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# Keynes after 75 Years: Rethinking Money as a Public Monopoly

by

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## **ABSTRACT**

In this paper I first provide an overview of alternative approaches to money, contrasting the orthodox approach, in which money is neutral, at least in the long run; and the Marx-Veblen-Keynes approach, or the monetary theory of production. I then focus in more detail on two main categories: the orthodox approach that views money as an efficiency-enhancing innovation of markets, and the Chartalist approach that defines money as a creature of the state. As the state's "creature," money should be seen as a public monopoly. I then move on to the implications of viewing money as a public monopoly and link that view back to Keynes, arguing that extending Keynes along these lines would bring his theory up to date.

**Keywords:** Money; Public Monopoly; Monetary Theory of Production; Keynes; Marx; Veblen; Knapp; Chartalism

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## INTRODUCTION

In this chapter I first provide an overview of alternative approaches to money, then focus in more detail on two main categories: the orthodox approach to money that views money as an efficiency-enhancing innovation of markets and the Chartalist approach that sees money as a creature of the state. I then move on to a brief examination of the implications of viewing money as a public monopoly. I then link that view back to Keynes, arguing that extending Keynes along these lines would bring his theory up to date.

## ALTERNATIVE APPROACHES TO MONEY

No matter how hard macroeconomics tries to keep money in the background, it refuses to play its assigned role as a neutral veil. Indeed, many of the most important debates—including the divisions between schools of thought—were driven by differences of opinion over money’s role in the economy. To be sure, postwar ISLM Keynesians gave monetary policy a backseat; however, insatiable desire for money results in recessionary liquidity traps that can be resolved only through appropriate fiscal expansion. In Milton Friedman’s hands, money (and bad monetary policy) was said to be the cause of all inflations and depressions. Robert Lucas claimed monetary surprises lead optimizing agents to take extended vacations, standing on line for hand-outs of soup and bread as equilibrium GDP falls until nominal prices adjust.

Turning to the latest fads and fancies, in the New Monetary Consensus, only careful monetary management can align market interest rates with natural rates to achieve potential GDP. Money plays an important role even in Real Business Cycle theory—sort of like the dog that doesn’t bark in a detective novel—becoming so irrelevant that one wonders why the representative agent who is optimizing her consumption through time bothers with it. Self-styled “rigorous” explications invent highly implausible *deus ex machina* requirements, such as “cash in advance,” to find room for money in models that do not need it.

And yet many economists who let money play an explicit and prominent role in their theories are dismissed as “monetary cranks” and find their names listed in the

Palgrave dictionary under that heading. Or they are relegated to the fringes of the discipline in the Austrian school or among the ranks of gold bugs decrying fiat money and calling for a return to sound money.

There are three notable economists who openly embraced money's importance: Marx, Veblen, and Keynes. Each of these, in his own way, argued that money is the *purpose* of production—that the production process itself begins and ends with money (Dillard 1980). Keynes, indeed, called his approach a “monetary theory of production.” There is a long tradition of followers of that tradition, many of whom fall within the Post Keynesian camp; others include the Circuitistes and the Institutionalists (particularly the American variety—who find a similar approach in Veblen's theory of business enterprise). The best known advocate of this alternative interpretation is Davidson (1978), who focuses on money's “peculiar” characteristics from Keynes's chapter 17 and on the importance of decision making in conditions of uncertainty. This is by now so well known among heterodox economists that I do not wish to pursue it further.

Another tradition extends Keynes's analysis to develop an endogenous money approach. Here, Moore (1988) is most representative, who argues that we should think of the supplies of reserves and money as horizontal. Circuitistes have also adopted horizontalism in their analysis of creation and destruction of money at the beginning and end of the circuit, respectively—building on Schumpeter's work, but without the dynamic innovation for which he is justly famous. Again, this literature is well-developed and requires no further comment here (Graziani 1990).

