On modern monetary theory

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"No nation ha[s] ever defaulted in its own currency when it was not legally convertible into gold or anything else."
~ Warren Mosler

Modern monetary theory ("MMT") claims to describe the monetary reality of the United States and other monetary sovereigns in the post-Bretton Woods era. It seeks to distinguish between what MMT theorists consider self-imposed constraints in the economy (i.e., debt and deficits), vs. real limits such as inflation. The most important premise on which the theory rests is that a monetary sovereign can always repay debt denominated in its own fiat currency by printing money, and effectively remain in control of its own interest rate.

Consequently, MMT argues a wider array of economic policies are available to governments, including increasing debt and deficits to improve the economy through greater fiscal spending while using taxation as a "brake" on the economy should inflation become a problem. MMT theorists argue that policymakers should unshackle from their legacy Bretton Woods biases and instincts. And at its core, MMT appears politically intertwined, including the idea of wealth distribution through fiscal spending.

The COVID-19 pandemic has brought MMT to the fore, given the need for massive fiscal stimulus to support individuals and businesses during self-imposed lockdowns, begging the question of how these deficits can be funded and whether they'll usher in an era of higher inflation. In this paper, we explore the evolution of MMT and the notable economic ideas on which it is based. We highlight some of the notable criticisms and discuss some of the implications of MMT for economic policy and financial markets. The purpose of this paper is less focused on opining whether MMT is fundamentally sound, but rather aimed at understanding MMT's development and how the ground may shift if indeed MMT-based policies are more widely embraced.

(And before we begin, we should acknowledge that the epigraph above isn't technically true. According to credit ratings agency Fitch, there have been 11 such defaults since 1994. But upon closer inspection, the list of countries, which includes the likes of Venezuela and Ukraine, would hardly be considered true monetary sovereigns.[1] The more appropriate claim is questioning whether a monetary sovereign has ever defaulted on bonds issued in its own currency.)

Chartalism

"Money is a creature of law."
~ Georg Knapp

In his 1905 book, *The State Theory of Money*, Georg Friedrich Knapp philosophizes on the system of money, questioning the idea that the value of money rests on its use as a medium of exchange in favour of the notion that monetary value is simply delivered by proclamation of the State of its legal tender.[2] The word *chartalism* is derived from the Latin "charta" (papyrus/paper) to describe these "pay-tickets," which we commonly refer to today as fiat currency.

Prophetically, Knapp outlined his theory for the evolution of monetary systems in sequenced order: 1) use of money where there is "always material for payment" (e.g., gold); 2) formed money by proclamation of the State; 3) fiat money, where the "material for payment" outright disappears.

Consider how this has played out in the United States. The gold standard was established in 1834, and lasted nearly a century (with brief interruptions) before Roosevelt eliminated the convertibility of the dollar to gold, domestically, in 1933. The United States remained on the gold standard, externally, with foreign countries. In 1934, the U.S. dollar was devalued and fixed at $35 per ounce. In 1944, the Bretton Woods agreement solidified the gold-backed system internationally, pegging other currencies to the U.S. dollar. In 1971, Nixon broke the gold standard in order to finance the Vietnam war, eliminating the U.S. dollar's link to gold entirely. Though Knapp died in 1926, his ideas played out sooner and on a grander scale than he probably could have imagined.

The foundation of MMT is built upon a chartalist, post-Bretton Woods world. A monetary sovereign's ability to print currency in order to direct the allocation of resources first hinges on the untethering of that currency from underlying material value, and the inability to substitute to another currency that competes with the State.

Credit theory

Imagine Crista shovels Grayson's driveway after it snows. Rather than pay "money" for this service, Grayson gives Crista an IOU. The transaction creates both a credit and a debit. Further imagine that Crista could transfer this IOU, making it universal, whereby Grayson now owes a third party. Viewed through this credit/debit lens, wealth resides not in money itself, but in the claim on a transaction.

