Modern Monetary Theory: A Critique

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Modern monetary theory (MMT) claims that government can spend more freely by borrowing or printing money than is assumed by conventional monetary theory. According to Mackintosh (2019):

> The most provocative claim of the theory is that government deficits don't matter in themselves for countries—such as the U.S.—that borrow in their own currencies. . . . The core tenets of MMT, and the closest it gets to a theory, are that the economy and inflation should be managed through fiscal policy, not monetary policy, and that government should put the unemployed to work.

MMT has become popular with Green New Dealers because it claims to remove or at least loosen traditional constraints on government spending.

Although MMT makes much of its preferred way of looking at the process of producing money, it does not credibly reveal more scope for deficit spending without inflation. Its proposal to use taxation as a monetary policy instrument ignores decades of efforts to separate monetary policy decisions from fiscal/spending decisions in light of

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the differences in the political motivations of each. In fact, despite its efforts to change how we view monetary and fiscal policies, MMT abandons market-based countercyclical monetary and fiscal policies for targeted central control over the allocation of resources. It would rely on specific interventions to address "road blocks" upon the foundation of a government-guaranteed employment program.

MMT is an unsuccessful and empty attempt to convince us that we can finance the Green New Deal and a federal job guarantee program painlessly by printing money. But it remains true that shifting our limited resources from the private to the public sector should be judged by whether society is made better off by such shifts (Coats 2008). Printing money does not produce free lunches.

This article reviews MMT's approach to describing the process by which money is produced by banks (broad money) and by the central bank (base money). It analyzes whether MMT's characterization of the process reveals new, previously overlooked opportunities for the government to spend more without taxing more. It dissects MMT's claim that because it can borrow in its own currency it can spend more—by printing more money—without crowding out private sector activity. It concludes by analyzing MMT's claim that monetary policy should be shifted from the central bank to the fiscal tax authorities.

How Is Money Produced Today?

MMT motivates its case for monetary finance and the use of taxation to regulate the money supply by explaining the money supply process with a different emphasis than is usual. The traditional story for the fractional reserve banking world we live in is that a central bank issues base or high-powered money (currency held by the public plus bank reserves held at the central bank), and banks produce more money on top of that. The public deposits some of the central bank's currency in banks, which provides banks with money they can lend. When a bank lends such deposits, it deposits the loan in the borrower's deposit account with her bank, thus creating more money for the bank to lend. This famous money-multiplier story, a favorite in Money and Banking classes, reflects a money supply much larger than the base money issued by the central bank. In July 2008, base money (M0) in the United States was $847 billion dollars while the currency component of that plus the public's demand deposits in banks (M1) was almost twice that—$1,442 billion dollars. Including the public's

time and savings deposits and checkable money market mutual funds (M2) the amount was $7,730 billion. I am reporting data from just before the financial crisis in 2008 because after that the Federal Reserve began to pay interest on bank reserve deposits at the Fed in order to encourage them to keep the funds at the Fed rather than lending them and thus multiplying deposits. This policy greatly decreased the ratio of total money to base money—that is, it reduced the money multiplier. In October 2015, at the peak of base money, M0 was $4,060 billion, of which only $1,322 billion was currency in circulation, and M1 was $3,018 billion!

In *Where Does Money Come From?* (Ryan-Collins et al. 2012), the authors argue that banks create deposits by lending rather than having to receive deposits before they can lend. However, this well-known aspect of the bank money supply process is only part of the story. While a bank loan (an asset of the bank) is extended by crediting the borrower's deposit account with the bank (a liability of the bank), the newly created deposit will almost immediately be withdrawn to pay for whatever it was borrowed for. Thus, the willingness of banks to lend in the first place must depend on their expectations of being able to finance their loans (from existing or new deposits, by borrowing in the interbank or money markets, or by the repayment of previous loans) at an interest rate less than the rate on their loans.

The money multiplier version of this story assumes a reserve constraint—namely, that the central bank fixes the supply of base money. The MMT version highlights the fact that monetary policy these days targets interest rates at which the central bank lends leaving the supply of base money to be determined by the market. The central bank sets a policy interest rate as the instrument by which it influences the amount of credit banks wish to supply. In order to maintain its target interest rate, the central bank lends or otherwise supplies to the market whatever amount of base money is needed to cover private bank funding needs at that rate (Davies 2004). As a result of the lags in the effects of monetary policy, the rate is set and adjusted as needed in the expectation of achieving the central bank's inflation target one to two years in the future.

