



Working Paper Series

Open Society University Network Economic Democracy Initiative

The meaning of MMT: a reply

Working Paper 03

Dirk Ehnts

Pufendorf Society for Political Economy Berlin

The meaning of MMT: a reply

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ABSTRACT

In their examination of Modern Monetary Theory (MMT), Drumetz and Pfister (2021) approached the theory from the policy consequences that would follow. In this paper, I restate the core of MMT and offer some suggestions for central banks. Theories are explanations of what we see, and MMT describes money creation and destruction. MMT hence cannot be and is not a political manifesto. In contrast to most other theories of money, MMT is falsifiable in its core statements which are based on a balance sheet approach to macroeconomics. Since many central banks already educate the public about the creation of modern money through bank lending, it would be most welcome if they would do the same for the creation of modern money through government spending. It is here where MMT and central bankers can find common ground to move forward and leave the theory of loanable funds and that of the money multiplier behind.

¹ dirk@ehnts.de, Hochschule Magdeburg-Stendal. The author thanks Pavlina Tcherneva and Phil Armstrong for comments on the paper.

INTRODUCTION

Teaching macroeconomics in 2021 is an interesting exercise. The textbooks usually rely on the money multiplier. They assume that the central bank lends to banks, which then lend on to households and firms. This is contrasted by the announcements of practitioners, mostly central bankers and bankers.² The St. Louis Fed tweeted the following statement to draw attention to Ihrig et al. (2021): “Many econ textbooks include outdated information on how Fed policy influences banks and the economy. Educators should abandon the “money multiplier,” a popular model that is now obsolete.”³ If, however, the money multiplier is wrong, then what about the discussion of banks as intermediaries, equilibrating saving and investment? The Bundesbank (2017, 17) writes: “This [the stylized example of the creation of money] refutes a popular misconception that banks act simply as intermediaries at the time of lending – i.e., that banks can only grant loans using funds placed with them previously as deposits of other customers.” So, macroeconomics is in need of a new theory. The textbook models have fallen apart, and a new theory of money is needed. That theory should be Modern Monetary Theory (MMT), which over the last twenty-five years has matured into a legitimate school.⁴

As retold by Ehnts (2020, 293), mainstream economists do not believe that “countries that borrow in their own currency should not worry about government deficits because they can always create money to finance their debt.” Looking at the result from a survey, not a single economist agreed with that statement. If these economists had been right, we would see lots of governments running out of money in 2020 and 2021. After all, tax revenues collapsed, government spending was increased and accordingly public deficits and public debts skyrocketed. Surely, the Greek government, surpassing 200 percent of public debt-to-GDP in 2021, would be in for a repeat of the Euro crisis? Nothing of that kind happened. As we all know by now, a government cannot run out of its own money for technical reasons.⁵ The *Wall Street Journal* (2021) recognizes that “important elements of MMT are accepted by much of the financial establishment” and that “the lesson of 2020 was that MMT is right” because “a government need never default on debt issued in its own currency.” In the Eurozone, all national governments made their payments on time – all of them. This needs to be explained.⁶

What also needs to be explained to the student is how monetary policy works. My current students were born around the year 2000. The deposit rate of the European Central Bank (ECB) has started with a 0 since 2009 and my students do not remember anything from before that time. All they have seen are negative and zero interest rates. The deposit rate was not moved up in the boom of the 2010s, and it surely was not moved down when the pandemic hit. Now, in

² One of the first practitioners to stress that households and firms cannot borrow reserves is Sheard (2013).

³ See <https://twitter.com/stlouisfed/status/1447612987196456972>.

⁴ JEL codes E12 and B52 include Modern Monetary Theory and Mitchell et al. (2019) published a 600-page textbook that can replace mainstream textbooks and Kelton (2020) is a *New York Times* bestseller.

⁵ There is nothing to stop a state from enacting laws that would stop the government spending more, like the US debt ceiling. Then, however, it is a political decision to run out of money.

⁶ The explanations of mainstream economists seem unconvincing. Krugman (2021), for instance, writes: “But is the Fed really financing the budget deficit? Not really. At a fundamental level, households are financing the deficit: the funds being borrowed by the government are coming out of the huge savings undertaken by families saving much of their income in an environment where much of their usual consumption hasn’t felt safe.” The problem with this is that is that obviously the Fed does not borrow household savings (or rather saving, since this is about flows). It sells sovereign securities to banks only.

2021, with the recovery that comes with rising energy prices, the ECB has not raised its rates either. How can I tell my students that the interest rates set by the ECB are the most important policy instrument when it comes to the price level and inflation? Who in the academic or central banking world believes that a five-percent-fall of the ECB's interest rates would cause private investment and hence inflation to go up? Not many, seems to be the answer. At the same time, the fiscal response to the pandemic has saved the day, stabilizing incomes and employment. Big public deficits in 2020 went together with deflation, which would have been much worse without the increase in government spending. The ECB did a great job with its Pandemic Emergency Purchase Programme (PEPP), which I will discuss below.

In consequence, the macroeconomics textbooks that are still in use do not do their job. Instead of explaining the world around us, they are stuck with old ideas that should have been discarded long ago and address mostly problems that we have not experienced for some decades – like wage-price spirals. Against this background, the fresh macroeconomic thinking that Modern Monetary Theory provides should be seen as an opportunity, not as a threat to prevailing opinion. Therefore, it is a step forward that MMT has received a lot of attention from academics and also from central banks. The recent article by Drumetz and Pfister (2021) and published at the Banque de France could be the start of a conversation of how to reconstruct macroeconomics and narrow the deep gulf between theory and practice in both monetary theory and macroeconomics. John Maynard Keynes supposedly said: “When the facts change, I change my mind.” The facts, especially in the Eurozone, have changed indeed. We need theory to keep up with reality in order to make informed decisions about macroeconomic policy. This is even more urgent since we will need to incorporate factors like energy, raw materials, and sustainability into the economic calculations if we are to address climate change and the other environmental problems that we are facing.

