

Alternative paths to modern money theory

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In recent months anybody who is anybody has had to weigh in on MMT. From Fed Chairman Jerome Powell (who admitted he has never read anything on the topic but claimed MMT is “just wrong”), to Carl Icahn (who phoned me during the 2016 presidential campaign to enthusiastically discuss similarities to his own way of thinking but now calls it “very dangerous”), to Japan’s Finance Minister Taro Aso (who called MMT “an extreme idea and dangerous as it would weaken fiscal discipline” – as if Japan’s fiscal discipline is a wonder to behold), to leftist Jerry Epstein (who calls it an “America First” ideology with “centralized controls” rather than relying on “more market friendly policies”), all are united in opposition to the theory. What all have in common is that what they critique has nothing to do with MMT. I am not going to devote space to countering their fallacious arguments here, but instead refer readers to several rejoinders. (Links to the critiques and rejoinders can be found here: Wray 2019a, Wray 2019b, Wray 2019c, Wray 2019d, Wray 2019e, Mitchell 2019a, Mitchell 2019b, Mitchell 2019c).

What I will do is to first clearly state what MMT is and then outline four paths that lead to MMT’s conclusions: history, logic, theory and practice.

What is MMT?

MMT provides an analysis of fiscal and monetary policy that is applicable to national governments with sovereign currencies. We argue that there are four essential requirements that qualify a national currency as sovereign in the sense in which we use the term:

- a) the National government chooses a money of account in which the currency is denominated;
- b) the National government imposes obligations (taxes, fees, fines, tribute, tithes) denominated in the chosen money of account;
- c) the National government issues a currency denominated in the money of account, and accepts that currency in payment of the imposed obligations; and
- d) if the National government issues other obligations against itself, these are also denominated in the chosen money of account, and payable in the national government’s own currency.

There is a fifth, important, consideration, which concerns the exchange rate regime and follows from the fourth requirement above. Strictly speaking, if a country adopts a gold standard or “dollarizes” it does not have what we define as a sovereign currency because it has agreed to exchange its currency for gold or dollars at a fixed exchange rate. Its obligation really is to deliver gold or dollars in payment. On the other hand, a nation with a floating exchange rate clearly does not commit government to deliver gold or foreign currency at a fixed exchange rate – so meets our definition of a sovereign currency. Many nations fall between these two extremes – they issue their own currency but operate with some degree of exchange rate management. They might also explicitly commit themselves to delivering foreign currency in payment of their own obligations (that is, they issue debt in foreign currency). While floating a currency is not necessarily required in order to operate monetary and fiscal policy in a manner

consistent with a fully sovereign currency, issuing national government debt in a foreign currency, or promising to exchange domestic currency for foreign currency at a managed exchange rate (which amounts to much the same thing) will usually compromise domestic policy space.

MMT argues that the financial situation facing a National government with a sovereign currency (meeting the four conditions identified above) is entirely different from that faced by a household, a firm, or a government that does not issue a sovereign currency. The sovereign currency issuer:

- i) does not face a “budget constraint” (as conventionally defined);
- ii) cannot “run out of money”;
- iii) can always meet its obligations by paying in its own currency;
- iv) can set the interest rate on any obligations it issues.

It is important to note the use of the word “can” in the final two points (as well as “does not” and “cannot” in the first two). A sovereign government can impose on itself a “budget” that does “constrain” its spending. This is normal practice and probably a good idea. A sovereign government could choose to default on its promises. This is exceedingly rare and probably always a bad idea. A sovereign government might allow financial markets to set at least some of the interest rates on government obligations. This is also common and perhaps a good idea – although as we’ll see below government sets the base rate even when it allows markets to set other rates.

Note that MMT does not argue that because a government “cannot run out of money” it should “spend without limit”. MMT does not argue that because a government “can always meet its obligations” that “deficits don’t matter”. MMT does not argue that because a government does not “face a budget constraint” it should have an “unconstrained budget”. Yet these are the top three complaints our critics have about MMT. This is why MMT is labeled “dangerous” and linked to hyperinflation. But MMT has never said such things.

Another top criticism – especially from central bankers – is that MMT calls on central banks to “print money” to “pay for” deficit spending. MMT does not recommend this, nor is such an action required to validate any of the four points made above. More generally, none of the main conclusions or policy recommendations of MMT requires any change to the current procedures adopted in the US and other sovereign currency nations for making government payments – for spending or in meeting obligations. If Congress or Parliament were to approve much larger budgets authorizing more spending, current procedures are adequate for ensuring the spending can be financed following usual procedures. While an MMTER would probably run monetary policy quite differently from the way central banks typically do today, no change to central banking is required to allow a government that issues a sovereign currency to obtain the policy space implied in points i through iv listed above – freedom to meet all obligations as they come due and to set the policy interest rate is already in the hands of sovereign currency issuers.

What MMT has always emphasized, instead, are the real resource constraints faced by sovereign currency issuers.¹ Even in the wealthiest and most productive economies – the US, China, Japan, the UK – if the national government were to ramp up its spending it would

¹ See a detailed discussion of the MMT approach to resource constraints in the context of the Green New Deal in Nersisyan and Wray <http://www.levyinstitute.org/publications/how-to-pay-for-the-green-new-deal>.

eventually face real resource constraints. Since the government “cannot run out of money” it could “win” a bidding war, taking resources away from other uses (in the private sector, or in use by lower levels of government). In some cases (war, Green New Deal) this could be desirable; in other cases maybe less so. The inflationary consequences might also be undesired. And inflation can be sparked before full employment (bottlenecks in some sectors) so it matters where the government’s spending is directed.²

In any event, MMT has always recognized that “too much spending” or spending that is poorly targeted can cause inflation – resources can be scarce but sovereign finance is not. Further, the size of government spending, the size of the budget deficit, and the size of the outstanding debt stock are all poor measures of the inflation potential of additional government spending – even if measured relative to GDP. There are no magic ratios that indicate that government spending is excessive. The correct measure is the magnitude of additional spending measured against the supply of idle resources that will be mobilized by the spending. In addition, the “multiplier” effect of induced demand placed on already employed resources could be important, and as well the potential of importing alternatives to domestic production that would offset multiplier pressures. Fortunately – or unfortunately depending on one’s view – modern economies usually operate with sufficient slack that even large boosts to aggregate demand are not likely to put much pressure on wages and prices. Our critics continue to fight an inflation battle that was won almost two generations ago. When we say this, it is not because we ignore potential inflation but rather because we observe substantial slack is the normal situation.