A more recent extension of Keynes has been in the direction of Knapp's state money approach, or what is also called Chartalism (or in the UK, Cartalism). This chapter adopts Chartalism, however, I do not wish to simply repeat work that has been carried on over the past 15 years. Instead, I will argue that if we recognize that the money of account is chosen by the state, and that only the state can issue domestic currency, then we should view “money” as a public monopoly. We can apply the theory of public monopolies to money to provide an alternative view of its source and importance in the modern economy.

## **BRIEF OVERVIEW OF THE ARGUMENT: MONEY IS A GOVERNMENT, NOT A PRIVATE, CREATION**

In this chapter I argue that the reason both theory and policy get money “wrong” is because economists and policymakers fail to recognize that money is a public monopoly. In this section I will very quickly contrast the orthodox view that money was an invention of private markets that had relied inconveniently on barter with a Chartalist view that money is a creation of the state.

Much has already been written on this, and I find the Chartalist view to be consistent with the historical record, such as it exists. I admit that there are—and will always be—gaps in our knowledge of money’s origins. Hence, it is not my purpose to use historical evidence to challenge orthodoxy. Rather, what follows should be seen as following the spirit of the “story” of money presented in textbooks—not claiming it to be historically accurate but rather providing a framework for understanding something about money’s nature (Innes 2004a, 2004b).

Conventional wisdom holds that money is a private invention of some clever Robinson Crusoe who tired of the inconveniences of bartering fish with a short shelf-life for desired coconuts hoarded by Friday. Self-seeking globules of desire continually reduced transactions costs, guided by an invisible hand that selected the commodity with the best characteristics to function as the most efficient medium of exchange. Self-regulating markets maintained a perpetually maximum state of bliss, producing an equilibrium vector of relative prices for all tradables, including the money commodity that serves as a veiling numeraire.

All was fine and dandy until the government interfered, first by reaping seigniorage from monopolized coinage, next by printing too much money to chase the too few goods extant, and finally by efficiency-killing regulation of private financial institutions. Especially in the United States, misguided laws and regulations simultaneously led to far too many financial intermediaries but far too little financial intermediation. Chairman Volcker delivered the first blow to restore efficiency by throwing the entire Savings and Loan sector into insolvency, and then freeing thrifts to do anything they damn well pleased. Deregulation morphed into a self-regulation movement

in the 1990s on the unassailable logic that rational self-interest would restrain financial institutions from doing anything foolish.

This was all codified in the Basel II agreement that spread Anglo-Saxon anything goes financial practices around the globe. The final nail in the government's coffin would be to tie monetary policymaker's hands to inflation targeting, and fiscal policymaker's hands to balanced budgets to preserve the value of money. All of this would lead to the era of the "great moderation," with financial stability and rising wealth to create the "ownership society" in which all worthy individuals could share in the bounty of self-regulated, small-government capitalism. (In Euroland, the reigns were even tighter, as fiscal policy was irretrievably separated from national currencies by adoption of the euro—creating an additional bulwark against government's natural propensity to create inflation.)

We know how that story turned out. In all important respects we managed to recreate the exact same conditions of 1929 and history repeated itself with the same results. Take John Kenneth Galbraith's *The Great Crash*, change the dates and some of the names and you've got the *post mortem* for our current calamity. (And in Euroland, the results have been even worse, with markets downgrading governments and imposing austerity that is generating violent resistance movements like nothing seen in the West since the 1930s as the Maastricht criteria not only prevent inflation but also any reasoned response to the crisis [Goodhart 1998].)

What is the Keynesian-Institutionalist alternative? Money is not a commodity or a thing. It is an institution, perhaps the most important institution of the capitalist economy. The money of account is social, the unit in which social obligations are denominated. I won't go into prehistory, but following the great numismaticist, Grierson, I trace money to the wergild tradition—that is to say, money came out of the penal system rather than from markets, which is why the words for monetary debts or liabilities are associated with transgressions against individuals and society (Wray 1998, 2004). To conclude, money predates markets, and so does governmental authority. As Karl Polanyi argued, markets never sprang from the minds of higglers and hagglers, but rather were created by government, often to provision armies (Wray 1990). In any case, we should look for

money's origins in a nonmarket economy, and in institutionalized behaviors that predate markets.