With the Federal Reserve's introduction of interest on bank reserves, including excess reserves (those in excess of the amount required by regulation), banks' management of their funding needs for a given policy rate now involves drawing down or increasing their excess reserves. Adherents of MMT therefore argue that "money is

created 'endogenously' to finance spending" (Fullwiler, Kelton, and Wray 2012: 18). Like post-Keynesians, they contend that "loans create deposits" and "repayment of loans destroys deposits" (ibid.).

The market determination of the money supply at a given central bank interest rate is, in fact, similar to the way in which the market determines the money supply under a currency board system. When a central bank is subject to currency board rules, it passively supplies whatever amount of money the market wants to buy and hold at the official (fixed) price of the currency (e.g., the fixed exchange rate or price of gold). However, as elaborated further below, unlike a price anchor and currency board rules, which have a stable equilibrium, an interest rate target does not. If, for example, the interest rate target is below the market's equilibrium real rate, the resulting increase in bank credit and money will increase prices pushing the targeted nominal rate further and further below its real equilibrium. Thus, targeting inflation requires continuous adjustments in the intermediate interest rate target.

How Is Base Money Produced?

MMT applies the same approach to the creation of base or high-powered money by the government as it does to the creation of bank deposits by the private sector. As Fullwiler, Kelton, and Wray (2012: 19) note:

> The State must spend or lend its HPM [high-powered money] into existence before banks, firms, or households can get hold of coins, paper notes, or bank reserves. . . . The issuer of the currency must supply it *first* before the users of the currency (banks for clearing, households and firms for purchases and tax payments) have it. That makes it clear that government cannot sit and wait for tax receipts before it can spend—no more than the issuers of bank deposits (banks) can sit and wait for deposits before they lend.

The fact that the public/taxpayers can't have the government's money until the central bank (which MMT consolidates with the rest of the government for analytical convenience) issues it does not mean there is a free lunch, as MMT suggests. Central banks can finance government spending by purchasing government debt either directly or from the market, but this does not give the

Treasury carte blanche to spend without concern about taxes, deficit finance, or inflation.

The well-known fact that government spending and tax collections can create and destroy money is the reason that central banks work hard to neutralize their effects on bank liquidity. In the United States, the Treasury's Tax and Loan Accounts (TT&L) with commercial banks are not part of M1. Likewise, balances held at the Fed in the Treasury General Account (TGA) are not part of M0. Thus, ceteris paribus, whenever the government spends balances in the TGA it increases M1. Similarly, if it debits its TT&L balance with a bank and credits the recipient of its spending, M1 is increased. If it debits its balances with the Fed, both M0 and M1 are increased.

In fact, most of the day-to-day injections and withdrawals of liquidity in the banking system by central banks are for the purpose of neutralizing the effect on M0 of the government's inflows and outflows of funds (so-called defensive operations). If central banks attempted to forecast these Treasury shocks to liquidity in order to offset them, they would undertake open market operations in the indicated amounts. Given the back and forth nature of these Treasury injections and withdrawals, the Fed's open market operations almost always take the form of repurchase or reverse repurchase agreements, both of which are of limited duration and thus self-reversing.

However, forecasting the amounts actually needed to stabilize liquidity is very difficult. Instead, the Fed, like all other central banks with developed money markets, sets interest rate targets (policy rates around which they set lending and deposit rates) at which they will automatically supply or drain reserves. If the increase in money from a government expenditure exceeds the public's demand (thus reducing interest rates), or the destruction of money resulting from tax payments or public purchases of government debt reduces money below the public's demand (thus increasing interest rates) the public will repay central bank loans or borrow at its policy interest rate. Or stated differently, if money financed government spending increases money above the public's demand, the injection of M0 will be replaced by the central bank with government debt. The money supply that results from all of this depends on the policy interest rate set by the central bank given the state of the economy. Setting or targeting the short-term money market interest rate (the central bank's policy rate) is thus the critical instrument of monetary policy in today's world.

Since the great recession in 2008, the Federal Reserve has paid interest on bank deposits with the central bank including excess reserves (bank deposits with it in excess of their required reserves under Regulation D). These reserves substitute for and play the same role as bank holdings of government securities sold to them by the central bank. In some countries where the central bank holds no government securities that could be sold to the market to stabilize liquidity, they issue their own bonds.