The other main complaint about MMT comes from critics who argue that the approach cannot be applied to Somalia. The Central African Republic. Democratic Republic of the Congo. Burundi. Liberia. Zimbabwe. Niger. Malawi. Mozambique. Ecuador. Greece. Honduras. Nicaragua.³ And because it is not universally applicable, MMT is claimed to be incorrect.

Indeed. And how many of these countries fit the requirements laid out above? Let’s see. Somalia has not issued any currency since 1991; large transactions are handled in US dollars and small ones in old currency that is still circulating. Besides failing to meet the conditions enumerated above, by just about any measure Somalia is an example of a failed state – and its exchange rate regime is probably among the least of its problems. The Central African Republic pegs its currency to the Euro. The Democratic Republic of the Congo was highly dollarized until recently, although reforms are now pushing for tax collection in local currency. In recent years, Burundi has experimented with a currency-board arrangement, a dual and even triple exchange rate system, and a managed exchange rate system; it seems to be slowly moving toward a floating rate. The US dollar is a legal tender in Liberia, with local currency pegged to the dollar and with all but the smallest transactions using the US currency. The US dollar is also legal tender in Zimbabwe. Niger has a managed and confusing triple exchange rate system, not counting the unofficial black market rate. Malawi and Mozambique have only recently moved to floating rates. In Ecuador (as in Liberia) the US dollar circulates alongside local currency that is pegged to the dollar. Greece abandoned its currency and adopted a foreign currency. Honduras and Nicaragua peg to the dollar.

² This is why MMT favors the directed spending of a Job Guarantee that hires the unemployed.

³ Note that here I’ve purposely chosen the poorest nations in the world as well as some individual countries that are often cited by critics as “proof” that MMT is wrong because it cannot be applied to them. They are also chosen as “proof” that MMT is an “America First” approach that shows no concern for impoverished nations. It is also important to note that while perhaps the majority of nations on earth do not issue sovereign currencies (as defined above), sovereign currency nations account for the vast majority of global GDP – perhaps well above 80%.

The observant reader will notice a pattern: MMT does not apply to these cases because they don't fit the conditions listed above; and although a few of these might be moving toward currency sovereignty one expects that they face a long road ahead. MMT proponents have long been critics of the set-up of the Eurozone, arguing that divorcing countries from their formerly sovereign currencies would likely lead to disaster. It did lead to disaster. It should be obvious that our critique of the Euro experiment is not quite the same thing as arguing that Mozambique will solve all its problems by floating its own local currency.⁴ MMT does generally favor floating rates to expand domestic policy space, however, that is probably not the first or even the most important step to put a country on the path to development. I have long pointed to China's development strategy and the positive role that its managed currency regime has played – while also arguing that China must and will eventually float to retain policy space as its export surplus disappears.⁵

It is true that most of the work by MMT scholars has concerned nations that meet the conditions listed above as qualifications for issuing a sovereign currency – that is, after all, what MMT is concerned with. Most nations do not meet these conditions and they have been examined less frequently by MMT scholars (for exceptions, see in particular work by Bill Mitchell and Fadhel Kaboub). The problems faced by emerging nations are quite different to those faced by the developed sovereign currency nations that we have – mostly – focused on.

That does not make MMT wrong – it has been concerned with the misguided economic policy of the world's biggest economies. And, to a great extent, policy failures in these big and rich nations spill over to produce problems for the rest of the world. As the rich nations have increasingly turned to austerity, global growth has faltered. And the biggest nations also run the international institutions that impose harsh conditions on developing nations as well as exporting neoliberal thinking that infects domestic policy-making in those nations. The recipe of pegged exchange rates (as well as dollarization), borrowing in foreign currency, tight budgets through “fiscal consolidation”, export-led growth, and independent monetary policy (which is simply code for high interest rates) propagated within and abroad by neoliberals (and even by far too many heterodox economists) has not served either developed or developing countries well. Arguing that sovereign currency issuers can make better use of their domestic policy space is not “America First” strategy, and it is likely that developing nations would benefit if all sovereign currency nations recognized the implications of MMT and used them to their advantage.

Let us turn to an overview of alternative paths to MMT. We have often begun our explication with logic, based on a working assumption that economists are good at logic. One would think so – with all their models and math and deductive thinking. However, with about 35 years of work in this profession, I have concluded that economists are terrible at logic. So let's begin with history.

The historical path to MMT

⁴ See Bill Mitchell's discussion of MMT's relevance to developing countries here: <http://bilbo.economicoutlook.net/blog/?p=41327>; and Fadhel Kaboub's excellent explanation here <http://inthesetimes.com/article/21660/united-states-venezuela-modern-monetary-theory-trade-deficits-sovereignty>.

⁵ <http://www.levyinstitute.org/publications/options-for-china-in-a-dollar-standard-world-a-sovereign-currency-approach>

We often begin at the beginning, following the work of G.F. Knapp, J.M. Keynes, and A.M. Innes to locate the origins of money with the authorities – originally religious authorities, then secular rulers, and finally down to modern democracies.⁶ We have told the stories of the early clay shubati tablets, the hazelwood tally sticks, and the relatively late development of metallic coins. All the known evidence to date indicates that the authorities came up with a money of account used to denominate debts and credits (as Keynes hypothesized after reading Innes, the early money units were always based on grain weight units – reflecting record-keeping of daily allotments of foodstuff by those temple forbearers of modern states--as also documented by Michael Hudson). They then imposed obligations on subjects or citizens denominated in those money units (tithes, tribute, fees, fines, and later taxes), issued their own obligations denominated in the money of account, and then collected back their own obligations in payment of the obligations they had imposed.