My running hypothesis is that the monetary system, itself, was invented to mobilize resources to serve what government perceived to be the public purpose. If money is a government creation, then we cannot imagine a separation of the economic from the political—and any attempt to separate money from politics is, itself, political. Adopting a gold standard, or a foreign currency standard (“dollarization”), or a Friedmanian money growth rule, or an inflation target is a political act that serves the interests of some privileged group. There is no “natural” separation of a government and its *fiscus* from its money.

The gold standard was legislated, just as the Federal Reserve Act of 1913 legislated the separation of Treasury and central bank functions, and the Balanced Budget Act of 1987 legislated the *ex ante* matching of federal government spending and revenue over a period determined by the heavenly movement of a celestial object. Ditto the myth of the supposed independence of the modern central bank—this is a smokescreen to hide the fact that monetary policy is run for the benefit of particular interest groups (usually, the monied ones).

From inception, then, we can suppose that money was created to give authorities command over socially created resources. We can think of money as the currency of taxation, with the money of account denominating one's social liability. Often, it is the tax that monetizes an activity—that puts a money value on it for the purpose of determining the share to render unto Caesar. The sovereign government names what money-denominated thing can be delivered in redemption against one's social obligation or duty to pay taxes. It can then issue the money thing in its own payments. That government money thing is, like all money things, a liability denominated in the state's money of account. And like all money things, it must be redeemed, that is, accepted by its issuer so that the payer dispenses with her obligation to pay.

As Hyman Minsky (1986) always said, anyone can create money (to be more accurate, money-denominated things), the problem lies in getting them accepted. Only the sovereign can impose tax liabilities to ensure its *sovereign* money things will be accepted. To be sure, power is always a continuum and we should not imagine that

acceptance of nonsovereign money things is necessarily voluntary. We are admonished by the *good book* to be neither a creditor nor a debtor, but (almost?) all of us are always simultaneously debtors and creditors. Maybe that is what makes us human—or at least members of the same family tree as chimpanzees, who apparently keep careful mental records of liabilities, and refuse to cooperate with those who don't pay off debts (Atwood 2008). This is called reciprocal altruism: if I help you to beat Chimp A senseless, you had better repay your debt when Chimp B attacks me.

Similarly, nonmonetary as well as monetary debts and credits are ubiquitous in human societies; perhaps what sets humans apart from other apes is our ability to denominate credits and debts in a representative, universal money of account. Our penal system moved from “an eye for an eye” to monetary fees, fines, and taxes—a leap our ape cousins seem unable to make. And our social system created sovereign power—the ability to impose monetary obligations for imagined transgressions—aided and abetted in the West by religion: we are all from birth guilty and only by payment of tithes can we wash ourselves of our “original sin.” With the rise of democracy, we prefer to believe we impose these obligations on ourselves, accepting taxes as the price of civilization.

## **MONOPOLY MONEY**

In the United States, the dollar is our state money of account and high-powered money (HPM or coins, green paper money, and bank reserves) is our state monopolized currency. We can make that just a bit broader because US treasuries (bills and bonds) are essentially HPM that pays interest (indeed, treasuries are really reserve deposits at the Fed that pay higher interest than regular reserves), so we will include HPM plus treasuries as the government currency monopoly. One must deliver these in payment of federal taxes, which destroys currency. If government emits more in its payments than it redeems in taxes, currency is accumulated by the nongovernment sector as financial wealth.

We need not go into all the reasons (rational, irrational, productive, fetishistic) that one would want to hoard currency, except to note that a lot of the *nonsovereign* dollar-denominated liabilities are made convertible (on demand or under specified



circumstances) to US currency. Hence, it is handy for many economic units to keep currency close at hand to convert their liabilities to currency. Obviously, banks are the best example because demand deposits are convertible on demand.