MAINSTREAM, MMT AND REAL MMT: THEORY AND THE TABLE

Drumetz and Pfister (2021) start their examination of the meaning of MMT with a table that summarizes their views on both mainstream theory and MMT. The table, reproduced as Table 1 below, seems to be a good starting point for a discussion of their paper. The first column describes the issue discussed, followed by the column that summarizes the mainstream view, one which summarizes MMT as seen by Drumetz and Pfister (DP*MMT), and one which summarizes MMT from my own view (Original MMT). Apart from the issue of unemployment, I differ with Drumetz and Pfister's view of MMT. The reason is, I suppose, that they approached MMT from the wrong side. Starting with the research question of what the meaning of MMT would be (in the sense of economic policy or institutional reform), they ignored its logical core and failed to recognize the methodological differences from the mainstream approach. This would be like a critique of the mainstream theory by MMT authors that completely ignores the

mathematical model at the core and just discuss the policy implications – its supposed “meaning.” This kind of approach implies that the theory is just intellectual “hand-waving” intended to justify the policy conclusions. That, however, is not how MMT works.⁷

MMT is first and foremost a balance sheet approach to macroeconomics. At its very core lie reserve accounting, then deposit accounting, and then sectoral balances accounting. There is very little behavior in any of this. Equilibrium rules as all balances balance – in both flows and stocks – and there are no assumptions apart from the existence of a central bank, a Treasury, a banking system and some households and firms. MMT can only be learned by mastering its balance sheet approach. It can only be engaged with by discussing the balance sheet operations it puts forward. It is here where value is added. Therefore, I suggest looking at some of these explanations in more detail.

First of all, the main insight of MMT is that the mainstream has the sequence of government spending wrong. Whereas they assume that government expenditure is financed by taxes (Table 1, row 2), MMT assumes that tax expenditure is financed by government spending. If the mainstream view was correct, taxpayers would provide the money for governments to spend. Logically, taxpayers would have to be the issuers of currency.⁸ They would create money to pay taxes with, then the government would spend. That, however, is not the world we are living in.

MMT stresses that the central bank, empowered by the law and serving the state, is the monopoly issuer of currency. In the Eurozone, this would be the ECB and the national central banks – the Eurosystem, as it is called. This logically means that before taxes can be paid in Euro, the state has to spend first. When taxpayers pay their taxes or banks buy government bonds on the primary market, they first need to have state money, which is created exclusively by the Eurosystem. “As the sole issuer of euro-denominated central bank money, the Eurosystem will always be able to generate additional liquidity as needed,” ECB president Lagarde said according to Reuters (2020).⁹ This is completely in line with MMT, which stresses the difference between currency users and issuers. As Kelton (2000) argues, issuers of currency finance their spending by creating money when they spend and cannot do otherwise.¹⁰

When the ECB buys government bonds or other financial assets in the context of its quantitative easing or its asset purchase programmes, it “increases the price of these bonds and creates

⁷ MMT started in 1996, when Warren Mosler contacted some academics to discuss monetary theory. Mosler, who worked as a banker, but also constructed racing cars (and a ferry), certainly was not looking to write a political manifesto. In Mosler (1995), he thanks Arthur Laffer for “valuable literary assistance and research with this work”. In Mosler (1997), his first peer-reviewed academic journal article, he describes at length how the monetary system works and how we can use it to achieve full employment and price stability – hardly a “political manifesto”.

⁸ It is not a coincidence that his view was used by Margaret Thatcher, who claimed that there would only be taxpayers’ money and no public money. The opposite is true, but most macro textbooks do not reflect that.

⁹ In their abstract, Drumetz and Pfister (2021) point out that MMT would have gained prominence “in the media and in the public.” In 2019, Mario Draghi reportedly said that “the ECB should examine new ideas like MMT” (Bloomberg 2019a) while Christine Lagarde said that “MMT is no panacea but may help fight deflation” (Bloomberg 2019b). Apart from central bankers, politicians like Alexandria Ocasio-Cortez picked up MMT and some of the policies its advocates developed, including the Job Guarantee. Also, John Yarmouth, chair of the House Budget Committee, defended the Biden administration’s policy in terms of MMT, as *The New York Times*’ (2021) Peter Coy notes.

¹⁰ See Tymoigne (2014) for further details on interactions between the Treasury and the Federal Reserve Bank.

money in the banking system,” as the ECB (2021) explains on its webpages. With “money” the ECB means “central bank deposits,” also called reserves, since it pays with electronic money and not cash. This process is well understood. In 2009, Ben Bernanke, chairman of the Fed, was interviewed by *60 Minutes*.¹¹ He was asked where the money the Fed lends would be coming from. “It’s not tax money,” Bernanke said, “the banks have accounts with the Fed, much the same way that you have an account in a commercial bank. So, to lend to a bank, we simply use the computer to mark up the size of the account that they have at the Fed.” Below are the changes in the respective balance sheets when the Fed extends a loan to a bank that has enough collateral:

Figure 1: Balance Sheets of Federal Reserve and Commercial Bank

<i>Federal Reserve Bank</i>		<i>Commercial Bank</i>	
Δ <i>Assets</i>	Δ <i>Liabilities / NW</i>	Δ <i>Assets</i>	Δ <i>Liabilities / NW</i>
+ \$100 Loan to Bank	1. \$100 Reserves	+ \$100 Reserves	+ \$100 Loan from Fed

It is obvious who is the issuer of currency and who is the user of currency. The Fed creates money when it spends. In this case, it spends with the promise that what it spends will be repaid, so it lends. It just credits the bank’s account at the Fed. Where does the money (reserves) come from? Some decades ago, they were typed into existence by a clerk at the Fed, using a keyboard and a computer. Now, they are created automatically by the computer software that the Fed runs – the payment system. The question where the money comes from does not make a lot of sense. The central bank is the score keeper of its society, creating money when it spends (lends) and destroying money when payments are made to it (and it receives back the reserves it has spent).¹² This is just as commercial banks work. These create bank deposits when lending, which are destroyed at repayment (McLeay et al. 2014).

To understand questions concerning “public debt” and “fiscal sustainability” requires us to look at the way a national (federal) government spends. It is at the level of balance sheets, which are descriptions of reality, that we can expect to find an answer. We can already sense that if the central bank executes a government’s payments, money creation will happen and there is no way that the central bank can “finance” these payments. If a number in a cell in a spreadsheet is marked up, there is no reason to reduce the number in another cell to “finance” this addition. One can build a rule to make that happen, but there is no causal link at the technological level. How does this work in practice?