Only later did markets develop – once there was a money of account as well as official price lists in the money of account, markets became possible. Money as a medium of exchange finally comes at the end of this historical process, following development of the money of account, taxes and other debts, prices, and markets. Markets worked just fine using credits and debts recorded on slate, clay, or whatever other substance proved handy for record keeping. In other words, the true history is just about the reverse of the barter-to-money story told by textbooks.⁷

This alternative history is, quite simply, established beyond doubt. And it leads directly to MMT.

But economists are not much better at history than they are at logic. So let's try a much more recent, simple, and clear example – one provided by Farley Grubb, the premier expert on America's colonial currency.

The American colonial governments were always short of British coins (but prohibited by the Crown from coining their own) to finance their activities so they each came up with their own money of account (for example the Virginia pound or the North Carolina pound), imposed taxes in that money of account, issued paper notes in the money of account, spent the paper notes, collected those notes in taxes, and then burned their tax revenue.⁸

I told you it would be simple and clear. A one-sentence history of sovereign currency in Colonial America. If you want more details, read Grubb.

There are several things that I like about this example. First, it is clear that the colonies spent the notes first, then collected them in taxes. They could not possibly have collected paper notes in taxes if they had not first spent them because there were no other paper monies around. There weren't even any banks issuing notes in the colonies at the time. Second, the colonies did not spend the tax revenue received in the form of paper notes. As Grubb notes, they burned the notes. All of them. That was the purpose of the tax: in the tax laws the taxes were titled "Redemption Taxes" with the expressed purpose of "redeeming" the notes – removing them from circulation to be burned. Finally, the spending was simultaneously a "self-financing"

⁶ For an early discussion, see Wray 1998.

⁷ See Graeber 2011.

⁸ Yes, literally burned it – as noted in the colonial records that kept close track of the number of notes issued and subsequently burned.

operation as the notes were spent into existence. Taxes are for redemption, not to generate revenue “income” to be spent – as Beardsley Ruml put it.⁹

Think of it this way: burning the notes was an inflation-avoidance maneuver. The point of collecting the notes was to get them out of circulation. If all the taxpayers had simply “lost them in the wash”, there would have been no need to collect the notes. Alternatively, if the notes had a self-destruct code built into them (think *Mission Impossible* tapes) the Redemption Tax would not have been necessary for removing notes. However, no one would have accepted the notes without the obligation to pay taxes. We conclude that taxes are necessary from inception to “drive the currency” (that is, to create a demand for it) and – perhaps – to redeem the currency, withdrawing potential aggregate demand to keep inflation at bay. But not for revenue.¹⁰

The colonies also collected some taxes in the form of British coin. Obviously, coins were not the sovereign currency of the colonies – but rather of the Queen. Coins collected in tax payments were subsequently spent. Tax revenue is important for governments that do not issue sovereign currency: tax first, then spend is their motto. Sovereign currency issuers spend first then tax. And then burn the revenue.¹¹ That’s the difference between a currency issuer and a currency user.

The final point that is driven home by the case of the colonies is that it is quite clear that operation of their sovereign currency systems did not rely on an advanced state of development, a powerful military, or issuance of the international reserve currency.¹² At this stage of the development of America each colony was practically insignificant in terms of economic power, its currency played no role outside its borders, and it had a dominant international currency (British coins) in circulation locally (and even accepted by its government). Still, colonial currency was in high demand locally – and, according to Grubb’s sources, in some instances even preferred over British coins as a medium of exchange. As such, these tiny colonial governments (albeit with grand schemes and a bright future!) were sovereign currency issuers with the ability to spend their currency into existence.

That’s the history lesson for today. It is infinitely generalizable. This is the way it has worked for the past 4000 years, at least, as Keynes put it. That is the Modern Money period to which MMT applies.¹³

⁹ See Ruml. Also note that our term “revenue” is derived from the Old French word for “return”. What is returned in tax payment? The currency issued when government spent. We still use the term “tax return” when we file our taxes.

¹⁰ This was the point made by Beardsley Ruml after WWII in his article: “Taxes for Revenue are Obsolete”.

¹¹ Or melt it and re-coin it in the case of metal currency.

¹² Our critics often claim that MMT only applies to the USA because it is a mighty military power, has been to the moon and back, and issues the international reserve currency. Clearly, Colonial America could do none of those things.

¹³ I came up with the term “modern money” as an inside joke based on a statement made by Keynes in the *Treatise*, and used it in the title of my 1998 book. Keynes seemed to have come to this view after reviewing the 1913 article by Innes that set him off to study early monies – during a period he called his “Babylonian Madness”. See Ingham 2000. Keynes’s statement was as follows: “The State, therefore, comes in first of all as the authority of law which enforces the payment of the thing which corresponds to the name or description in the contracts. But it comes in doubly when, in addition, it claims the right to determine and declare what thing corresponds to the name, and to vary its declaration from time to time – when, that is to say, it claims the right to re-edit the dictionary. This right is claimed by all modern states and has been so claimed *for some four thousand years at least.*” Keynes, 1930, p. 44; emphasis added.

The logical path to MMT

Wynne Godley's office at the Levy Institute was just down the hall from mine. In an agitated state, he called for me. He had been looking at all the mainstream macro models he could find and reported to me "they are all incoherent, every single one of them. All stock-flow inconsistent." I wasn't surprised since I was well aware of the problems with the ISLM workhorse model – a model still used by MMT's critics like Tom Palley and Paul Krugman – that had even been rejected by its developer, John Hicks, who announced by the 1980s that he could no longer make any sense of it.