If the central bank sets its policy rate below the market equilibrium rate, it will supply base money in quantities that exceed market demand for money and will stimulate aggregate demand. If it persists in holding short-term interest rates below the equilibrium rate it will eventually fuel inflation, which will put upward pressure on nominal interest rates requiring ever increasing injections of base money until the value of the currency collapses (hyperinflation). If instead the central bank money's price is fixed to a quantity of something (or better still a basket of commodities) and is issued according to currency board rules (the central bank issues or redeems any amount demanded by the market at the fixed price), arbitrage will adjust the supply so as to keep the market price and the official price approximately the same. Unlike an interest rate target, a quantity price target is stable (Coats 2011).

Does the Story Matter?

There is nothing new in the above discussion of the monetary process, but MMT wants us to believe that it reveals an unexploited opportunity for government to spend more freely and without taxation, either by borrowing in the market or directly from the central bank. According to Tymoigne and Wray (2013: 2):

> One of the main contributions of Modern Money Theory (MMT) has been to explain why monetarily sovereign governments have a very flexible policy space that is unencumbered by hard financial constraints. Not only can they issue their own currency to meet commitments denominated in their own unit of account, but also any self-imposed constraint on their budgetary operations can be by-passed by changing rules.

As Tymoigne and Wray (2013) note, it doesn't matter whether the debt financing takes place by selling debt to the public, which

removes the money created by government spending, or sells debt (bonds) directly to the central bank, which then sells it to the public in order to remove the money created by the government spending. The money created will be reabsorbed one way or the other as a byproduct of maintaining the central bank's policy interest rate. Either way, the public's holdings of public debt are increased and its holdings of money unchanged. The greater scope for public spending comes, as MMT sees it, from greater scope for issuing public debt. Critical to MMT's message is that such debt does not crowd out private investment.

MMT advocates are aware that at some point idle resources will be used up and that this process would then become inflationary, but this caveat is generally acknowledged only when MMT proponents are pressed on it. In this regard MMT is a throwback to the old Keynesianism, which implicitly assumed a world of perpetual unemployment.

When the government increases its command of the economy's resources, those resources are no longer available elsewhere. Two questions are important in evaluating the desirability of such spending: (1) Does deficit spending increase or decrease overall output (the size of the pie)? Or (2) Does it simply reallocate resources from the private to the public sector? When the economy is operating at full employment, a reallocation, by crowding out private investment or consumption in order to finance more government spending, has only second-order (if any) effects on the size of the pie (often negative) (Coats 2018).

Whether we take account of the future tax liabilities created by this debt in the public's assessment of its net wealth—and, therefore, experience "Ricardo equivalence" (Barro 1974)—or not, we must ask where the public found the resources with which it bought the debt. Did it substitute Treasury bonds for corporate bonds—that is, did the government's debt (or monetary) financing of government spending crowd out private investment thus leaving private sector wealth unchanged (or reduced, if taking account of Ricardian equivalence), or did the resources come from reduced private consumption (i.e., increased private saving)? Any impact on private consumption will depend on what government spent its money on. Whether the shift in resources from the private sector to the public sector is beneficial depends on whether the value of the government's resulting output is greater than is the reduced private sector

output that financed it. Debt/money financing of increased government spending will increase the public's holdings of government debt, but not necessarily of financial wealth overall and certainly not of real wealth.

One way or another, government spending means that the government is commanding resources that were previously commanded by the private sector. If the government takes resources by spending newly created money in excess of increases in the public's demand for money, prices will rise until the real stock of money falls back to what the public wants to hold. This outcome is the economic equivalent of the government defaulting on its debt, contrary to MMT's claim that default is impossible. Moreover, this inflation tax is generally considered the worst of all taxes because it falls disproportionately on the poor. In fact, Tymoigne and Wray (2013) rarely mention or acknowledge the distinction between real and nominal values that are, or should be, so central to discussions of monetary policy. The exception to this scenario is if the resources taken by the government were idle (i.e., unemployed), which is obviously the world MMT proponents think we are in.

Once again, MMT proponents claim to have exposed greater fiscal space than is suggested by conventional analysis. They claim that government can more freely spend to fight global warming or to fund guaranteed jobs or other such projects by printing (electronic) money. However, the market mechanism they offer for preventing such money from being inflationary (the market response to an interest rate target that replaces unwanted money with government debt) implies that such spending must be paid for with tax revenue or borrowing from the public. Both, in fact all three financing options (taxation, borrowing, and printing money), shift real resources from the private sector to the public sector and only make society better off if the value of the resulting output is greater than that of the reduced private sector output. There is nothing new here.