The following description of the federal government of Germany spending €100 is based on Ehnts (2016, 119 ff.).¹³ We assume that the day has just started and that the Treasury account of the federal government of Germany (*Zentralkonto des Bundes*) stands at €0. The Treasury now instructs the German central bank to execute a payment of €100 to a household, who has supplied the Treasury with the painting of an owl. The Bundesbank accordingly credits the account of the

¹¹ See https://www.youtube.com/watch?v=QWJJC_mz1Pc.

¹² See Armstrong and Mosler (2019).

¹³ A more recent version can be found in Ehnts (2020).

seller's bank, which then credits the account of the seller. At the same time, forced by its rules of operation, the Bundesbank debits the Treasury account. This is what the balance sheets look like:

Figure 2 Balance Sheets Showing Federal Government of Germany Spending

<i>Deutsche Bundesbank</i>		<i>German Treasury</i>	
Δ <i>Assets</i>	Δ <i>Liabilities / NW</i>	Δ <i>Assets</i>	Δ <i>Liabilities / NW</i>
	+ €100 Reserves	- €100 Ger. Trsy. Acc.	- €100 Net Wealth (Δ public debt)
	- €100 Ger. Trsy. Acc.		
<i>Commercial Bank</i>			
Δ <i>Assets</i>	Δ <i>Liabilities / NW</i>		
+ €100 Reserves	+ €100 Deposits		

If this is how a federal government spends in the Eurozone, there is no possibility that it can “finance” its spending. Its central bank always creates new reserves when it spends on behalf of the government. It cannot spend “tax revenues” or “bond revenues.” As the name implies (from French *revenir*, to come back), when taxes or bonds are paid the government’s money comes back to the government. The balance sheets for this are trivial. The above balance sheets are all empty again as the money comes back to the government’s account at the central bank. The household gives up its deposits, the bank gives up its reserves.

There is one complication, though. In the Eurozone, central banks are not allowed to “finance” their governments. This is why at the end of the day the Treasury account has to go back to zero. This can be achieved by booking tax and bond sale revenues to the account. The balance in the Treasury account is not money, as the Bundesbank itself notes.¹⁴ It is a number that matters for operational reasons. The Bundesbank can only spend for and on behalf of the Treasury if at the start of the day the Treasury’s account is non-negative. Therefore, tax and bond sale revenues are not about financing, but about creating a green traffic light for the Bundesbank. This is a political complication that other monetary systems do not have. So, in the Eurozone a national (federal) government cannot run out of money as long as:

1. tax revenues are high enough to bring the Treasury account back to zero.
2. bond revenues are high enough to bring the Treasury account back to zero.
3. tax and bond revenues together are high enough to bring the Treasury account back to zero.

¹⁴ This is only logical, since reserves are basically a tax credit, a special form of I.O.U. (I owe you) that reduces the tax liabilities of the entity that gives it (back) to the government. Neither the central bank nor Treasury make payments to the State – they are part of the state. So, just as a cinema ticket in the hands of the employee of the cinema at the entrance ceases to be a cinema ticket, money ceases to be money when it returns to the state.

This means that a Eurozone national government does not run out of money until it has exhausted its tax revenues and bond sale revenues. It would only run out of money because of political reasons that are hardwired into the laws of the European Union (EU), not because its central bank cannot create more Euro. MMT sees the purchase of government bonds by the central bank as an asset swap. Government bonds purchased by the ECB, for instance, are not paid off.¹⁵ Government access to central bank financing is therefore limited in the Eurozone (Table 1, row 5), at least with the standard rules in place. Since 2020, however, the escape clause of the Stability and Growth Pact has been activated and the ECB has initiated its PEPP, ensuring enough demand for government bonds so that investors perceive them as risk-free.¹⁶ This means that the national governments are free to spend what they think appropriate until the escape clause is deactivated. The PEPP will probably remain in place, under a new name and with a longer horizon. “Public debt sustainability” is a political, not an economic issue (Table 1, row 3). This is most clearly visible when looking at Greece, which had a public debt-to-GDP ratio of 130% in the early 2010s when it ran out of money, but has been doing well in 2021 with a public debt to GDP ratio of more than 200%

It is easy to imagine a scenario in which government spending is both prior to and higher than tax revenues, so it seems reasonable to expect that bond issuance would be going on constantly in most Eurozone member states and not only those that run deficits. In Germany, government bond sales are executed by the German Finance Agency (*Bundesfinanzagentur*). Bonds are sold on the primary market exclusively. A group of banks are hence the only institutions that can buy government bonds from the federal government of Germany. They pay with reserves, so before their purchases of bunds – German government bonds – the state must lend (spend with the promise of repayment) first. It does not matter whether the banks use reserves borrowed from the ECB, or from another bank, or reserves received through government spending, or a depositor depositing cash in a bank account, which was then converted into reserves. Government bonds are issued to satisfy Eurozone rules (Table 1, row 4). Since they also provide a risk-free asset, at least in good times, they are also used as means to stabilize the interest rate at some positive level.

When a central bank buys a government bond from a bank, it just marks up the bank’s account. Whether this is done within the legal framework of open market operations, quantitative easing (QE) or asset purchase programme – technically, it’s all the same. It’s an asset swap for the bank and a lengthening of the balance sheet for the central bank. A government bond in the possession of the central bank will lead to a payment from the Treasury to the central bank at maturity. Since this payment increases the central bank’s profits and those usually are transferred to the Treasury’s account, it is up for discussion whether government bonds held by a central bank should be counted towards “public debt.”

Today, what many call “public debt” is just the money that a government has spent and not yet collected back in taxes. This is something fundamentally different from a private borrower with

¹⁵ However, interest from bond holdings of the ECB is distributed to the treasuries of the Eurozone member states, weighted by the capital key. To some extent, the interest the treasuries pay comes back to them via the ECB’s distribution of profits.

¹⁶ I have argued for such a programme since the publication of my book in 2014 (in German).

debt. The private borrower would have to make a payment to rid herself of debt. The government cannot do that – its payments cause the “public debt.” Actually, taxpayers would have to make payments in order for public debt to come down towards zero. Therefore, government bonds held by the central bank or households do not constitute a “debt” that has to be redeemed by the government. It is the opposite. Modern money is nothing but a tax credit that the private sector uses to settle its tax liabilities.