Mainstream macro has never allowed a significant role for money and finance. Every student of economics has been taught the circular flow diagram, with an arrow running from households to firms, representing purchases of goods and services, and an arrow running from firms to households representing income payments to the factors of production. Wages finance consumption and consumption finances the wages. It is a nice infinite regress that never asks the question: but where did the money come from in the first place?

In Chapter 10 of the typical textbook, banks will be introduced. The circular flow diagram puts banks in the center, taking in deposits of the factor incomes and lending them out to firms to pay the factors. The banks are pure intermediaries – they lend the deposits they receive and receive the deposits they lend. There is no explanation of the genesis of the money. This is still the view held by most of our critics – based on an infinite regress and no room for a state money.

Later, still, the textbook introduces a central bank, reserves, and the deposit multiplier that allows an expansion of the money supply even though no individual bank can create money. It is simultaneously magical and perplexing. Paul Krugman still uses it to bash the Minskians who hold the silly notion that banks can create money "out of thin air". A boost to government spending simply shifts the IS curve out, raising interest rates and reducing money demand so that a fixed money supply can do double duty as a hot potato that no one wants to hold at the higher interest rates. There is no attempt made by mainstream macro theorists to reconcile the stocks of money to the income and spending flows of the circular diagrams. It is all stock-flow inconsistent.

No mainstreamer wastes her time contemplating how the government or private firms spent more (flow) without finance (balance sheet stock). As Joan Robinson remarked, if a clever student does ask the teacher about something like this, she is told that the answer will be given later in the more advanced courses. But, of course, the answer never comes and as the student gains wisdom she knows better than to ask again. These are just questions that one learns to avoid if one wants to get ahead in economics.

Kalecki said that economics is the science of confusing stocks with flows – so best to just remain quietly confused as one uses incoherent models. As Minsky would put it, their analysis is not disciplined by balance sheets. As Godley put it, a coherent analysis requires that flows come from somewhere and go somewhere to accumulate as stocks. All mainstream theory is in that sense incoherent.

Unfortunately, some – maybe most – heterodox theory is also incoherent.

A few years ago I participated in a Ford Foundation project that brought together a few “endogenous money” proponents and some “New Institutionalists”, including two Nobel winners, to find common ground on finance. As I tried to explain how banks create deposits as they make loans needed by firms to start the production process, the Nobel winners told me that is not how it works. Firms get the money they need from their sales. OK, I asked, where do the buyers get that money? From payment of wages by firms. But how, I asked, can firms pay the wages? From the sales, of course. Infinite regress. As the discussion heated up, one of the Nobelers told me that banks cannot create money out of thin air. They have to get the reserves first. He knew this was true because his wife was at the Fed and she had explained the deposit multiplier process to him. (She went on to the CBO, where she waged battle against budget deficits.) Each individual bank only lends out the excess reserves but at the aggregate level there’s a multiple expansion. Magical obfuscation that trumps logic.

Final background story on economists and logic. I was at a conference on the legal history of money – full of legal scholars plus a few heterodox economists. One of these (a Post Keynesian monetary theorist) was giving a talk arguing that the “taxes drive money” view must be wrong because when he accepts payment in dollars he never thinks of taxes. One of the legal scholars raised a hand and asked: well, then, why do you accept it? “Because I think someone else will accept it.” So, he accepts dollars because he thinks he can pass them off onto BiffySue. This is the P.T. Barnum “greater fool” theory of money: there’s a sucker born every minute and some of them are dumber than me, so I’ll accept a fiat currency with the expectation that I can find one of those suckers. (The audience broke out in laughter, yelling at him “it’s the taxes, stupid”.) Another infinite regress.

As I said, economists are not good at logic. But let’s forge ahead anyway.

Warren Mosler provides the following example. He wanted his kids to wash his car. To motivate them he offered to pay them using his own business cards. “But dad, why would we want your cards – they are worthless.” Well, he answered, I’m imposing a tax of five business cards today if you want access to food, clothing and shelter. “But how can we get the cards?” I’ll pay five business cards for washing the car. Note how all the logic we learned from the history of Colonial currency applies: Warren has to spend first before collecting the cards; no one can pay taxes until Warren spends; and redemption of the cards in tax payment removes them from circulation. There is no infinite regress. The car gets washed and the kids get fed. Taxes drive money and money mobilizes resources such as labor for car washing. In a nutshell, that’s our monetary system.

Eric Tymoigne uses “free pizza coupons” as an example to demonstrate the logic of a sovereign currency. Your local pizza joint issues coupons for free pizzas. When a coupon does come in, the restaurant must bake a pizza. The outstanding coupons represent liabilities of the restaurant and assets of the holders. Each coupon is worth a pizza until the expiration date, after which its value immediately drops to zero. When a coupon is presented to the restaurant for redemption, it is torn and tossed in the recycling bin. Only a misguided restaurant manager would lock them up in a safe deposit “lockbox” thinking they are valuable assets. The manager knows they represent claims and thus potential costs in terms of labor, ingredients, and fuel involved in pizza production. It would be silly to accumulate them to be counted as assets that would help defray the costs of meeting the future demand of customers for pizzas.

While this example is quite different from the previous one – most importantly, the sovereign issuer is also the producer of the relevant output (pizza) rather than the purchaser (car washing

services) – but there are important similarities. Note here again we see that the “sovereign currency pizza coupon” must be issued before it can be redeemed. Further, the sovereign issuer destroys redeemed coupons; rather than viewing them as assets to be saved (or spent), the issuer sees them as a liability from which the restaurant is redeemed when received. And we learn another important lesson that also applies to sovereign currencies: it makes no sense for a sovereign to accumulate its own liabilities on the pretext that these somehow can finance spending later.