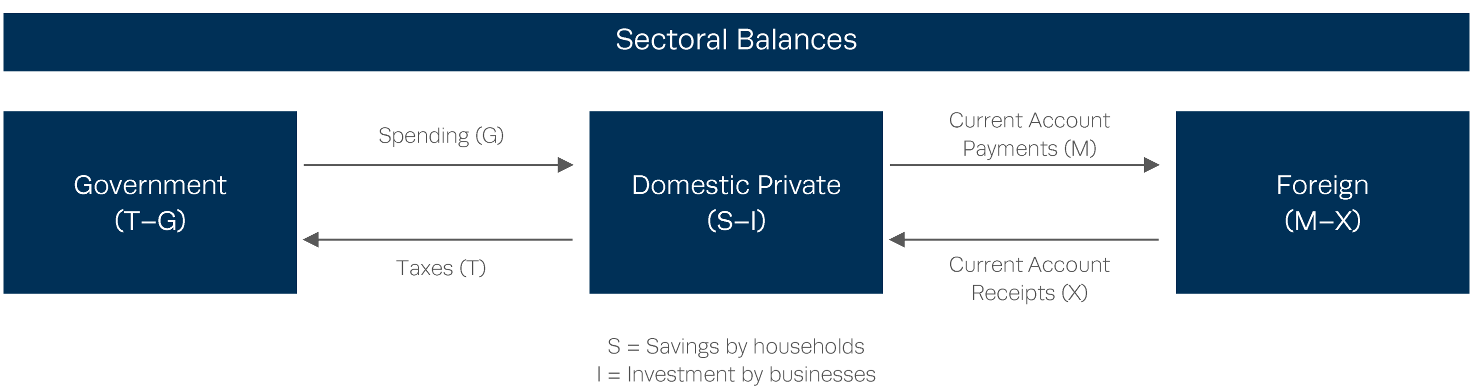
This is the central point in early 20th century British diplomat and economist Alfred Mitchell-Innes' Credit Theory of Money, written in 1914:

The Credit Theory is this: that a sale and purchase is the exchange of a commodity for credit. From this main theory springs the sub-theory that the value of credit or money does not depend on the value of any metal or metals, but on the right which the creditor acquires to "payment," that is to say, to satisfaction for the credit, and on the obligation of the debtor to "pay" his debt and conversely on the right of the debtor to release himself from his debt by the tender of an equivalent debt owed by the creditor, and the obligation of the creditor to accept this tender in satisfaction of his credit.[3]

The credit theory posits that money is not so much a medium of exchange as it is a standard of deferred payment. This concept is important for MMT in understanding that increased deficit spending creates both a debit *and* a credit.

Sectoral balances

For MMT theorists, British economist Wynne Godley's work on sectoral financial balances builds on Credit Theory. The sectoral balances identity is analogous to the law of conservation of energy; in a closed system, energy simply doesn't disappear and neither does spending that results from a government deficit.



Identity: Must hold true by definition
$(T-G) + (S-I) + (M-X) = 0$

Source: Wynne Godley, Levy Institute, "Some Unpleasant American Arithmetic" (June 2005)

Axiomatically, a government deficit (debit) creates a non-government surplus (credit). In *The Deficit Myth*, economist and MMT proponent Stephanie Kelton argues, perhaps oversimplifying, that “deficit spending increases our collective savings.”[4] MMT underlines that a deficit isn’t intrinsically bad; rather, it simply shifts to another part of the aggregate balance sheet.

Sequence of transactions

One of the most counterintuitive ideas from MMT is the chartalist belief that currency didn’t evolve from barter, but rather that taxes exist to create demand for currency. Economist Warren Mosler explains by analogy in his book *Soft Currency Economics II: What Everyone Thinks They Know About Monetary Policy is Wrong*:

The concept of Fiat Money can be illuminated by a simple model: Imagine a world of a parent and several children. One day the parent announces the children may earn business cards by completing various household chores. At this point, the children won’t care a bit about accumulating the parent’s business cards, because the cards are virtually worthless. But when the parent also announces that any child who wants to eat and live in the house, must pay the parent, say, 200 business cards each month, the cards are given value and the chores instantly get done. Value has been given to the business cards by requiring them to be used to fulfill a tax obligation.” [5]

Reconsidering the sequence of transactions suggests the Bretton Woods (or household) mental model of transactions—borrow first to spend later—should be turned on its head. Spending creates economic activity, funded by “business cards” or fiat debt.

Taxation

“Whenever a tax is imposed, each taxpayer becomes responsible for the redemption of a small part of the debt which the government has contracted.”
~ Alfred Mitchell-Innes

For monetary sovereigns not beholden to an external power, the value of an asset or liability is intrinsically linked to the claim of a transaction, and the State always has the final right to such a claim. After all, in opening up a debit, a credit is created which the monetary sovereign has the ability to tax.

Importantly, MMT holds that tax levies can be used to manage the economy. If inflation increases because there are too many credits outstanding, monetary sovereigns can simply levy taxes to redeem credits and retire debits. It is this special right which sets monetary sovereigns apart from the family household.

MMT thereby acknowledges that inflation is the real constraint on the economy.