Since government is the only issuer of currency, like any monopoly government can set the terms on which it is willing to supply it. If you have something to sell that the government would like to have—an hour of labor, a bomb, a vote—government offers a price that you can accept or refuse. Your power to refuse, however, is not unlimited. When you are dying of thirst, the monopoly water supplier has substantial pricing power. The government that imposes a head tax can set the price of whatever it is you will sell to government to obtain the means of tax payment so that you can keep your head on your shoulders or yourself out of jail. Since government is the only source of the currency required to pay taxes, and since at least some people do have to pay taxes, government has pricing power—that is, can set the conditions according to which it will supply the currency.

Just as a water monopolist does not let the market determine an equilibrium price for water, the money monopolist should not let the market determine the conditions on which money is supplied. Rather, the best way to operate a money monopoly is to set the “price” and let the “quantity” float—just like the water monopolist does.

My favorite example is Minsky’s universal employer of last resort (ELR) program in which the federal government offers to pay a basic wage and benefit package (say \$12 per hour plus usual benefits), and then hires all who are ready and willing to work for that compensation (Wray 1998). The “price” (labor compensation) is fixed, and the “quantity” (number employed) floats in a countercyclical manner. With ELR, we achieve full employment (as normally defined) with greater stability of wages, and as government spending on the program moves countercyclically, we also get greater stability of income (and thus of consumption and production).

Unfortunately, government usually does not recognize it operates a monopoly money, believing that it must pay “market determined” prices—whatever that might mean. Unemployment and inflation are the results of this misunderstanding.

## LEVERAGING MONOPOLY MONEY

Following Minsky, I have said anyone can create money. I can issue IOUs denominated in the dollar, and perhaps I can make my IOUs acceptable by agreeing to redeem them on demand for US government currency. The conventional fear is that I will issue so much money that it will cause inflation, hence orthodox economists advocate a money growth rate rule (central bank control over reserves determines private money creation given the deposit multiplier) (Wray 1990). But it is far more likely that if I issue too many IOUs, they will be presented for redemption. Soon I run out of the currency with which I promised to redeem my IOUs and am forced to default, ruining my creditors. That is the nutshell history of most private money creation until the twentieth century—and it remains a relevant story even today. In other words, “markets” would work far better than many free marketeers believe, with redemptions limiting expansion of private money things long before they cause inflation.

But we have always anointed some institutions—banks—with a special relationship, allowing them to act as intermediaries between the government and the nongovernment sectors. Most importantly, government makes and receives payments through banks. Hence, when you receive your Social Security payment it takes the form of a credit to your bank account; you pay taxes through a debit to that account. Banks, in turn, clear accounts with the government and with each other using reserve accounts (currency) at the Fed, which was specifically created in 1913 to ensure clearing at par. To strengthen that promise, we introduced deposit insurance so that for most purposes, bank money functions like government money. We can think of that as leveraging monopoly money—since ultimately it is backed by currency used to clear accounts.

Here’s the rub. Bank money is privately created when a bank buys an asset—which could be your mortgage IOU backed by your home, or a firm’s IOU backed by commercial real estate, or a local government’s IOU backed by prospective tax revenues. But it can also buy one of those complex sliced and diced and securitized toxic waste assets that created all the trouble since 2007. A clever and ethically challenged banker will buy completely fictitious “assets” and pay himself huge bonuses for nonexistent profits while making uncollectible “loans” to all of his deadbeat relatives.

The bank money he creates while running the bank into the ground is as good as the government money the Treasury creates serving the public interest. And that crooked banker will happily pay outrageous prices for assets, or lend to his family, friends, and fellow frauds so that they can pay outrageous prices, fueling asset price inflation. This generates nice virtuous cycles in the form of bubbles that attract more money until the inevitable bust. I won't go into output price inflation except to note that asset price bubbles can fuel spending on consumption and investment goods, spilling-over into commodities prices, so on some conditions there can be a link between asset and output price inflations.

The amazing thing is that the free marketeers want to "free" the "private" financial institutions but advocate reigning-in government on the argument that excessive issue of money by government is inflationary. Yet we have effectively given banks the power to issue government money (since banks have access to the central bank and treasury), and if we do not constrain what they purchase they will fuel speculative bubbles. By removing government regulation and supervision, we invite private banks to use the public monetary system to pursue private interests.