For a real world example of such a nonsensical action we only need to look to the Social Security Trust Fund – in which the US government accumulates claims on itself in the illogical belief that this somehow reduces the need for tax revenue in the distant future by providing an alternative source of “finance”. Most of MMT’s critics want a bigger Trust Fund to “pay for” Social Security to support retirees twenty or fifty years down the road. That’s like the pizza joint that foolishly locks away redeemed coupons in the belief they will help in the production of pizzas later.

Economists aren’t very good at logic.

To summarize the logic of sovereign currency: the sovereign chooses a money of account, imposes a tax (or other liability) in that unit, issues a currency (denominated in that unit) in payment for goods and services it desires, and collects the currency in payment of taxes. The logic applies to any form of currency the sovereign might choose: coins, paper, or electronic entries such as keystroke credits to private bank deposits or to reserve deposits at the central bank. The sovereign cannot run out and has no need to store keystrokes to use later.

As Keynes said, states have claimed the right to do this for the past 4000 years, at least. With the advent of central banks, some of the logic becomes obscured by the practice. We’ll turn to real world practice in the final section to show that the logic still holds up in spite of modern procedures adopted.

The theoretical path to MMT

I have already mentioned Keynes’s adoption of the Knapp-Innes state money approach in the *Treatise on Money* that is a major influence on MMT. Another influence is Keynes’s theory of effective demand in *The General Theory*. It is theory that puts causation into our accounting logic. Keynes insists that the direction of causation goes from spending to income, from injections to leakages, from investment to saving. These are all flows. The same logic applies to stocks that accumulate from flows. Spending creates income flows that can be used to accumulate financial wealth. Production flows can generate accumulations of real assets. Spending and production must be financed before income is generated, which means that finance must be provided before income can be saved.

As Keynes argued, saving cannot be a source of finance (indeed, he argued that consumption is a better source – since it creates income, while saving is just a leakage that can be accumulated in a liquid form, hence, never returning to the circular flow). We thus need a prior source of finance. While Keynes did not expound upon this in the GT, he did so in both the TOM and in writings after the publication of the GT.

Schumpeter put it clearly: the banker is the Epher of Capitalism. Following his lead, the Franco-Italian circuit approach provides an alternative to the mainstream circular flow diagram, where production is financed by “thin air” money creation (in the form of a bank deposit) by bank lending. This is the source of finance to pay the wage bill, returned to firms in sales of output, and finally redeemed in repayment of the initial loan. No central bank reserves are required to initiate this process, and we don’t need a fantastical deposit multiplier. Central banks are introduced into the circuit to facilitate clearing between banks – not to provide some kind of resource to the deposit-creating process. As the endogenous money approach insists, “loans make deposits and deposits make reserves” in the sense that if banks need reserves for clearing (or to meet legal requirements), the reserves are supplied on demand by the central bank. Banks can never “run out of money” since they create it when they make loans, and central banks can never “run out of reserves” since they lend them into existence.

So far, so good. I think every heterodox economist (except, perhaps, “structuralists” like Tom Palley – who still uses the fixed money supply, ISLM framework) as well as most central bankers are now on board with this.¹⁴ Bank money and central bank money are not scarce resources – we can have as much as we want (and we generally have more than is good for us as Wall Street’s banksters run wild).

Paradoxically, most heterodox and orthodox economists believe that the sovereign government, itself, faces a critical money shortage. Bankers cannot run out. The sovereign government’s central bank cannot run out. But government faces a strict budget constraint;¹⁵ exceeding it leads to disaster: Attacks by Bond Vigilantes. Insolvency. Bankruptcy. Hyperinflation. The largest and most powerful economic entity the world has ever seen – the US Federal Government – must get its fiscal house in order. Its deficits crowd-out domestic savings, reducing private investment and growth! Its deficits soak up global savings, crowding out investment abroad, and reducing global growth! It relies too much on charitable lending by the Chinese! Any day now the supply of dollars to Uncle Sam will cut be cut off! A run from the Dollar will reduce its international purchasing power to peanuts! Our profligate government is leaving hundreds of trillions of dollars of debt to our grandkids!

And what is the MMT solution? Why, MMT proposes to force the Fed to just print up trillions of dollars to pay for all the crazy spending! MMT would violate the sacrosanct independence of the central bank! Weimar! Zimbabwe!

Nay, MMT follows Keynes. Government spending, like private investment, is an injection that raises income. More specifically, as Kalecki showed, government spending creates profits because it is a source of business revenue but not a cost of production. Taxes are a leakage, reducing household net income and business net revenue. If government spends more than it taxes, this is a net spending surplus – increasing profits dollar-for-dollar. A net spending surplus¹⁶ by government cannot “crowd-out” private investment – it creates profits that are likely to boost the desire to invest. A net spending surplus by the US government cannot absorb global savings – instead it creates net income for the US private domestic sector as well as for

¹⁴ See Wray 1990 for one of the first full treatments of the endogenous money approach.

¹⁵ As Stephanie Kelton says, progressives think money grows on rich people, so Uncle Sam must go to them hat-in-hand to get finance.

¹⁶ This is conventionally called “deficit spending” – government spent more than it taxes. The term “deficit” immediately conjures in the mind that government is somehow “deficient”. But spending more than taxes is better termed “net spending surplus”, which is a positive thing for the private sector. A government budget surplus really ought to be called “deficient spending” or a “net spending deficit”. I thank Kelly Gerling for this framing.

the rest of the world. China does not lend dollars to “finance the US government’s profligacy”, rather, the US government’s net spending surplus creates income that supports US imports that create dollar credits for Chinese exporters.

And those are not “taxpayer’s dollars” that the US government spends. Like the Colonial American governments, modern sovereign governments “burn” all the revenue they receive. As we’ll see in the next section, when taxes are paid, the taxpayer’s deposit is debited and the bank’s reserves at the Fed are debited. This is the modern equivalent of burning notes received in tax payment. And where did those taxpayer deposits and bank reserves come from? From the government’s spending – the injection that created the income that could be taxed.