Employer of last resort

One policy idea stemming from MMT is the concept of an employer of last resort. This idea might have originated from Hyman Minsky, who in a 1965 paper, “The Role of Employment Policy” asks: “*Are there any serious barriers to using expansionary aggregate demand policies to achieve tight full employment?*”[6]

MMT envisions the government as an employer of last resort, and that this function can act as a natural stabilizer for the economy. It is possible that fear of the Phillips curve (the inverse relationship between inflation and unemployment) and Milton Friedman's influential concept of the NAIRU, or non-accelerating inflation rate of unemployment, are unnecessary and mistaken barriers to achieving better policy outcomes. “Tight full employment” could be achieved through deficits, as monetary sovereigns can’t go broke printing their own currency. Inflation is the real constraint on the economy, and it can simply be managed through taxes.

Minsky later concludes: "Work should be made available to all who want work at the national minimum wage."[6]

Summary of MMT beliefs and assumptions

For clarity, below is a recap of some of the key MMT assumptions and beliefs.

- Monetary sovereigns can't default.
- Monetary sovereigns can't lose control of their interest rate.
- Monetary sovereigns can spend first and remove dollars later.
- Bond sales aren't important to finance deficits for monetary sovereigns.
- The NAIRU is not a real limit.
- Inflation and resources—not government debt/deficits or growth/interest rates—are the real limits on an economy.
- Taxation can control inflation.
- There should be an employer of last resort.
- A budget constraint should be replaced by an inflation constraint.

What do the critics say?

"Just as the Holy Roman Empire was neither holy, nor Roman, nor an empire, modern monetary theory, or MMT, is neither modern, nor mostly about money, nor a theory."
~ James Mackintosh, WSJ

MMT certainly has many critics, with Larry Summers comparing MMT to the equivalent of voodoo economics. He rejects the notion that the government can finance deficits at little cost, and points to the hyperinflationary experience of those emerging markets countries that have effectively practiced MMT as a real risk. Another lesson from such real-world examples that Summers highlights is that most economies are not closed: MMT would precipitate a collapse in a country's exchange rate, exacerbating inflation and interest rates beyond what might be manageable through MMT's favoured taxation lever, not to mention the economic impact of capital fleeing the country.[7]

Other critiques lean political, with wealth redistribution a policy outcome through increased fiscal spending. And as MMT effectively swaps/merges the role of monetary policy for one of fiscal policy to manage the economy, the risk is that this consolidation of power for policy makers may ultimately provide incentives to seek control through this new power.

Finally, MMT may overestimate the economic impact from money creation, downplaying the importance of capital resource allocation. It is far from certain that deficit spending will result in effective capital allocation.

In the end, to quote Summers: "for neither the right nor the left is there any such things as a free lunch."[7]

So What?

The analysis of MMT raises questions relevant to the entire financial system. The most basic are difficult to answer: Do central banks or financial markets set interest rates in the bond market?

It is possible that 2008 marked a mutation in the evolution of money, building on what Knapp proposed in 1905. The innovation of quantitative easing (QE) made it possible to control a country's yield curve, as central banks simply printed money and bought bonds in the market, depressing longer-dated bond yields. Voila! What resulted was not simply a low overnight rate, but crucially lower bond yields further out the curve. Perhaps this was the last step in liberating money.

But why hadn't this been done before?

QE wouldn't have been possible under the gold standard or the Bretton Woods system. It requires an untethering of the currency. This makes QE possible in the United States as early as the 1970s, but at the time, inflation was a problem. Buying back bonds would have pushed capital back into the system to compete for resources in the economy: oil, labour, land, etc. That competition for scarce resources would have been inflationary when inflation was already a problem. Why then isn't inflation a problem since the introduction of QE?

If central banks are flushing the system with capital without prompting inflation, the system is saying it doesn't need capital. We still don't know exactly why. Possible explanations include a greater preference for savings over consumption (Rajnish Mehra and Edward Prescott[8]), a demographic bulge impacting the supply of capital and aggregate demand (Peter Zeihan[9]), an already fully levered economy restricting expansion (Ray Dalio), peak capital suggesting we've already built most everything we need (Thomas Piketty[10]), and deflationary pressures stemming from technological innovations such as the Internet. While no one theory has been proven, the inductive evidence is clear: inflation has been tame, and the natural rate of interest has been declining.

Relaxing the constraints of a tethered currency and inflation, it would appear, have allowed some monetary sovereigns to print money to implement QE and, to varying degrees based on policy choice, control their yield curve. While it is tempting to label MMT as heresy, critics focused on the ideas that monetary sovereigns can't simply fund themselves, can't set interest rates at zero to maintain high and increasing debt loads, and can't manage the inflationary impact of increased debt have trouble explaining some recent phenomena. Why have many countries around the world been able to maintain yields on longer-term bonds below zero? Why has Japan been able to implement yield curve control, despite dismal GDP prospects and a high and increasing government debt load? Where are all the bond vigilantes to keep these governments in check? These questions don't prove the tenets of MMT, but they are certainly worth pondering.

