-federal sector change their

spending. Automatic stabilizers will move the fiscal balance to the level desired by the non-federal sector. Reinhart and Rogoff (2009) argue that high public debt slows economic growth. Instead, it is the business cycle that drives public debt dynamics.

The previous dynamics are complicated by the fact that policymakers may also want to reach a fiscal surplus (or a fiscal deficit that is less than the desired surplus of the non-federal sector) in order to show that the government is "fiscally responsible." Such austerity policies are recessionary and amplify the business cycle, unless at least one subset of the non-federal sector is willing to deficit spend enough to counter the economic drag generated by fiscal austerity. However, deficit spending by the non-federal sector is prone to financial instability because its subsets lack monetary sovereignty and are therefore revenue constrained (Minsky 1986; Tymoigne and Wray 2014). As such, fiscal surpluses tend to be destabilizing. The self-defeating nature of fiscal austerity has gained some attention outside MMT following the 2008 Great Recession (De Long and Summers 2012; Fatás and Summers 2018; Agnello et al. 2013).

On the contrary, fiscal deficits are sustainable because a monetarily sovereign government has the financial flexibility to meet the demands of such deficits. Monetary sovereignty gives one degree of freedom in the tight rules of national accounting. It allows the fiscal balance to accommodate the needs of the economy. Fiscal deficits help other sectors through three channels. First, fiscal deficits sustain national income by injecting more income into the economy than they remove through taxes. Fiscal deficits sustain private investment by stabilizing expected sales and capacity utilization—the main drivers of business investment—while having a negligible impact on interest rates. Second, they generate positive cash flows for other economic units. Third, they also have beneficial portfolio effects because Treasuries are credit-risk free (the nominal debt service can always be paid on time in full), liquid financial instruments that are a core staple of the financial system. In the United States, Treasuries represented a high proportion the balance sheet of banks after World War Two, which helps explain why the war was followed by a long period of financial stability (Minsky 1983, 1986).

Thus, fiscal deficits tame financial crises, they do not lead to financial crises when monetary sovereignty prevails because such government is always solvent in its own currency and because the liquidity and solvency of other sectors is improved. More broadly, Steindl (1952), Walker and Vatter (1989) and Vatter et al. (1995) show that fiscal policy has a crucial role to play in putting the economy onto a higher growth path (Wray 2008). Government is also a major source of innovations that stimulates both public and private investment (Mazzucato 2015).

Monetary Policy and Transmission Mechanisms

Models have been developed by MMTers and Post Keynesians to study the impact of a zero policy rate. For example, Tymoigne (2009) builds a stock-flow model to analyze the impact of different types of monetary policies and concludes that leaving the policy rate at zero is the most stabilizing policy. Rochon and Setterfield (2011, 132) study the impact of different monetary policy rules and

show that a permanent zero central-bank rate "always yields the highest rate of growth and the lowest rate of inflation." More broadly, MMT rejects the relative price mechanics that are at the core of at least some mainstream models (Lavoie 2008).

MMT argues that monetary policy is not a reliable tool to manage inflation and economic growth because of its weak and potentially perverse effects (Mitchell and Muysken 2008, 146ff.; Papadimitriou and Wray 1994, 1996, 2021). While some sectors are more sensitive to changes in interest rates, overall interest rates do not play a major role in determining aggregate spending, especially business investment (Fazzari et al. 1988; Fazzari 1993; Glyn 1997). This sensitivity declines as an economic expansion progresses, and gradualism and transparency have made it much easier to anticipate adverse changes in interest rates and to hedge against them. In addition, in a leveraged economy, economic units have to meet their financial commitments regardless of the level of interest rates. Higher interest rates mean higher financial commitments, which creates a potential need for more credit to meet these commitments (Wray 1993; Mason and Jayadev 2014; Kregel 1992). Finally, interest rates may have a perverse effect on inflation through cost and demand channels. Higher interest rates raise operating costs and businesses may pass the additional costs onto their customers. Higher policy rates also boosts the income of rentiers and raise their consumption (Lavoie 1995; Kelton and Wray 2006; Tauheed and Wray 2006; Tillman 2008). Chairman Greenspan (Federal Open Market Committee 2000, 85), among others at the FOMC, recognized this possibility: "There is deterioration in the inflation rate stemming from interest costs and energy costs, and those are not trivial sources of deterioration. At the end of the day it doesn't have to be labor costs that are causing the overall inflation deterioration."