Now, it is true that government spending is not the only injection. Private investment and exports (or, net exports) also create income that can be leaked. Wynne Godley’s sectoral balance approach – long incorporated within MMT – shows that the sum of the balances of the government, domestic private, and foreign sectors is identically zero. The normal position for the private sector is a surplus balance – as households are generally net savers, and sometimes firms are also. But for the private sector to spend less than its income – what is normally called a surplus balance – at least one of the other sectors must run a deficit balance (that is, spend more than its income). If a country runs an external surplus (current account surplus), then its government’s spending does not have to exceed taxes. But, obviously, not all countries can run current account surpluses – and the US has run nearly continual current account deficits since the Reagan administration. For the US private sector to net save in financial terms, the US government sector taken as a whole must spend more than it taxes. Given that state and local governments are not sovereign currency issuers, it is up to the Federal government to spend more than tax revenue – what we call here a net spending surplus.¹⁷ That net spending surplus (an injection) by the Federal government is by identity equal to the private sector’s net spending deficit (that is, a surplus balance) and the rest of the world’s net spending deficit (also a surplus balance) that together make up the leakages.

The Godley approach highlights an identity. Keynes’s theory adds the causation: at the aggregate level the causation goes from spending to income, from injections to leakages, from Federal government net spending surpluses to private sectoral balance surpluses. This doesn’t necessarily mean that the government’s balance is a result of discretionary policy but it does mean that if the government’s injection were smaller, the sum of the leakages (surpluses of the domestic private and rest of world sectors) would be smaller.

The MMT theoretical approach is based on, and entirely consistent with, the Keynes-Kalecki-Godley approach to the theories of effective demand, of profit generation, and of sectoral balances, respectively. The critiques of MMT are based on the fundamentally illogical loanable funds and ISLM approaches. MMT extends the endogenous money approach to private money creation by integrating it with the state money approaches of Knapp, Innes and Keynes (of the TOM). The critiques of MMT are based on a combination of exogenous money theory plus a flawed understanding of the meaning of central bank independence.

¹⁷ To be perfectly consistent, if government spends more than it taxes, that is a net spending surplus; if the private sector spends less than its income, that is a net spending deficit; and if the US as a whole spends more than it receives in payments from abroad that is a net spending surplus. Putting it this way is better framing and more consistent with the Keynesian injections/leakages approach as injections are net spending surpluses and leakages are net spending deficits. Unfortunately economics teaches it the other way around – reinforcing the view that “deficits” (injections) are somehow bad and surpluses (leakages) are good.

MMT does not contrast the credit theory of money (usually applied to private banks) against the state money theory (applied to government money). Instead, following Innes and Minsky (who argued that “anyone can create money, the problem is to get it accepted”), it integrates the two. The state chooses the money of account and issues its currency and other obligations in that unit; private banks (and others) also issue liabilities in the state’s money of account. In both cases, the issuer (private bank or state) must take back its own liability in payment – what we earlier (following Colonial America’s law) called redemption. Obviously, a “money” must be issued before it can be accepted for redemption. When the issuer receives its own obligation in payment, it simply “burns” it (like the colonial currency as well as the pizza coupon accepted in redemption for a pizza).

The US government spends only dollars, and, more specifically, it spends in the form of dollars of reserves issued by the US Fed and credited to private bank accounts at the Fed. Its tax receipts are almost solely¹⁸ received in the form of US Fed reserves debited from private bank accounts held at the Fed. To the extent that foreign central banks hold US dollars, these came from the US and are held in the form of reserve deposits at the Fed, US Treasuries, or US cash (Fed notes).¹⁹ China cannot be a net source of finance for the US government because the dollars held by the Bank of China are US liabilities that came from US spending on imports. Foreign holders at the aggregate level can shift portfolios around but cannot increase (or reduce) the “supply of dollars” (changing portfolio preferences can affect the “prices” – exchange rate and possibly interest rates – but not the quantity of dollar liabilities created).

The supply of dollars abroad is determined by the flow produced by the US current account balance. That can be affected by the net government spending surplus (as discussed above) – all else equal, the bigger the government injection, the more private sector income generated, and the greater the (net) dollar leakage through the current account. However, it could also be the result of the US private sector increasing its spending relative to its income, or a reduction of the rest of the world’s spending on US output. The foreign accumulation of US Treasury bonds is closely related to bi-lateral current account surpluses against the US: the biggest external holders of US Treasuries are China, Japan, other net exporters to the US, and offshore banking centers.²⁰ Even if the US Federal government spent less than it taxed over the next few years, if the US continued to run current account deficits, it is likely that foreign holdings of US Treasuries would continue to rise in step. In other words, it is the current account deficit of the US (i.e. US surplus spending flowing to the rest of the world) that leads to dollar claims on the US, including claims on the US government – the safest assets in the world. This is not because the US needs to borrow dollars from abroad but rather because foreigners accumulate dollars as the stock of net wealth produced by net US spending abroad increases.

If you’ve been worried that Uncle Sam has to get dollars from China to finance his spending, you can breathe a sigh of relief.

¹⁸ As noted below, an insignificant amount of taxes received by Treasury are in the form of cash – issued by either the Treasury or the Fed.

¹⁹ With the rise of securitization, foreign central banks also hold some securitized private liabilities, such as US MBSs.

²⁰ See Wray, Does America Need Global Savings to Finance Its Fiscal and Trade Deficits? *American Affairs* Spring 2019 / Volume III, Number 1.