MAINSTREAM, MMT AND REAL MMT: ECONOMIC POLICY AND THE TABLE

Drumetz and Pfister (2021, 14) correctly describe the MMT view on crowding out: “The crowding-out effect on private spending does not exist in MMT because expansionary fiscal policy is supposed to lower interest rates by providing liquidity to banks rather than raising them by crowding-out the private demand for debt financing.” Most central banks intervene in the money market automatically to ensure that the interest rate does not fall (rise) when the government spends (receives tax revenue). This means that there is no financial crowding-out – the government spends reserves that are created anew (and not taken from some pre-existing pot of savings, like the loanable funds theory implies) and the interest rate does not change.¹⁷ This is easy to see empirically. It does not matter whether the Eurozone member states have public surpluses or (large) public deficits, the ECB is able to steer the interbank market interest rate. This, however, does not mean that government spending could not potentially crowd out private spending. If a federal government takes over a part of the organization of an economy, say health care provision or public education, then obviously private sector firms would be crowded out. MMT does not say that the government is “better” (more efficient or more effective) than the private sector. MMT simply highlights the fact that resources used for social welfare have opportunity costs since they are not available for alternative private (or public) sector uses (Table 1, row 15).

MMT helps us to understand what the monetary system is. It is in place so that the government can provision itself with the resources and workers it needs to do its job, which is to fulfill its public purpose (Ehnts and Höfgen 2019). It is important to note that the government can only buy what its citizens are willing and able to sell to it. This means that a government should be interested in having an educated and productive workforce with plenty of skills providing the government with a higher output (Table 1, row 14). Whether those with higher skills also (do or should) receive a higher income is an empirical question and cannot be answered by MMT. The goal of the economy is to provide us with the goods and services that we need. The public purpose can be served by the private sector as well as the public sector. Again, it is an empirical question which sector produces the best results when it comes to the provision and distribution of goods and services. MMT does not provide us with an answer when it comes to the size of the public sector.

Another mainstream view is that the economy should be competitive (Table 1, row 13). From a MMT perspective, this is mistaken. The economy should be targeting full employment and price

¹⁷ This challenges the concept of monetary and fiscal dominance. The central bank can set and control the interest rate and at the same time execute the government's payments. As there usually is no threat of the government running out of money, any interest rate the central bank sets is compatible with any level of public debt to GDP. The interest rate on public debt is an administered variable, as Fullwiler (2020) points out.

stability. A competitive economy might provide these, but rather by chance and not through macroeconomic policy. If a competitive economy is one in which exports are higher than imports, then the most competitive economy is one in which all value added is exported. This means that wages and domestic consumption are zero and all national income is in the hands of capital owners – hardly a promising target for a modern society. The way this undesirable situation would be achieved is through low wages (given some exchange rate). The further wages fall, the higher net exports will rise. This used to be called mercantilist policy, beggar-thy-neighbor policy, or imperialism. The idea of comparative advantage should have laid the idea of becoming a high net exporter to rest, but apparently its grip on economics is not as tight as it used to be. Also, in a world far away from full employment, a neo-Mercantilist policy might be successful, as the case of Germany seems to show.

So, what about macroeconomic policy? In mainstream economics, monetary policy has a role to play to stabilize the economy (Table 1, row 7). It is assumed that an increase (decrease) of the central bank's main interest rate will lead to a decrease (increase) in private investment. This view has lost its credibility after almost a decade of zero and negative interest rates and lackluster private investment. MMT and the mainstream agree that an increase of the interest rate might, after some time lag, cause a collapse in private investment that is big enough to bring down wage growth and with it inflation. However, almost nobody believes that a fall in the interest rate would bring about a recovery with rising private investment. MMT recognizes that changes in aggregate demand matter for private investment. The Biden administration's actions, especially its bold billion-dollar-packages, are consistent with this view. Government spending creates, 'Euro-for-Euro,' private sector income. If firms need to invest before they can sell to the government, then they will do it as long as expected positive profits result. The nominal interest rate is of secondary importance, if at all.

The mainstream view is that the interest rate is and should be the main policy instrument of monetary policy. MMT disagrees. Fighting inflation by creating unemployment through a rise in the interest rate might work, but in the long run it is a socially damaging policy. After four decades, this kind of monetary policy has left most of the Western economies, and the Eurozone especially, with high rates of unemployment and high levels of inequality. The Eurozone's rate of unemployment has never been below seven percent, which is high in comparison to other developed countries. The reason is very simple. Given existing technology, working hours and physical capital, a consistent lack of government spending has caused aggregate demand to fall short of what is required for full employment. Mario Draghi, who understands this, has called for more expansionary fiscal policy over his whole reign as ECB president. Monetary policy should support fiscal policy in finding the right level of spending that is consistent with full employment (Table 1, row 8). This means that the ECB should guarantee the national government's liquidity and solvency at all times. Only then can we expect the macroeconomic mindset of policy makers to shift from the austerity mode to a new European Deal mode. With regard to the

interest rate, it might make sense to leave it at zero to ensure that nobody earns risk-free rewards or to set it at two percent in order to support the inflation target of the same size.¹⁸

The question whether interest rates are set by the central bank or the market has become clearer in the last years. If the central bank wants, it can steer the overnight interest rate and all other interest rates (yields) along the yield curve for government bonds (Mosler and Armstrong 2019). Japan, while not following Modern Monetary Theory as Wray and Nersisyan (2021) point out, has shown that it is possible to directly target bond yields. This means that markets set interest rates (yields) only to the extent that the central bank lets them (Table 1, row 9). Therefore, central banks are in full control as they are monopoly issuers of money. They can determine the price of any financial asset that they (are allowed to) buy. MMT does not say that this is feasible, though. A central bank that is credible would just have to announce what it considers a reasonable yield curve and the market would then comply with this, since it cannot fight a market participant that cannot run out of money.¹⁹