According to three prominent MMT adherents:

> Politicians need to reject the urge to ask "How are we going to pay for it?" . . . We must give up our obsession with trying to "pay for" everything with new revenue or spending cuts. . . . Once we understand that money is a legal and social tool, no longer beholden to the false scarcity of the gold standard, we can focus on what matters most: the best use of natural and human

> resources to meet current social needs and to sustainably increase our productive capacity to improve living standards for future generations [Kelton, Bernal, and Carlock 2018].

Indeed. But if the government increases its use "of natural and human resources" it reduces their availability to the private sector. The means by which that transfer is affected (printing money, taxing, or borrowing) is how it is paid for. If MMT is serious about an inflation constraint on money finance, it has introduced nothing new.

Tymoigne and Wray (2013: 2, 5) proclaim that a government that can borrow in its own currency

> has an unlimited capacity to pay for the things it wishes to purchase and to fulfill promised future payments, and has an unlimited ability to provide funds to the other sectors. Thus, insolvency and bankruptcy of this government is not possible. It can always pay. . . . All these institutional and theoretical elements are summarized by saying that monetarily sovereign governments are always solvent, and can afford to buy anything for sale in their domestic unit of account even though they may face inflationary and political constraints.

Nevertheless, inflating away the real value of obligations (government debt) is economically a default.

If proponents of MMT eliminate inflationary finance, then MMT's claim to have revealed greater fiscal space comes down to greater borrowing capacity than normally claimed. Ironically, most economists think that the U.S. government already has a serious debt problem even before piling on more debt as advocated by MMT (MacGuineas and Murphy 2019). The federal government's current gross debt is $22 trillion, which is 105 percent of U.S. GDP or $181,884 per taxpayer.[1] Alarmingly this year's federal budget deficit is $984 billion at the peak of the economic business cycle when a cyclically balanced budget would require a budget surplus. The Congressional Budget Office (CBO) projects continued increases in U.S. gross debt from existing legislation and projects that the debt-to-GDP ratio will increase to 108 percent by 2023 (CBO 2019a, Table 2, and 2019b, Table 3).

[1]See www.usdebtclock.org/index.html.

The reason for the MMT's radical view seems to be the belief that the natural rate of interest is zero. This would explain Wray's claim that "Treasury debt could be eliminated entirely if the central bank were to simply pay interest on reserves, or if the Fed were to adopt zero as its overnight interest rate target. In either case . . . there would be no need for sales of sovereign debt" (Wray 2003: 95).

Even with the zero real interest policy rate of the last decade, a nominal interest rate of 2 percent requires almost half a trillion dollars in interest payments from the federal government budget of 4.3 trillion dollars. The global savings glut of recent years that has lowered real equilibrium interest rates may not last forever as the population continues to age (Bernanke 2005). The large current account deficits that now finance almost half of the federal budget deficit require an attractive risk-adjusted return on government debt, without which investment crowding out would be greater (Coats 2018). Such debt cannot grow without limit without debt service costs absorbing the government's entire budget, and even the inflation tax has its hyperinflation limit (abandonment of a worthless currency). The U.S. debt would need to grow a lot larger before the world would lose confidence in our ability to service it (i.e., to print money that was not inflationary), but there is a limit. As doubts began to rise, so would the risk premium required in the interest rate offered on U.S. debt. Its share of the federal budget could increase rapidly as additional borrowing occurred (for increases in the debt and rolling over of existing debt). As lender confidence in U.S. debt evaporates, the plunge over the debt cliff can be rapid as we saw a few years ago in Ireland, Spain, and Greece.

Fiscal Policy as Monetary Policy

Government spending increases the money supply, and the payment of taxes reduces it. Much of a central bank's monetary activities are undertaken to neutralize the liquidity shocks of the mismatch of the timing of government spending and receipt of revenue—so-called defensive operations. MMT wants to use taxation to manage the money supply rather than for government financing purposes. MMT wants to shift the management of monetary policy from the central bank to the treasury. In doing so it ignores the accumulated wisdom on the difficulty and undesirability of doing so.