The practical path to MMT

In the old days, governments spent and received currency – coins and paper money – directly. The US Constitution gives to Congress the sole right to issue currency (and for many years the Treasury spent its currency into circulation). However, this has been interpreted to mean that Congress can delegate this right to a central bank. Over the years many critics have objected to that provision, and also to private bank issue of notes and now deposits that for all practical purposes are the primary media of exchange (with government insurance standing behind them). Still, our currency today is issued by the Fed in the form of paper notes (cash) and reserves, with the Treasury issuing only coins – together what is called the monetary base. And banks issue deposits used as one of the primary means of payments. This is not likely to change – even as “electronic money” increasingly dominates the payments system.

Cash is essentially a zero coupon consol. Consols are perpetual government liabilities that never mature, and of course some do pay coupons.²¹ Government treasuries also issue short and long maturity liabilities that promise interest. Central banks issue notes (that also can be seen as zero coupon consols), reserves (that may or may not pay interest), and sometimes longer maturity debt that pays interest. Central banks notes are issued on demand (the Fed was created to provide an elastic supply of currency); reserves are supplied either in overnight lending (at the discount window), when central banks purchase assets (typically, government bonds or private financial assets; these are often repos – a purchase with a matched sale), or when they make payments on behalf of the Treasury (usually by far the most significant source of reserves – all but ignored except by MMT).

After the creation of the Fed in 1913, its notes gradually replaced Treasury notes (which are no longer issued). Importantly, the Fed spends reserves when it purchases assets or lends reserves; so it either spends or lends reserves into existence. The US Treasury still issues coins on demand (not for spending) – but it counts the seigniorage as revenue.²² Today, all Treasury spending takes the form of a payment of reserves by the Fed; plus, the Fed will exchange its notes for reserves on demand. There is no case in which the Fed “prints money” (that is, prints notes) to “pay for” Treasury spending – and none of the MMT description or policy conclusions require that the Fed begin to do so, in spite of what our dishonest critics proclaim.

From inception, central banks have played a role in government finance – often purchasing treasury bonds (sometimes at concessionary rates, as during WWI and WWII). Today, the modern central bank makes and receives all payments for its treasury. All US government spending takes the form of Fed credits to private bank reserves, with the receiving banks crediting the deposit accounts of recipients of government spending. Virtually all tax payments take the form of Fed debits to private bank reserves, with the private banks debiting deposits of the taxpayers (while it is possible to pay taxes using notes or coins, this is rarely done).

This provides a degree of separation between the modern treasury and the public that confuses economists, who argue that government no longer spends or receives currency. They believe that government must wait for tax receipts before spending. The way they view the process is

²¹ Seth Carpenter introduced this view of cash at the 2019 “Minsky Conference” held at the Levy Economics Institute.

²² Apparently, it is legal for the Treasury to issue platinum coins of any denomination – for example, in denominations of \$1 trillion. This potentially offers an easy route to evade debt limits (since coins are not counted by the Treasury as debt) and was considered (and rejected) by the Obama administration. This is not something MMT advocates, but it is a way to finesse the debt limit. I prefer we tackle the debt limit head-on as it is a stupid self-imposed rule.

that the taxpayer's deposit in a private bank is transferred to the treasury's deposit at the central bank, allowing the treasury to write a check that will eventually lead to a deposit in the recipient's private bank. In their view, the critical step is Treasury receipt of taxes in the form of a debit to the taxpayer's account and a credit to the Treasury's account at the Fed. Essentially, their view is that private banks create money for the government to spend. When MMT explains that government actually spends by crediting a private bank's reserves, the critics object that this is true only because we have consolidated the treasury and central bank. They then go on to extol the virtues of central bank independence and warn that such consolidation is the path to Zimbabwe hyperinflation. Central bank independence must be preserved so that it can "just say no" to treasury spending.

For 25 years MMT has been explaining all the internal accounting procedures involved when modern treasuries and central banks cooperate for government spending and taxing to take place. In the US this takes about a half dozen steps. Whenever we turn to a detailed description of those procedures our critics accuse us of confounding matters by going through complex accounting. No one has been able to show any errors in our explication. But the critics continue to assert that somehow these procedures create a constraint on government spending. We show that actually the procedures adopted ensure that, by design, treasury never faces a constraint. All its payments can be and will be made as they come due. No treasury checks ever bounce due to insufficient funds. Whatever Congress has budgeted can be spent.

MMT still awaits proof from the critics that US Treasury checks occasionally bounce because the Fed refuses to clear them when Treasury's balance zeros out. In fact, that never happens – which is proof that the procedures work to ensure payments are made.

We do, of course, recognize the Congressionally-imposed debt limit, which introduces a wrinkle that could someday cause a default on obligations. This, however, has nothing to do with the operating procedures developed by the Fed and Treasury. Nor does it have anything to do with strikes by "bond vigilantes". The limit exists because Congress imposes it. But until Congress forces a default by refusing to raise the debt limit, all Treasury obligations will be met with current procedures.²³

I'm not going to repeat the detailed exposition.²⁴ What is important for our purposes is that while the Fed complies with prohibitions against "direct financing" of Treasury spending, its laser-like focus on the payments system plus its desire to hit overnight interest rate targets ensures that it cooperates with Treasury's operations. Any "independence" in these matters is illusory. The Fed's independence is limited to its ability to choose the overnight rate target.²⁵

To put it as simply as possible, current procedures ensure the Treasury has credits to its account at the Fed that can be debited when the Fed credits reserve accounts of the private banks of the recipients of Treasury spending. This is little more than internal record keeping between the Treasury and the Fed. If it is projected that the Treasury's credits will fall short of

²³ If and when such a default occurs, it is a voluntary default in the sense that the government has chosen to do it. No bond vigilante will have forced it. The "bond vigilantes" at the dealer banks always stand ready to submit bids for more bonds.

²⁴ See articles by Bell 2000, Fullwiler 2011, Tymoigne 2014, and Wray and Tymoigne 2014.