While a lot of credit is given to an improvement in monetary-policy management for the price stability observed from the mid 1980s to the mid 2000s (Bernanke 2004), this credit is not warranted. Monetary policy played a minor role, as Governor Teeters (Federal Open Market Committee 1981, 46) noted:

> "May I remind you that we shouldn't take too much credit for the price easing? I never thought we were totally at fault for the price increases that we suffered from OPEC and food; and I don't think the fact that OPEC and food have calmed down has a great deal to do with monetary policy per se, except in the very long run."

Most of the credit for price stability should be attributed to the taming of energy prices and the industrialization of China that flooded the world with cheap goods, together with a bit of luck (Stock and Watson 2002, 2005).

Instead of trying to fine tune the business cycle, central banks should refocus their operations and goals on the purposes for which most were created (Capie et al. 1994), namely ensuring an elastic currency for the economy (i.e. reliable financing and refinancing channels for banks and the national government) together with proactive regulation and supervision of the financial industry (instead of mere reactive regulation à la Basel Accords). MMT proponents advocate financial regulation and

supervision along the line of Minsky's theoretical framework; that means the promotion of safe underwriting, the establishment of a financial structure that promotes long-term recurring relationships between bankers and their clients, and the regulation of financial innovations toward safe financial products (i.e. those that promote hedge financing) (Tymoigne 2011; Tymoigne and Wray 2014). Bank credit should be limited to creditworthy borrowers, but banks should be encouraged to look for them wherever they are and to avoid redlining (Minsky et al. 1993). Credit controls and the routine provision of reserves through selective acceptance of securities at the Discount Window (Kregel 1992) can be useful for restricting the flow of credit toward speculative endeavors and moving that flow toward financially sustainable economic activities that are defined as "good" by the public purpose.

MMT AND NATIONAL POLICYMAKING: PROMOTING SOUNDER POLICYMAKING PRAXIS

Financial Praxis: Many Governments Already "Do MMT"

MMT is a theory grounded in a detailed institutional analysis of the monetary and fiscal operations of national governments. A good part of MMT is about describing what goes on behind the curtain in terms of the financial operations of national governments. As such, throughout the world, national governments already rely on a heavy coordination of their fiscal and monetary branches to ensure smooth government financial operations (Wray 1998; Mitchell and Mosler 2002; Bell 2000; Tymoigne 2014; Sundararajan, Dattels, Bloomestein 1997; Silva and Richard 2010; Vajs 2014; Allen 2019; Lavoie 2019). The financial operations of the Treasury and the central bank of monetarily sovereign governments are so intertwined that both of them are constantly in contact to make fiscal and monetary policies run smoothly. The Treasury routinely helps the central bank perform its monetary policy operations. The central bank routinely helps in the financing of the Treasury. There is nothing inflationary about that, it just ensures that Treasury has enough funds to implement the budget passed by Congress. The pace and composition of spending set in the budget could be inflationary, not the fact that the bank accounts of the Treasury are well provisioned nor that the provisioning of such accounts is done through keystrokes.

This institutional analysis leads to three main points, one theoretical, one practical and one institutional. The theoretical points that MMT extracts from the institutional analysis of monetarily sovereign governments is that government finance is not scarce, as long as a national government spends on goods and services priced in the domestic currency (which may be broader or narrower than the goods and services produced domestically). There is no such thing as a fixed supply of saving from which the government must compete with the private sector. In addition, household, business, state and local government finances are incorrect reference points to understand national public finances when monetary sovereignty prevails. A monetarily sovereign government is the issuer of the domestic currency whereas others are users of such currency. Finally, the effects of the complex interactions between the central bank and Treasury can be captured by merging these two government entities into one (a national government that issues the domestic currency, and taxes

and issues securities to destroy the currency). This theoretical tool, used by many schools of thoughts, is a good first approximation of the financial praxis of monetarily sovereign governments.