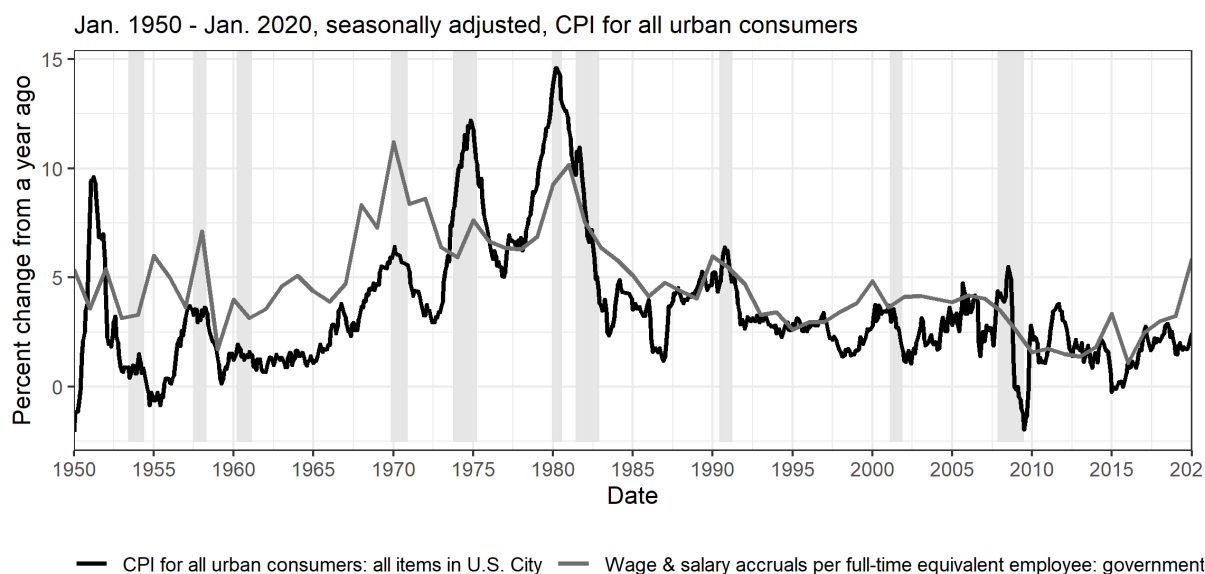
History has shown that full employment and price stability are compatible. They are not at the opposite ends of a trade-off, as the Phillips curve implies. In many Western European countries, we had both full employment and price stability in the 1960s. In Germany in 1968, the unemployment rate was 1.5 percent and the inflation rate 1.6 percent. One year later, the unemployment rate was down to 0.9 percent with an inflation rate of 1.8 percent. This was not an exception – between 1961 and 1966, the unemployment rate was below one percent for five consecutive years, with inflation rates between 2.4 and 3.3 percent. While the mainstream has accepted a trade-off between the unemployment rate and the rate of wage growth and the change in the price level, MMT does not take this for granted.

According to MMT, both price level and changes in the price level are mostly driven by the behavior of the state. Due to the monopoly on currency it enjoys, the state is the only actor in the economic sphere that can pay whatever wages or prices it pleases (Levey 2021). This is why there is no meaning to the absolute price level (outside of that determined by the state — see Mosler (forthcoming)). If an espresso in Italy cost 1,000 Lira in the late 1990s, it simply followed from the wages the state paid to its public employees (in the thousands of currency units per hour of work). When in Germany that same espresso cost 1 Deutschmark or in France 10 Francs, this says nothing about relative international prices. The state can decide what to pay in terms of wages, which sets the price level. The state paying different prices then means that the price level changes. This also explains what happens in hyperinflations. The governments of Weimar Germany in the early 1920s and those of Zimbabwe and Venezuela now pay higher and higher prices to the public employees and also pay more for the currencies, goods and services they procure (Armstrong and Mosler 2020).

¹⁸ MMT assumes that higher interest rates on Treasury bonds or reserves push up all interest rates and yields, as investors will remove everything from their portfolio that earns them less than that interest rate. The combined selling will drive down asset prices and hence drive up yields up to the new higher interest rate. Also, at higher interest rates the government pays bond holders more money, which is somewhat expansionary.

¹⁹ A central bank is credible when it does as it says. If yields diverge from where the central bank wants them to be, a relatively small intervention can have large consequences.

Figure 1: Consumer price index and wage and salary accruals per full-time equivalent employee: government



U.S. BEA and U.S. BLS, retrieved from FRED, Federal Reserve Bank of St. Louis

Figure 3 shows for the U.S. that empirically the relationship between wages and salaries paid by the government is tight. Bobeica et al. (2019) in an ECB working paper also find that “labor cost increases will be passed on to prices.” Nevertheless, MMT does not deny that there are other influences on prices as well. For instance, a rising oil price can drive up the price level if the rising energy costs are passed on to consumers. Also, monopolistic competition can drive up prices in areas like education and health care. Alternatively, inflation can arise if there is a lack of workers in any given area of the economy, driving up wages there. All of this means that inflation is a symptom of changes in society and not always a “monetary phenomenon” (Table 1, row 10). It seems like many central bankers agree with this, since the current rise in energy prices has not caused the big central banks to tighten their monetary policy and raise their policy rates. If energy prices are set by cartels and quasi-monopolists and demand for that energy is inelastic with respect to price and income, why should a higher interest rate in one currency area have an influence on those prices?

An understanding that inflation is not caused by tight labor markets gives reason to believe that full employment and price stability are possible (Table 1 row 11). Aggregate spending in the economy determines aggregate output, which – given working hours, technology and capital – determines employment. If private spending is not high enough to reach full employment, it is the task of the government to increase spending.²⁰ After all, it is the tax liabilities that the government imposes which forces people to look for paid work. Since the government cannot know the future, it is impossible to fine tune fiscal policy so that full employment results at all times. That is why MMT has suggested the addition of the Job Guarantee (Tcherneva 2020). In this way, those who can work and want to work always have the option to take on a JG job, which

²⁰ Theoretically, a change in tax rates works as well, but not if it reduces taxes mostly for the rich who then save the additional income. Lower VAT rates would be expansionary in terms of aggregate demand and deflationary in terms of the price level, as the experience with lower VAT rates in some countries in 2020 has shown.

would completely eliminate involuntary unemployment and act as a macroeconomic stabilizer. This should be especially interesting for the ECB, since the Eurozone's rate of unemployment has always been above seven percent and consistently higher than those of other currency areas.