Some critics of MMT fault it for its explanatory simplification of consolidating the central bank and treasury on the grounds that it doesn't reflect existing legislation giving central banks operational independence (it certainly doesn't fit the eurozone with the ECB and 19 separate governments in the system). But this criticism misses the real point. If it were desirable to remove the existing barriers to central bank monetary financing of the government, it could be done. The relevant question is whether this way of thinking about and characterizing monetary and fiscal policy produces a more insightful and useful approach to formulating fiscal/monetary policy. Does it justify shifting the responsibly for monetary policy from the central bank to the treasury? Should taxes be levied so as to regulate the money supply rather than finance the government (though it would do that as well)?

I have only reviewed the articles cited here and they do not address the traditional arguments that have favored the use of central bank monetary policy over fiscal policy (beyond automatic stabilizers) for stabilization purposes. Would MMT replace setting an interest rate target with something else—such as a money supply target—as the basis for its monetary policy–driven choice of taxation? I assume that MMT would continue to support the basic principles of good taxation when making monetary policy adjustments to tax revenue (Coats 2013). If tax revenue is a tool for managing the money supply and inflation (rather than financing government), what principles or models would guide tax policy? How would the government manipulate the sluggish adjustments in tax revenue to smooth over the monetary shocks of government spending and revenue mismatches?

None of the challenges of the use of fiscal policy as a countercyclical tool (flexible timing, what the money is spent for, and so on) established with traditional analysis have been neutralized by the MMT vision and claim of extra fiscal space. In fact, as we will see below, despite their advocacy of fiscal over monetary policy for maintaining price stability, MMT supporters have little real interest in and no clear approach to doing so as they prefer to centrally manage wages and prices in conjunction with a guaranteed employment program.

The existing arrangements around the globe (central banks that independently execute price stability mandates and governments that determine the nature and level of government spending and its financing) are designed to protect monetary stability from the inflation bias of politicians with shorter policy horizons—the time

inconsistency problem (Kydland and Prescott 1977). The universal assignments of responsibilities for monetary policy and for fiscal policy to a central bank and a treasury or finance ministry are meant to align decisionmaking with the authority responsible for the results of its decisions (price stability for monetary policy and welfare-enhancing levels and distribution of government spending and its financing for fiscal policy). It is the sad historical experience of excessive reliance on monetary finance and the costly undermining of the value of currencies that have led to the worldwide movement to central bank independence. MMT ignores that history and its lessons.

The establishment of central bank operational independence in recent decades is rightly considered a major accomplishment. MMT advocates bring great enthusiasm for more government spending especially on their guaranteed employment and Green New Deal projects, which will need to be justified on their own merits. MMT's way of viewing money and monetary policy adds nothing to the arguments for or against these policies. Its enthusiasm for printing money and borrowing increase already present dangers to the monetary stability so important for economic growth. Former Treasury Secretary Larry Summers recently denounced MMT for ignoring this inflation risk (Summers 2019).

The Bottom Line

MMT advocates reject the macro fine-tuning of traditional Keynesian analysis. They believe that

> government should be directly involved continuously over the cycle, by putting in place structural macroeconomic programs that directly manage the labor force, pricing mechanisms, and investment projects, and constantly monitoring financial developments. . . . But MMT goes beyond full employment policy as it also promotes capital controls for open economies, credit controls, and socialization of investment. Wage rates and interest rate management are also important [Tymoigne and Wray 2013: 44–45].

No wonder Congresswomen Alexandria Ocasio-Cortez (D-NY) likes MMT.

For all of its fascination with how money is produced (via government spending and bank lending), the programs favored by MMT,

such as government guaranteed employment, must be evaluated on their merits in the traditional way. As an aside, I see many potential problems with a government guarantee of employment and would prefer a guaranteed minimum income, which would provide a comprehensive safety net and leave job and other choices to individuals rather than to government administrators of a jobs program.

MMT attempts, unsuccessfully in my opinion, to repackage and resurrect the empirically and theoretically discredited Keynesian policies of the 1960s and 70s. A 2019 survey of leading economists showed a unanimous rejection of MMT's assertions that (1) "Countries that borrow in their own currency should not worry about government deficits because they can always create money to finance their debt," and (2) "Countries that borrow in their own currency can finance as much real government spending as they want by creating money" (Chicago Booth 2019). MMT is an effort to justify more government spending on programs favored by AOC and her friends with claims of fiscal space that can be liberated by printing money. Its arguments do not add up (Palley 2019). Both the excitement and motivation for MMT seem to reflect the desire to promote a political agenda, without the hard analysis of its pros and cons—its costs and benefits.

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