²⁵ In addition, the Fed is supposed to be insulated against partisan politics – but that is true of other agencies of the Federal government. (And President Trump seems to be dedicating considerable energy to breaking down that barrier.)

debits, Treasury will sell bonds to dealer banks that stand ready to place bids.²⁶ The Fed, in turn will supply reserves as necessary to ensure bonds sold in the new issue market do not place temporary pressure on overnight rates. As bonds are sold, Treasury's deposit at the Fed is credited. Treasury spending reverses this process as its deposit account is debited and private bank reserves are credited, with the Fed then removing reserves from the banking system as necessary to remove pressure on rates.²⁷

Critics of MMT want to claim that this proves that taxes and borrowing “finance” Treasury spending – so the Treasury is subject to a government budget constraint after all. MMT responds that the operations just described would take place whether the government's budget were in balance, in surplus or in deficit (as conventionally defined) over the course of the year. This is because even if government spending is less than taxes paid over the course of the year, there can be large mismatches between the flows of spending and taxing on a daily, weekly, and monthly basis. Since the Fed is not supposed to allow “overdrafts”, Treasury will need to sell bonds over the course of the year even if it ends the year with total tax revenues greater than spending.²⁸ Further, bond sales require that banks have reserves – which can only come from Treasury spending (undertaken on its behalf by the Fed), Fed purchases of assets, or Fed lending. The reserves must be put into the banking system before they can be withdrawn (just as Mosler's business cards must be issued to his kids before they can pay business card taxes). The same is true of tax payments – since the taxpayer's bank will lose reserves when taxes are paid, reserves first must be put into the system by Treasury spending, Fed purchases, or Fed lending. Neither taxes nor bond sales can be a net source of finance for government as the means of paying taxes or buying bonds (reserves at the Fed) must come from the government (Treasury and/or Fed) before taxes are paid or bonds are bought.

The argument is analogous to Keynes's argument that saving cannot be a net source of finance for investment and, indeed, that consumption is a better source of finance. A credit to a bank account must occur before a saver can buy a corporate bond. A household's income can be accumulated in the form of bank deposits, some of which are used for consumption and some of which are used for saving. Only a portion of the saving will go toward purchasing bonds – some will remain in more liquid form and hence is not available to finance investment. On the other hand, all of the portion of income that is consumed will flow to producers and hence is potentially available to finance business spending (except for consumer purchases of imports – which are then available for investment by foreign producers).

Taxes, like saving, are a leakage created by injections such as investment and government spending that generate income. Neither taxes nor saving can finance spending at the aggregate level. They are leakages that must be created by financed spending. This logic is understood by some heterodox economists as it is applied to the saving leakage, but then they get “dazed and confused” when it comes to the leakage of taxes.

²⁶ To remain in good standing, dealer banks must place bids; the Treasury uses surveys before auctions to determine what maturities markets want.

²⁷ Procedures have been somewhat simplified in recent years with the change to payment of interest on reserves (so that excess reserves don't result in an undesired “ZIRP” – zero interest rate) and with Quantitative Easing (that put so many excess reserves into the system that there's no danger that bond sales cause insufficient reserve holdings).

²⁸ As Tymoigne shows, even during the Clinton years when spending fell below tax revenues, government bonds outstanding still grew. “Debunking the Public Debt and Deficit Rhetoric”, Eric Tymoigne *Challenge*, 2019 <https://doi.org/10.1080/05775132.2019.1639412>.

Portfolio preferences can affect interest rates and exchange rates. As Keynes insisted, this comes in the second step of the saving decision – not in the first step as in loanable funds theory. There is great fear that bond vigilantes might go on strike against government debt, causing interest rates to rise and exchange rates to fall. But the central bank of any sovereign currency issuing nation can peg any interest rate it wants, simply by announcing a target. No foolish vigilante is going to go against a central bank whose purse strings are unlimited – certainly not after they saw central banks willing to spend \$4 trillion or more in the silly Quantitative Easing experiments.

Many MMTers follow Keynes in advocating a permanent ZIRP policy – what he called “euthanasia of the rentier” (he would eliminate any interest reward on risk-free liabilities, which includes short-term sovereign government debt). This is done by setting the policy rate at zero (overnight fed funds rate in the USA) and then limiting the issue of sovereign government liabilities to short-term bills (whose rate tracks the overnight rate). The simplest method is to allow the Fed to provide automatic overdrafts to the Treasury (foregoing altogether sales of bills). When the Treasury spends, the central bank simply provides an overdraft to the Treasury’s deposit account and simultaneously credits the reserves of a private bank. Over the course of the year, net outstanding reserves will rise if there is a net spending surplus (what is called a budget deficit) or fall if there is a net spending deficit (what is called a budget surplus). This would eliminate government interest payments (“euthanize the rentier”) – which is usually an inefficient form of spending (mostly a leakage – accumulated as savings domestically and abroad) that increases inequality.

Note that this is a policy proposal – not a description. This policy change is not at all necessary to achieve the distinguishing characteristics of currency sovereignty listed above: absence of a “budget constraint”, impossibility of “running out of money”, ability to make all payments as they come due, and setting interest rates. Even under current arrangements, sovereign currency issuers operate free from such financial constraints. But the proposal to eliminate treasury bills and bonds simplifies operational procedures, eliminates unnecessary government interest payments, and makes government spending operations much more transparent. It also eliminates an entire sector of the economy that has built up around the government bond market – for better and perhaps for worse. In my view, this is a policy worth considering although it is not at all a necessary precondition to reforming fiscal and monetary policy.

Conclusion

In this piece we have carefully defined what we mean by MMT. Comparison of the fundamental principles of MMT against what the critics claim MMT asserts will make it clear that the critics are either ignorant or dishonest. None of the critiques raised so far presents any challenges to MMT because they are not directed to MMT scholarship.

We have also summarized four alternative paths to MMT: history, logic, theory and practice. The most advanced and coherent study in all these areas leads inexorably to MMT.

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