The assessment of conventional structural policies from a MMT perspective is open (Table 1 row 12). If conventional structural policies mean imposing hardship on those earning their income mostly through work, there is no reason why this should be a preferred policy. MMT recognizes that managing the supply side of the economy and labor relations is important for total productivity and allocation. There is nothing wrong with allocation by the private sector per se. If, however, the results indicate a sub-optimal allocation, then the government should not hesitate to change the rules of the game. This is most important in the context of a Green New Deal (Nersisyan and Wray 2019).

OTHER ISSUES

Drumetz and Pfister (2021) make some more points that are worthy of comment. There are too many claims to take issue with that can be discussed in this paper. Therefore, I am required to focus upon some important points and leave out others, including what I consider to be the minor points. Their paper starts with a discussion of Knapp's *The State Theory of Money*. It is not clear why this is the way forward to examine MMT, since MMT does not build on *The State Theory of Money*. Since the idea that money is a creature of the law is developed there, it can be seen as an ancestor. Drumetz and Pfister (2021, 2) state that "the STM [*The State Theory of Money*] was received very mildly," taking references out of Ehnts (2019). However, they use only the negative reviews of Knapp's work and ignore that leading economists of the early 20th century agreed with it. John Maynard Keynes had it translated into English and mentioned Knapp on the second page of his first chapter in his 1930 *Treatise on Money* (Keynes 1930, 4). Knut Wicksell counted it "among the pearls of economics literature." It is true that Schumpeter and other economists did not like Knapp's book. So, the publication of *The State Theory of Money* created quite a stir. Knapp's student Karl Helfferich became the most influential monetary theorist in Germany (Greitens 2019). In the UK, Beveridge (2015 [1944], 118) wrote in 1944: "The second thesis, as to the fundamental difference between State outlay, and private outlay, may appear to some paradox, but is nearer to a truism. There is no financial limit to spending by the State within its own borders, as there is a financial limit, set by their resources and their credit, to spending by private citizens." Lerner (1947, 312) in his paper "Money as a Creature of the State" writes: "A favorite pastime at the London School of Economics, where I was first introduced to the subject of economics, was the cruel baiting and tearing to pieces of Professor Knapp's *The State Theory of Money*." It seems that the reception was divided between hostile and very sympathetic.

Drumetz and Pfister (2021, 2) repeat the claim that *The State Theory of Money* would say "nothing about the value of money, i.e., purchasing power." The word "value" translates into German as "Wert" and that word appears approximately 100 times on 61 pages of Knapp's book. Chapter 24 is titled "On the so-called value of money."²¹ Drumetz and Pfister (2021, 3) claim that "the reason why a currency is used in a given area, provided it is credible, rest on network effects: it is

²¹ This chapter was not translated into English.

convenient to use such a currency if one has enough assurance that it is, and will remain, accepted by one's contractors," rejecting Knapp's claim that "among civilized peoples in our day, payments can only be made with pay-tickets or Chartal pieces." This leaves the authors open to the question why the French people or German people switched from Francs or Deutschmarks to Euro. Weren't the national currencies "credible"? They had been credible for decades. The reason why the French switched to Euro is that taxes could not be paid with Francs anymore, but now required payments in Euro. To make that possible, the state purchased the old currency (Francs) by paying with the new one (Euro). All of these (Francs, Deutschmark, Euro) constitute Knapp's "Chartal pieces" because they were proclaimed by the state (and not weighted). Currency competition, which Drumetz and Pfister miss, is not something that matters in the Eurozone. There, Europeans use hardly any other currencies than the Euro. That people in some countries which issue their own currency turn to Euros or Dollars, for all sorts of reasons, is nothing that would refute *The State Theory of Money* or MMT.

Drumetz and Pfister (2021, 4) then accuse MMT of not mentioning names when discussing mainstream economists. That is an odd claim to make, given that there is no shortage of literature where exactly this happens: Ehnts and Voldsgaard (2020) take on Jeppe Druedahl, Stephanie Kelton (2019) takes on Paul Krugman, Bill Mitchell (2019) takes on Gregory Mankiw. Drumetz and Pfister (2021, 4) discuss how MMT could be implemented, completely missing the point that MMT is a theory and not an economic policy proposal. The supposed lack of detail in discussions of banking in MMT can easily be remediated by examining chapters 3 and 4 of Ehnts (2016), where this is discussed in great detail in the context of the Eurozone. Drumetz and Pfister (2021, 5) then discuss taxation, writing that "taxes are nearly always paid in bank money" only to state some sentences later that "it is true that banks use reserves to make transfers from their accounts at the central bank to the Treasury's account, also held at the central bank." MMT states that households pay taxes in bank deposits, but their banks need to pay reserves to the government. Drumetz and Pfister do not seem to understand that they repeat the MMT position here.

Drumetz and Pfister (2021, 6) wonder why Wray puts "monetization" in quotation marks. The answer is that the government always spends money (reserves) through its central bank when making payments. Since the only difference between reserves and government bonds is that the latter have different yields and a maturity after which they are converted into reserves, there is no big difference between them. "Monetizing" bonds is hence nothing that would have a large effect on the economy. The central bank can buy up government bonds and pay with reserves if it so chooses. However, since banks can use government bonds as collateral to borrow from the central bank, this process does not result in a potential increase in the number of reserves that the banking system can hold. There is certainly no effect from "monetization" on the inflation rate, as is often implied. Drumetz and Pfister (2021, 6) acknowledge that the money multiplier approach "does not fit with reality," so there seems to be an agreement that we need to rethink the way the monetary system is taught.

Drumetz and Pfister (2021, 8) worry about the "corresponding risk for the central bank of having to absorb a large part of the public debt." If, however, the ECB can neither go bankrupt nor run out of money, as Christine Lagarde confirmed, what does that statement mean? The ECB

through its PEPP can reduce the risk of government default to zero. The original idea of the Euro was that financial markets would punish “bad” governments with higher interest rates and threats of default, but the real-world results have been disastrous. Greece and Italy display high unemployment and low productivity growth. Structural reforms and cuts in governments spending apparently made these problems worse.