The institutional point is that implementing MMT policymaking does not require any radical changes in Treasury and central bank interaction today. Actually, no change in existing government finances is necessary because national Treasuries and central banks all over the world already routinely work together. While the central bank has independence of tools and goals, it must account for the needs of the Treasury in a monetarily sovereign government (Wray 2007, 2014; MacLaury 1977; Felipe et al. 2020). In addition, allowing direct financing of the Treasury is not a radical step, as it is already in place in some countries and is commonly used in Canada today (Juniper et al. 2014; Jácome et al. 2012). MMT just points out that the layers of institutional complexity that hide this routine coordination are unnecessary and confuse the policymaking praxis. This coordination may as well be simplified but that is not a necessity and allowing direct financing does not mean practicing MMT policymaking.

The practical point that MMT extracts from the institutional analysis is that, if monetary sovereignty prevails, policymaking must be reframed around the limits and opportunities that comes with monetary sovereignty. Fiscal deficits are not intrinsically worrisome, fiscal surpluses are not to be celebrated and do not give any "breathing room" to spend. As long as government is operating within its domestic monetary system, government spending and tax policy ought to be set independently without regard for the impact on the fiscal position but with regard to the impact on the domestic economy, including inflation.

Policymaking Praxis: Monetarily Sovereign Governments Do Not "Do MMT"

While the financial praxis of monetary sovereign governments is integrated in the MMT framework (and in that sense many national governments already "do MMT"), the policymaking praxis of these governments do not reflect MMT policymaking principles. Instead, policymaking is dominated by deficit hawks and deficit doves who want to have some form of austerity commitment by the national government. MMTers are deficit owls, they argue that austerity commitments are unnecessary and counterproductive; the fiscal balance self-corrects to an equilibrium position, usually a deficit. Instead of putting the national budget and public debt at the center of policymaking, MMT centers actual economic goals (full employment, price stability, environmental sustainability, etc.). In addition, MMT wants to rationalize the discussions about the national budget by dealing with two unproductive aspects of current budgetary procedures, the fear-mongering about the "road to ruin" and the absurdity of the "pay-for" logic.

When monetary sovereignty is understood, it is pointless for policymakers to seek to put funds in a locked box for later use, to modify existing domestic programs, or to conceive new domestic programs to help save money in order to avoid insolvency. The funds needed are created quickly, as emergency spending to fight wars or deal with pandemics shows, and insolvency is not financially possible. The fact that finance is not scarce when monetary sovereignty exists does not imply that

the government can, or should, spend a lot more, nor does it mean that policymakers will ramp up spending quickly in a chaotic manner as the experiences of most monetary sovereign governments show. This does not mean that government mismanagements cannot occur or that MMT denies past cases of hyperinflation. In line with its theory of inflation, MMT has a non-monetary explanation of hyperinflation (Tymoigne (forthcoming)). In addition, policies to fight inflationary pressures ought not to be ad hoc (e.g., by raising tax rates in reaction to price instability), but rather should be established through structural programs that tackle different sources of potential inflation over the long term (strong automatic stabilizers, efficiency standards, energy policy, tax structure, job guarantee program, price controls, among others).

The absence of financial constraints does not mean that creating a budget is unnecessary and that fiscal space is limitless. MMT emphasizes that budgetary procedures are political in nature, and the point is to promote procedures that encourage rational discussions, accountability and transparency in policymaking. While setting up a budget, a monetarily sovereign government must tackle two constraints. On the political side, a society must decide for itself, hopefully as democratically as possible, what the public purpose is: What should the government do? And how should it do it? On the economic side, a policy proposal needs to be judged by its economic feasibility, not only in absolute terms but also relative to other proposals. Governmental bodies such as the Congressional Budget Office (CBO) should score projects based on what is possible given the available human, natural, and physical resources, and should determine the pace at which a proposal can be implemented realistically given the current and expected state of domestic resources. If resources are not available or cannot be made available, a proposal ought not to be approved even though it can easily be financed by keystroking numbers in accounts. This method of judging a policy proposal is far superior to the current way the CBO judges proposals, which merely consists in checking if it will add to the public debt or not. If the government is not monetarily sovereign, a financial constraint further limits what the government can do and an eye should be kept on balancing the government budget and limiting automatic stabilizers; however, that comes at the cost of more economic instability and less ability to tackle major contemporary issues.

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