Again, we know how that story ends since we have got both the 1930s and the late 2000s experiences as evidence. Unbridled lending for speculative purposes invites excess and rewards fraud, and is inevitably followed by a crash. That, of course, does not mean that government spending cannot also be too large, or even that its regulation cannot be too constrictive. Finding exactly the right government stance, with it spending just the right amount to move resources to the public sector while leaving sufficient resources for the private purpose and with it regulating just the right amount to let financial institutions finance private activity at a scale commensurate with those leftover resources, is not easy.

To come to a conclusion for this section: the primary purpose of the monetary monopoly is to mobilize resources for the public purpose. There is no reason why private, for-profit institutions cannot play a role in this endeavor. But there is also no reason to believe that self-regulated private undertakers will pursue the public purpose. Indeed, we probably could go farther and assert that both theory and experience tell us precisely the opposite: the best strategy for a profit-seeking firm with market power rarely coincides

with the best policy from the public interest perspective. And in the case of money, it is even worse because private financial institutions compete with one another in a manner that is financially destabilizing: by increasing leverage, lowering underwriting standards, increasing risk, and driving asset price bubbles. Unlike my ELR example above, private lending and spending are strongly procyclical.

These apprehensions are in addition to the usual arguments about the characteristics of public goods and bads that make it difficult for the profit-seeker to capture external benefits, and for the market to force the producer to internalize costs. For this reason, we need to analyze money and banking from the perspective of regulating a monopoly—and not just any monopoly but rather the monopoly of the most important institution of our society.

## **KEYNES AND CHARTAL MONEY**

Many Post Keynesians turn to chapter 17 for the “essential properties” that make money special (Kregel 1976). Keynes argues that part of money’s peculiarity arises from the fact that it has a very small “elasticity of production,” meaning that “the response of the quantity of labor applied to producing it to a rise in the quantity of labour which a unit of it will command” is miniscule (Keynes 1964: 230). By this, Keynes was not arguing for a fixed quantity of money in the face of rising demand for money, but rather saying that an increase of liquidity preference cannot keep labor employed in the production of money. This is why Keynes argues that “[u]nemployment develops, that is to say, because people want the moon; men cannot be employed when the object of desire (i.e., money) is something which cannot be produced and the demand for which cannot be readily choked off” (Keynes 1964: 235).

He concluded that the existence of money is the cause of unemployment, because “in the absence of money...the rates of interest would only reach equilibrium when there is full employment” (Keynes 1964: 235). If money is the ultimate cause of unemployment, why are economies organized around its use? Orthodoxy argues that money originated to reduce transactions costs, in contradiction to Keynes’s proposition that money prevents the economy from operating at its efficient, full-capacity level. That

is, money causes one of the most important inefficiencies there is: failure to achieve full employment.

Keynes clearly thought that money serves a more fundamental purpose than to “lubricate” the market mechanism. In the *General Theory*, he explicitly advanced “the Theory of the Monetary Economy” (Keynes 1964: 293). In his preparation of the *General Theory*, Keynes spoke of the “monetary theory of production,” that would deal “with an economy in which money plays a part of its own... so that the course of events cannot be predicted, either in the long period or in the short, without a knowledge of the behaviour of money between the first state and the last. And it is this which we ought to mean when we speak of a monetary economy” (Keynes 1973a: 408–9).

Long before he wrote the *General Theory*, Keynes tried to explain money’s nature and origins (Ingham 2000). For example, in the *Treatise on Money*, he argued the “money of account comes into existence along with debts, which are contracts for deferred payment, and price lists, which are offers of contracts for sale or purchase.... [and] can only be expressed in terms of a money of account” (Keynes 1930: 3) He distinguished between “money and money of account by saying that the money of account is the description or title and the money is the thing which answers to the description” (Keynes 1930). Further, the state “claims the right to determine 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. It is when this stage in the evolution of money has been reached that Knapp’s chartalism—the doctrine that money is peculiarly a creation of the State—is fully realized” (Keynes 1930: 4). Finally, “the age of chartalist or State money was reached when the State claimed the right to declare what thing should answer as money to the current money of account—when it claimed the right not only to enforce the dictionary but also to write the dictionary. To-day all civilised money is, beyond possibility of dispute, chartalist” (Keynes 1930).