Drumetz and Pfister (2021, 15) repeat the often-heard claim that MMT lacks a formal model. What the authors overlook is that there are a variety of MMT models to choose from. An alternative to the IS/LM model would be the model developed in Ehnts (2014).²² The flow model focuses on the sectoral balances and builds on few behavioral equations, with the rest of the model’s variables being derived by accounting. Tcherneva (2002) and Levey (2021) also create MMT models to answer their research questions. Also, most stock-flow consistent (SFC) models are also compatible with MMT (Godley and Lavoie 2006). Nevertheless, the MMT approach is a balance sheet approach. As in Ehnts (2014), scenario analysis is the appropriate method for MMT, which recognizes that non-stochastic randomness plays a large role in the real world (Carrión Álvarez and Ehnts 2016).

Last but not least, citing an opinion piece on MMT, as in the last paragraph of Drumetz and Pfister (2021, 21), indicates how weak their case against MMT is. The author, who cannot and does not claim to be an expert on monetary theory, writes that MMT would be “a statement by those who believe in the righteousness – and affordability – of unlimited government spending...”. I find this crackpot statement wholly unconvincing.²³ There is no source or quote to back up the claim that MMT authors would argue for “unlimited government spending.” It would be easy to find quotes that say the opposite. MMT has always argued that the economy is limited by resources, and that approaching that limit inflation results.

CONCLUSION

Drumetz and Pfister (2021) should be lauded for their intent to engage with MMT. As expected, a cultural shock resulted, as MMT is a falsifiable empirical monetary theory that sets out to explain the real world whereas the mainstream theory sets out from model assumptions and only then moves to the real world. It was the intent of this reply to correct the image of MMT that Drumetz and Pfister build up and that is reflected in their Table 1 (also Table 1 of this paper). I have argued that before discussing the macroeconomic implications of MMT (what Drumetz and Pfister call the “meaning”) we need to get the balance sheets right. MMT starts with the logic of the payment system (reserve accounting) and then moves on to sectoral balances. Therefore, it provides a discussion of the micro structure that is absent in most of mainstream macroeconomics. It is at this level that the debate of MMT should start, leaving the question of what to do in terms of macroeconomic policy for later.

Drumetz and Pfister (2021) are invited to reply to this paper by engaging with the claims made here. As Table 1 shows, I think that their representation of MMT is flawed and therefore their

²² See Ehnts (2019) for a short introduction. An Excel spreadsheet containing the model can be downloaded via <https://econoblog101.wordpress.com/the-ismy-model/>.

²³ Jonathan Hartley published this article on MMT in *National Affairs* and another one he co-authored about hospital care. He does not hold a Ph.D. or any equivalent that would prove that he has gained insights in monetary theory.

judgment of MMT is unreliable. To make some progress, I would ask them to explain in balance sheets how the French federal government actually spends and/or to refute my balance sheets for the German case. I believe my balance sheet structure shows clearly that the German Bundesbank is a currency issuer and that it creates new reserves every time the German federal government spends. If that is the case everywhere in the Eurozone, this would mean that the ECB could solve any problem of “fiscal sustainability” by making the PEPP permanent, as argued by Ehnts and Paetz (2021). The question of how much governments are allowed to spend is divorced from this issue.

Before discussing this issue and the question of how to reform the Stability and Growth Pact, there needs to be agreement, or at least understanding of the MMT position on the creation (and destruction) of reserves by central banks, both for monetary policy and fiscal policy reasons. It seems that we can already agree on the creation of bank deposits through bank lending, which constitutes progress and necessitates a reform of macroeconomic textbooks that are still based on money multipliers and loanable funds theory. What is missing is agreement on the explanation of government spending using the medium of balance sheets.

REFERENCES

- Armstrong, Phil and Warren Mosler (2019), A Discussion of Central Bank Operations and Interest Rate Policy, <https://gimms.org.uk/wp-content/uploads/2019/02/Central-Bank-Interest-Rate-Policy-Mosler-Armstrong.pdf>
- Armstrong, Phil and Warren Mosler (2020), Weimar Republic Hyperinflation through a Modern Monetary Theory Lens, <http://moslereconomics.com/wp-content/uploads/2020/11/Weimar-Republic-Hyperinflation-through-a-Modern-Monetary-Theory-Lens.pdf>
- Beveridge, William H. (2015) [1944], Full Employment in a Free Society (Works of William H. Beveridge): A Report, Routledge
- Bloomberg, (2019a), <https://www.bloomberg.com/news/articles/2019-09-23/draghi-says-ecb-should-examine-new-ideas-like-mmt>
- Bloomberg (2019b), <https://www.bloomberg.com/news/articles/2019-04-11/lagarde-says-mmt-is-no-panacea-but-may-help-fight-deflation>
- Bundesbank (2017), The role of banks, non-banks and the central bank in the money creation process, Deutsche Bundesbank Monthly Report April 2017, 13-33
- Carrión Álvarez, Miguel and Dirk Ehnts (2016), Samuelson and Davidson on ergodicity: A reformulation, *Journal of Post Keynesian Economics* 39(1), 1-16
- Drumetz, Françoise and Christian Pfister (2021), The Meaning of MMT, Banque de France Working Paper 833, <https://publications.banque-france.fr/en/meaning-mmt>
- Elena Bobeica, Matteo Ciccarelli and Isabel Vansteenkiste (2019), The link between labor cost and price inflation in the euro area, ECB Working Paper Series 2235
- ECB (2021), https://www.ecb.europa.eu/explainers/show-me/html/app_infographic.en.html
- Ehnts, Dirk (2014), A simple macroeconomic model of a currency union with endogenous money and saving-investment imbalances, *International Journal of Pluralism and Economics Education* 5(3), 279-297
- Ehnts, Dirk (2016), *Modern Monetary Theory and European macroeconomics*, Basingstoke: Routledge
- Ehnts, Dirk (2019), Modern monetary theory: a simple macroeconomic model, <https://socialeu-urope.eu/modern-monetary-theory-model>
- Ehnts, Dirk (2020), The fiscal-monetary nexus of Germany, IPE working paper 138/2020
- Ehnts, Dirk and Maurice Höfgen (2019), Modern Monetary Theory and the Public Purpose, *American Review of Political Economy* 15(1), 1-12
- Ehnts, Dirk (2020), The unexpected victory of modern monetary theory and its consequences, *International Journal of Pluralism and Economics Education* 11(3), 293-295
- Ehnts, Dirk und Michael Paetz (2021), COVID-19 and its economic consequences for the Euro Area, *Eurasian Economic Review* 11(2), 227-249
- Ehnts, Dirk and Asker Voldsgaard (2020), A Paradigm Lost, a Paradigm Regained - A Reply to Druedahl on Modern Monetary Theory, <https://drive.google.com/file/d/13a2To14MLbCyUMPexNwciwk7Valv5MTY/view>
- Fullwiler, Scott (2020), When the Interest Rate on the National Debt Is a Policy Variable (and “Printing Money” Does Not Apply), *Public Budgeting & Finance* 40(3), 72-94
- Godley, Wynne and Marc Lavoie (2006), *Monetary Economics: An Integrated Approach to Credit, Money, Income, Production and Wealth*, Palgrave Macmillan

