

# Modern Monetary Theory—A Primer on the Operational Realities of the Monetary System

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At its core, there are two parts to MMT. The first is a description of how the monetary system actually works, mostly focusing upon interactions between the central bank, the treasury, and the financial system, though this part also requires a very thorough understanding of the Minskyan-related literature of many MMT'ers (I note this because so many critics of MMT ignore or not aware of the vast MMT literature on financial instability and reforming the financial system). The second is a set of policy proposals that arise from this description and is largely outside the scope of this particular post but which can be found in any number of MMT publications and blogposts (and, again, including the sizeable MMT literature on reforming the financial system).

Of critical importance to most of MMT's description of the monetary system is its elaboration of the system's *operational realities*, which for MMT'ers generally means three things:

First is the *accounting logic of real-world transactions*. Every transaction in a real-world economy affects financial statements of those engaged, and if an economic theory or a posited model is not consistent with how real-world financial statements are affected, then the theory is inapplicable. A typical example used by MMT'ers is a framework used in mainstream economics, the so-called loanable funds market. It posits a demand for loanable funds and a supply of loanable funds available for the macroeconomy, and contains classic supply-demand curve assumptions from goods markets, that higher prices (in this case interest rates) will elicit more "supply" (as in investors will divert more funds from other uses, such as risky venture investments, and make them available for lending). This model is simply inapplicable to our current monetary system in which empirical studies have demonstrated that banks create loans "out of thin air" without the requirement of prior reserve balances or deposits to "fund" the loan's creation. Completely contrary to the loanable funds model, in fact, the vast majority of bank liabilities have been created by banks simply growing their balance sheets through loans and asset purchases. Similarly, there are macroeconomic accounting identities, such as the often-cited sector financial balances equation in which the domestic private sector's net saving of financial assets is by definition equal to the government sector's deficit and the current account balance (see [here](#), [here](#), and [here](#) for further discussion). MMT'ers understand very well that an accurate understanding of accounting is not in itself a theory.

However, any relevant theory simply must be consistent with real-world accounting as a very basic criteria, and furthermore it is just this sort of base level understanding of accounting that is quite often absent from economic theories and how both the public and policymakers discuss and understand economics. In other words, our focus on accounting is anything but trivial in the current environment—it's like the adage about being able to crawl before you walk, and as such it's no wonder that the economics profession as a whole continues to trip over itself when it comes to understanding the monetary system.

The second part of *operational realities* is the *tactical logic for operations necessary to achieve particular, fundamental ends given a particular monetary regime*. Different monetary regimes have different operational realities—the currency issuer has a different operational reality from currency

users; a central bank under a gold standard has different operational realities than a central bank under flexible exchange rates. The tactical logic of operations as employed by MMT'ers is (a) general, in the sense that the purpose is to consider a "pure" fiat system under flexible exchange rates, or a state government that is a currency user, and so forth—in a *general* sense, not specifically referring to any particular nation or state, and (b) particularly concerned with a hierarchy of authority and thus a [hierarchy of "money"](#).

Regarding (a), for example, it is recognized that under a monetary regime other than gold standards or currency boards, the central bank is able to expand its balance sheet to enable smooth functioning of the retail and wholesale payments systems. Even in this case, though, the operational logic of interbank markets means that for the central bank to achieve its target rate in the absence of interest on reserves at the target rate, it must offset any changes occurring to its own balance sheet (i.e., an increase in currency that by accounting identity drains bank reserve accounts) that are inconsistent with banks' desired reserve holdings at the central bank's target rate. As for (b), it is recognized that different monetary regimes leave institutions occupying different spaces within the hierarchy of money—a currency-issuer government under flexible exchange rates sits at the top of the hierarchy, whereas under a gold standard or a currency union its place would be lower in the hierarchy.

The third aspect of *operational realities* is *what is not possible given the accounting and the tactical logic*. A good example here is the traditional money multiplier model that assumes central banks target reserve levels or the monetary base in order to target a monetary aggregate via a money multiplier. But the money multiplier gets both the accounting logic and the tactical logic of the monetary system wrong. For the former, as noted above, loans create deposits and the creation of more bank liabilities does not require that banks hold more reserve balances; banks do use reserve balances to settle payments and meet reserve requirements, but the quantity of reserve balances held for these purposes is mostly unrelated to growth in monetary aggregates. For the latter, absent interest on reserves at the target rate, a central bank would not be able to achieve its target rate if it employed the money multiplier model and tried to directly target reserves (and, by extension, the monetary base, as again according to tactical logic of the monetary system the currency component of the monetary base is set by the public's portfolio preferences). Instead of the money multiplier, a proper understanding of the operational realities of the monetary system demonstrates that central banks—as monopoly suppliers of reserve balances to the banking system—must set an interest rate target (or, in the case of the Fed during 1979-1982, an operating range for the target rate) but can only directly target the quantity of reserves if the target rate is set equal to the central bank's remuneration rate on reserves.