That is a clear endorsement of Knapp’s (1924) state money approach. But he seems to have adopted this view much earlier—perhaps long before he read Knapp (which was translated in 1924)—in his 1914 review of an article by A. Mitchell Innes, where he approvingly noted Innes’s rejection of the story of the evolution of money from

early commodity moneys to credit and fiat money (Keynes 1914: 420; Innes 2004a). Like Knapp, Innes argued the state “enforces the dictionary” by imposing a tax in the money of account and ensures that the money it issues—denominated in its own money of account—is generally accepted by agreeing to accept it in tax payments (Innes 2004a). In his review, Keynes concluded “Mr. Innes’s development of this thesis is of unquestionable interest.... [T]he main historical conclusions which he seeks to drive home have, I think, much foundation...” (Keynes 1914: 421).

Innes insisted that even state money (what Keynes calls “money proper”) is debt, and it shares with all debt the promise that it must be accepted by its issuer. According to Innes, this is the “very nature of credit throughout the world,” which is “the right of the holder of the credit (the creditor) to hand back to the issuer of the debt (the debtor) the latter’s acknowledgment or obligation” (Innes 2004b). Yet, government money is different, because it is “redeemable by the mechanism of taxation” (Innes 2004b): “[I]t is the tax which imparts to the obligation its ‘value’.... A dollar of money is a dollar, not because of the material of which it is made, but because of the dollar of tax which is imposed to redeem it” (Innes 2004b). What “stands behind” currency is the state’s obligation to accept it in payment of taxes.

When a bank makes a loan, it accepts an IOU and issues its own IOU; the bank’s debtor clears his IOU by delivering the bank’s IOU, which it must accept. All modern banking systems include a clearing house so that a bank’s debtor can deliver the liability of any bank—and banks use currency (central bank reserves) to clear among each other. Likewise, as Keynes noted, tax liabilities are met by delivering bank liabilities, with the central bank clearing accounts between private banks and the treasury. There is a hierarchy of monies, with bank liabilities used by the nongovernment sector and with government liabilities used for net clearing among banks and with the government (Bell 2001). Given this arrangement, banks must hold reserves for clearing (as in the United States), or have ready access to them (as in countries like Canada, where the central bank offers overdraft facilities and banks attempt to hold zero net reserve balances). Ultimately, a central bank cannot refuse to provide reserves for clearing if it wishes to maintain an orderly payments system with par clearing. Further, as Moore (1988) insists, to hit its interest rate target the central bank must accommodate the demand for reserves.

## **POLICY IMPLICATIONS IN LIGHT OF THE GLOBAL FINANCIAL CRISIS**

The Marx-Veblen-Keynes monetary theory of production asserts that money is the *object* of production—it is not merely the way we measure the value of output, nor even something we hold in the presence of uncertainty. It is because money does not take any particular commodity form that it can be the purpose of production of all particular commodities. It is the general representation of value—it buys all commodities and all commodities buy (or, at least attempt to buy) money. Commodities obtain their value—they *become* commodities—by exchanging for the universal representation of social value, money. By the same token, obtaining money allows us access to all commodities that are trying to buy money.

This presents the possibility of disappointment: the fruits of production can enter the market but fail to buy money, which can lead to a decision to cease production and to default on monetary obligations. Goodhart (2008) argues the reason orthodoxy cannot find a role for money or financial institutions in its rigorous models is because default is ruled out by assumption. All IOUs are equally safe because all promises are always kept as debts are always paid. This means anyone can borrow at the risk-free interest rate and that any seller would accept a buyer's IOU; there is no need for cash and never any liquidity constraint. Nor would we need specialists such as banks to assess creditworthiness, nor deposit insurance, nor a central bank to act as lender of last resort. Almost all interesting questions about money, financial institutions, and monetary policy are left out if we ignore liquidity and default risk.