Suppose the inflationary environment remains constant and monetary sovereigns do control their yield curves. Do governments fully understand they possess such powers? Or are they entrenched in gold standard and Bretton Woods modes of thinking? After all, what motivation would any government have for paying interest at all, if it could be substituted for some fiscal public good that would appeal to the hearts of the voting masses, as opposed to the heads of a select few. Perhaps as memories of the Arab oil embargo and the Volker era dissipate, so too will the associated mental models that have proven constraining.

Where would this leave monetary sovereign bond markets? The trend seems dismal. With newfound financial repression the norm, bond markets are hardly savings instruments but dinosaurs of a different world. Some bond markets could provide narrow savings opportunities, at risk from any minor surge in inflation. Others, devoid of value, retain yields pinned at zero or worse.

Finally, there is an existential question for bond markets. It is perhaps not an absurd thought that where inflation is controlled in a post-Bretton Woods world and central banks manage the entire yield curve, the bond market simply becomes an illusion. Why attend the magic show if you already know the trick? Bonds may become a relic of the past. As an example, the COVID-19 pandemic prompted the UK to bypass the bond market entirely when the Bank of England agreed to (temporarily) directly finance the Treasury to fund the costs of fighting the virus and provide near-term fiscal stimulus. It is possible that governments may increasingly disintermediate the bond market; the death of the bond standard may be nigh.

Do equity markets fully understand central banks possess the power of yield curve control? Is this priced in? Should discount rates be built off of observed inflation rather than bond yields? Market participants are quick to claim limits to valuation, with noble commentary about intrinsic value. But aggregate valuation is more akin to a residual, like the water level in a bathtub containing toy boats. Add an object, the water will be displaced and all boats will be lifted. If the world has limited inflation, and if bonds, for practical purposes, are disintermediated, what are the valuation effects on other asset classes? Capital market participants may come to see reinvestment risk rival the risk of permanent impairment of capital, while growth vs. value style arguments may be replaced by refinement in the measurement of equity duration of portfolios.

The Copernican principle

Copernicus delayed publishing his heliocentric model of the solar system until the year of his death, for fear of what the model implied: that the Earth, and humans, are not the centre of the solar system and do not occupy a privileged position in the universe.

The resulting mindset is one that has been instrumental to scientific advancement ever since. Science is fragile: perceived knowledge must be consumed with humility. Error is the cousin of ignorance and one must consider the possibility that alternative ideas might better represent the "truth."

With respect to modern monetary theory, maybe the ball game is in its early innings. Or maybe the game gets rained out.

End notes

[1]Gianviti, Francois *"Current Legal Aspects of Monetary Sovereignty"* IMF, (2004):

> *The definition of a monetary sovereign includes: "three exclusive rights for a given state: the right to issue currency, that is, coins and banknotes that are legal tender within its territory; the right to determine and change the value of that currency; the right to regulate the use of that currency or any other currency on its territory."*

[2]Knapp, Georg Friedrich "The State Theory of Money" 1905; Martino Fine Books; Illustrated edition (Oct. 1, 2013).

[3] Mitchell-Innes, Alfred "Credit Theory of Money" *The Banking Law Journal,* Vol. 31 (1914), Dec./Jan., Pages 151-168.

[4] Kelton, Stephanie "The Deficit Myth: Modern Monetary Theory and the Birth of the People's Economy" PublicAffairs, (June 2020).

[5] Mosler, Warren "Soft Currency Economics II: What Everyone Thinks They Know About Monetary Policy is Wrong" Valance Co., (1996 and 2013).

[6] Minsky, Hyman P. Ph.D., "*The Role of Employment Policy*" (1965). Hyman P. Minsky Archive. Paper 270

[7] Summers, L. (2019) "The Left's Embrace of Modern Monetary Theory Is a Recipe for Disaster." *Washington Post* (March 4).

[8] Mehra, Rajnish; Edward C. Prescott "The Equity Premium: A Puzzle" *Journal of Monetary Economics* (1985).

[9] Zeihan, Peter "The Accidental Superpower: The Next Generation of American Preeminence and the Coming Global Disorder" Twelve; Illustrated edition (Feb. 23, 2016)

[10] Piketty, Thomas "Capital in the Twenty-First Century" Harvard University Press (English Translation) (April 2014).

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