While there is over 20 years of MMT literature published in books, refereed journals, and in working papers available all over cyberspace (though most can be found at [CFEFS](#), [CofFEE](#), the [Levy Institute](#), and [MoslerEconomics](#)) it's only recently that we began blogging, and it is clear that many commenters on MMT-related posts are largely unaware that this extensive literature exists and serves as the basis for our blogposts that are by necessity less detailed. Indeed, over the past 10-15 years, I have personally waded through all of the publications from various official sources on the (relevant-to-MMT aspects of the) monetary system's functioning that I could get my hands on and have found nothing that is inconsistent with how MMT describes it. We have had numerous conversations with individuals responsible for Fed operations, Treasury operations, and relevant parts of the financial system, and cannot recall any significant disagreements there, as well. It is interesting to note that an increasing number of neoclassical economists are publishing research describing the monetary system in a manner consistent with MMT (without appropriate attribution, usually), though these descriptions have yet to make their way into neoclassical models of the macroeconomy.

Particularly where the operational realities of the Treasury's actions are concerned, blogposts by MMT'ers can be met with dissenting comments. A good deal of this is because the MMT understanding of the operational realities of the monetary system is completely counter to that of the neoclassical economics that most learn. But another reason is that a number of people appear to confuse the MMT description of the operational realities of the monetary system with procedures self-imposed by existing laws and/or regulations.

A case in point is a paper by Stephanie Kelton titled "[Can Taxes and Bonds Finance Government Spending?](#)" This paper is a classic in the MMT literature first published in 1998. The main points of Kelton's paper are entirely related to operational realities of the existing monetary system: (1) Given the accounting logic of the Fed's balance sheet, changes to the Treasury's account affect the quantity of reserve balances circulating—that is, government spending creates reserve balances, taxes and bond sales destroy them; (2) Given the tactical logic of the Fed's operations to achieve an interest rate target, flows to/from the Treasury's account must be offset; (3) Consistent with the tactical logic of the Fed's operations, calls/adds to/from the Treasury's tax and loan system are universally understood to be monetary operations to minimize the influence of flows to/from the Treasury's account on the Fed's operations—essentially reducing the complexity of the Fed's daily operations, particularly given the Treasury's assumed superior ability to forecast its own account balance; (4) Bond sales are much like calls from the tax and loan accounts—monetary operations—since if the Treasury doesn't sell bonds, the Fed must be able to hit its fed funds rate target; (5) Given the hierarchy of money, it is not the Treasury that *needs* the reserve balances to spend—indeed, as Kelton put it, the very act of paying taxes (when the taxpayer's bank settles with the Treasury) or purchasing a Treasury security is also the "destruction" of reserve balances, while (6) the act of government spending is the *creation* of reserve balances.

Having said that, MMT'ers are keenly aware that governments can and do write laws that their treasuries' *operations* be legally bound in certain ways. For instance, the Fed is constrained by law to only purchase Treasury securities in the "open market," is thereby forbidden from directly lending or providing overdrafts to the Treasury. In other words, "specific" cases can and do differ from the "general" case MMT'ers describe for a sovereign currency issuer under flexible exchange rates *in the sense* that self-imposed constraints specify particular *operations*. But, this does not mean that the *operational* function of the Treasury's bond sales to aid the Fed has changed—to the contrary, with or without legal prohibition of overdrafts for the Treasury's account, either the Fed or Treasury must offset flows to/from the Treasury's account to achieve the Fed's target rate (with the caveat that interest on reserve balances can potentially eliminate this necessity).

The overarching point here is to recognize who sits at the top of the hierarchy of money for a given monetary regime. Since under flexible exchange rates it is the currency issuing government, self-imposed constraints are simply that—*self-imposed* and not *operational*. For MMT'ers, concerns that a nation cannot "afford" to put idle capacity to use through tax cuts or appropriately targeted spending (i.e., NOT bailouts of the financial system or pet political projects—MMT'ers dislike those as much as anyone) are akin to a person with his/her shoes tied together concerned that he/she can't run. Indeed, it is the very fact that such self-imposed constraints can be and have been disregarded in the past when it has been deemed desirable (e.g., the law requiring that the Fed only purchase Treasury obligations in the open market has been periodically relaxed) that demonstrates who is in charge—as Marshall Auerback recently [put it](#), particularly where fiscal actions, such as military appropriations in a time of war, are deemed important, "we don't go to China to give them a line-item veto for what we can and can't spend. We just spend the money."

The self-imposed constraint for a sovereign currency issuer is thus clearly quite different from the constraints on, say, households or firms or even state governments, which truly do not operationally or otherwise have the ability to issue a non-convertible currency—these entities can most definitely find themselves in the metaphorical position of having their shoes tied together and no ability to run, or walk for that matter, as the constraints are obviously not merely self imposed. This is not the case for the sovereign-currency issuer—if it pretends that its self-imposed constraints are of the same character as operational constraints on households or state governments, the result can be involuntary unemployment, retirees below the poverty line, military defeat, and so forth. In other words, while the ability to “just spend the money” is recognized in times of war or when a financial bailout is deemed necessary (by politicians, at least), MMT’ers want it to be just as obvious when the issue at hand is involuntary unemployment, crumbling infrastructure, children or retirees living below the poverty line, a major city devastated by natural disaster, and so forth. Please note that this is not to say that such a government should always spend simply because it can *operationally*—that would be ridiculous—but, rather, that there is no such thing as it not being able to “afford” to put idle capacity to work; the appropriate constraint to consider is whether there is idle capacity in the first place, while also recognizing the obvious point that not all fiscal actions are equally efficient.