- Greitens, Jan (2019), Karl Helfferich und Rudolf Hilferding über Georg Friedrich Knapps “Staatliche Theorie des Geldes”: Geldtheorien zur Zeit der Hyperinflation von 1923, IBF Paper Series 04-19
- Ihrig, Jane, Gretchen C. Weinbach and Scott A. Wolla (2021), Teaching the Linkage Between Banks and the Fed: R.I.P. Money Multiplier, <https://research.stlouisfed.org/publications/page1-econ/2021/09/17/teaching-the-linkage-between-banks-and-the-fed-r-i-p-money-multiplier>
- Kelton, Stephanie (2000), Do Taxes and Bonds Finance Government Spending?, *Journal of Economic Issues* 34(3), 603-620.
- Kelton, Stephanie (2019), The Clock Runs Down on Mainstream Keynesianism, <https://www.bloomberg.com/opinion/articles/2019-03-04/krugman-s-macroeconomics-is-no-match-for-mmt>
- Kelton, Stephanie (2020), *The Deficit Myth: Modern Monetary Theory and How to Build a Better Economy*, London: John Murray
- Krugman, Paul (2021), Krugman Wonks Out: What We Talk About When We Talk About Money, <https://www.nytimes.com/2021/05/21/opinion/money-federal-reserve-deficit.html>
- Lerner, Abba (1947), Money as a Creature of the State, *The American Economic Review* 37(2), 312-317.
- Levey, Sam (2021), Modeling Monopoly Money: Government as the Source of the Price Level and Unemployment, Levy Economics Institute Working Paper No. 992.
- McLeay, Michael, Amar Radia and Ryland Thomas (2014), Money creation in the modern economy, BoE Quarterly Bulletin 2014 Q1, 14-27
- Mitchell, William (2019), A response to Greg Mankiw – Part 1, <http://bilbo.economicoutlook.net/blog/?p=43900>
- Mitchell, William, Martin Watt and Wray, L. Randall (2019), *Macroeconomics*, London: Red Globe Press
- Mosler, Warren (1995), Soft Currency Economics, <https://econwpa.ub.uni-muenchen.de/econwp/mac/papers/9502/9502007.txt>
- Mosler, Warren (1997), Full Employment and Price Stability, *Journal of Post Keynesian Economics* 20(2), 167-182
- Nersisyan, Yeva and L. Randall Wray (2019), How to Pay for the Green New Deal, Levy Economics Institute Working Paper No. 931.
- New York Times (2021), Modern Monetary Theory Has a New Friend in Congress, <https://www.nytimes.com/2021/09/01/opinion/mmt-john-yarmuth.html>
- Sheard, Paul (2013), Repeat After Me: Banks Cannot and Do Not Lend Out Reserves, S&P Ratings Direct Economic Research, 1-15
- Tcherneva, Pavlina (2002), Monopoly Money: The State as a Price Setter, *Oeconomicus* V, 124-143
- Tcherneva, Pavlina (2020), *The Case for a Job Guarantee*, New York: Polity Press
- Tymoigne, Éric (2014), Modern Money Theory and interrelations between the treasury and the central bank: The case of the United States, Levy Economics Institute Working Paper No. 788.
- Wray, L. Randall and Yeva Nersisyan (2021), Has Japan Been Following Modern Money Theory Without Recognizing It? No! And Yes. Levy Economics Institute Working Paper No. 985.

Wall Street Journal (2021), Modern Monetary Theory Isn't the Future. It's Here Now.

<https://www.wsj.com/articles/modern-monetary-theory-isnt-the-future-its-here-now-11637446538>

Table 1

	<i>Mainstream</i>	<i>DP*MMT</i>	<i>Original MMT</i>
Government expenditure is financed by...	... taxes	... issuing currency	... is not 'financed.'
Public debt sustainability...	.. can be an issue	... cannot be an issue	... is a political issue (if 'debt' is denominated in own currency)
Public bonds are issued...	... to finance the public deficit	... to distribute income as part of interest rate maintenance strategy	... as part of an interest maintenance strategy and to satisfy Eurozone rule
Access of government to central bank financing...	... should be limited	... is unlimited	... depends on the law
Public debt purchased by the central bank...	... should be paid off	... is paid off	... constitutes an asset for banks
Crowding out...	... can be an issue	... cannot be an issue	... cannot be the result of lack of loanable funds
Monetary policy...	... has a role to play in stabilizing the economy	... has no role to play in stabilizing the economy	... has a role to play in stabilizing the economy
Interest rates...	... are a market variable	... are set by the government	... are set by the central bank
Inflation...	... is a monetary issue	... is a fiscal policy issue	... is a complex phenomenon
Unemployment...	... cannot be fully eliminated	... can be fully eliminated	... can be fully eliminated (same as <i>DP*MMT</i>)
Conventional structural policies...	... are positive	... are negative	... can be positive or negative
An economy...	... should be competitive	... does not have to be competitive	... should aim for full employment and price stability
Skills...	... are important determinants of income	... are loosely linked to income	... are important determinants of output
Social Welfare...	... has a cost	... has no cost	... has a cost

Source: Based on Drumetz and Pfister (2021, iii)