This all leads me to the often noted MMT point that “spending comes *before* tax revenues are received or bond sales.” If one expands this a bit to include loans from the Fed, then this statement is absolutely correct in terms of the operational realities of the monetary system. That is, according to both the tactical and accounting logics, taxes credited to the Treasury’s account and the settlement of Treasury bond auctions can only occur via bank reserve accounts, while the original source of banks’ balances in their reserve accounts can only be previous government deficits (which are net credits reserve accounts) or loans from the Fed (repos, loans, purchases of private securities, or overdrafts—note that an outright purchase of a Treasury security by the Fed to add reserve balances requires a previous government deficit). Therefore, it very much is the *operational reality* that for taxes to be paid or bonds to be settled, there has to have been previous government spending or loans from the Fed to the non-government sector, and this is true whether or not the Fed is legally prohibited from providing overdrafts.

However, the statement that “deficits or Fed lending logically precede tax payments and bond sales” should not be interpreted as “MMT’ers think there is no legal obligation that the Treasury have balances in its account before it spends or are otherwise ignoring the existing law prohibiting Fed overdrafts for the Treasury.” As I noted above, it is clear that the Fed cannot legally provide overdrafts to the Treasury, and every MMT’er does in fact understand this—the key is to understand what “deficits or Fed lending logically precede tax payments and bond sales” does and does not mean. That is, when MMT’ers say the latter, they are effectively saying “deficits or Fed loans logically precede taxation and bond sales as an operational reality of the monetary system” (the *general* case), and this and the statement “the Treasury must have positive balances in its account prior to spending under current law” (the *specific* case) are in fact not mutually exclusive. Both can be and are true—the government can and does require itself through its own self-imposed constraint to obtain credits to its own account at the Fed that were created via previous deficits or Fed lending before it spends again.

Finally, to fully understand the operational realities associated with the Treasury’s account at the Fed, it must be recognized that the lowest rate the Treasury would reasonably expect to pay on the national debt in the case of overdrafts on its account would be the Fed’s target rate. Operationally, the Fed would have to pay interest on reserve balances at its target rate or otherwise offer its own time deposits at competitive rates in line with the current and anticipated target rates to drain the reserve balances and achieve its target rate (in the case that the remuneration rate on reserve balances is below the

target rate or even zero), both of which reduce the Fed's profits returned to the Treasury and act functionally like debt service for the Treasury. The situation is unchanged even if the Treasury deficit spends via a "helicopter drop" of pure cash or coins, since the private sector will deposit the vast majority in banking accounts, and banks will return excess vault cash to the Fed in exchange for reserve balances.

One can then think of three different degrees or "forms" (to borrow the taxonomy used by financial economists in describing the efficient markets hypothesis) related to deficits and interest on the national debt for a currency issuer under flexible exchange rates. The "strong form" deficits would be where the Treasury has an overdraft or similar at the Fed and interest on the national debt is essentially at the Fed's target rate or on average a bit higher if the Fed issues time deposits to drain reserve balances. While the "strong form" is operationally "pure," it is again obviously not current law in the US. The "semi-strong form" deficits would be where the Treasury is not provided with overdrafts and must issue its own securities to have positive balances in its account before spending again while the securities issued—given their zero-default-risk that results from operational realities and the fact that any "constraint" on the Treasury is self-imposed—mostly arbitrage with the Fed's target (for short-term Treasuries) and the expected target rate (for longer-term Treasuries) aside from some technical effects (like convexity) and some demand/supply issues (like maturity and liquidity at different maturities). Examples of the "semi-strong form" would be [here](#) and [here](#). The "weak-form" deficits would consider that bond markets might at some point choose to repudiate even a currency-issuer's debt with zero default risk (the "semi-strong form" does, too, but presumes the effect is temporary as arbitrage relationships would over-rule at least in the medium-term), but recognizes that the Fed always has the ability to set the market rate on Treasuries as long as it is willing to buy all quantities offered at its bid price (and has no operational or even legal constraint for doing so). Examples would be the Fed's "[Operation Twist](#)" or the Fed prior to the Treasury Accord, or in the non-currency issuer case, consider how the recent EMU crisis quickly faded once the ECB began purchasing the debt of troubled member nations.

All three forms, while different in degree, agree that the interest on the national debt for a sovereign currency issuer under flexible exchange rates is a policy variable—not a market-set rate—or at the very least *could be* if the government so desires. And note that this is the case whether or not the Treasury receives overdrafts at the Fed. In other words, since the outcome is roughly the same in all three cases, it really doesn't matter if the Treasury receives overdrafts in its Fed account or not—if it can sell its debt at roughly the Fed's target, then there is no economically meaningful difference from the Treasury's perspective between the government enabling itself to obtain an overdraft and the government forbidding itself from doing so. That self-imposed "constraint" is really not a constraint at all even if it is never abandoned.