Default risk on a bank's IOUs is small (and nonexistent in the case of government guaranteed deposits), hence bank liabilities are widely accepted. Banks specialize in underwriting (assessing creditworthiness of) "borrowers"—those whose IOUs they hold. Not only do banks intermediate between government and its taxpayers but they also intermediate by accepting borrowers' IOUs and issuing their own IOUs. The IOUs they hold generally have higher default risk (except in the case of government debt) and are less liquid than the IOUs they issue. For this service, they earn profits, in large part determined by their ability to charge a higher interest rate on the IOUs they hold than the rate they pay on their own. The image of a debt pyramid is useful—those lower in the

pyramid use the IOUs issued by entities higher in the pyramid to make payments and to retire debt.

When a crisis hits, this is manifested as a “run” to the safest liabilities—those highest in the pyramid. The intense demand for “money” raises its subjective return while lowering the demand for other financial and real assets. As Keynes said, unemployment results because everyone wants “the moon”—money. In a crisis, only government can swim against the tide, offering its liabilities. The first line of defense is the central bank, which lends reserves without limit to financial institutions facing a run on their own liabilities. This allows banks to convert deposits as necessary, and to “refinance” their positions in longer-term assets by borrowing at the central bank.

The second line of defense is central bank purchases of illiquid and risky financial assets the nongovernment sector is trying to unload. This prevents what Irving Fisher called a “debt deflation” process as “fire sales” of assets drive their prices ever lower. There are obvious incentive problems: if market participants know that the central bank will always bail-out markets by purchasing overpriced assets when a bubble collapses, they will be tempted to pursue speculative excesses in a boom.

The third line of defense is fiscal, as the sovereign government spends by issuing currency—simultaneously satisfying liquidity preference and propping up aggregate demand. Again, incentives are affected as markets might come to expect such a response.

When the global financial crisis hit in 2007, many of the central banks of the biggest economies acted as lenders of last resort, and several moved on to massive purchases of assets to prop up prices. Financial markets had become huge, many times greater than total global GDP. To really make a difference in a market like securitized US mortgages, the Fed had to lend, buy, and guarantee many trillions of dollars worth of liabilities. In doing so, it had to pick “winners” and punish “losers”—deciding which financial institutions and instruments to save, and which would be allowed to fail. The problem was not that the Fed could not “afford” to lend or purchase on the necessary scale to save every market participant, it was a question about the wisdom of doing so. In addition to central bank actions, treasuries around the world also engaged in fiscal stimulus—although on a much smaller scale.



As of the beginning of 2011 it is too early to say whether the interventions have been sufficient to save the global financial system. But it is clear that even if the scale of intervention was large enough, many potential problems were created with respect to incentives, transparency of central bank activities, and democratic accountability.

Further, the central banks were not able to prevent deep and lasting downturns with tremendous growth of unemployment. While governments also typically used treasury spending and tax cuts to provide fiscal stimulus, the scale was too small to prevent the worst calamity since the Great Depression. For the most part, timidity was due to fears of affordability and size of deficits. The difference between the actions of central banks and treasuries is remarkable—the size of interventions by central banks was essentially limited only by their own discretion, while fiscal interventions were limited by budgets approved by elected representatives. When Chairman Bernanke was asked by Congress where the Fed gets all the money it used for bailouts, he responded (quite correctly) that it is simply a matter of crediting bank accounts with Fed liabilities—something that faces no inherent limit.

Yet, when President Obama had to defend his administration against charges that it ought to do more about unemployment, he claimed the US government had “run out of money.” Supposedly, government can always “afford” to buy more financial assets from banks, but it cannot “afford” to buy more products of industry, nor could it “afford” to hire more workers. And, yet, operationally, these activities are “financed” in the same way—by crediting banks accounts with government liabilities.

In truth, a sovereign government cannot run out of its own liabilities. If there are banks that want to sell bad assets to the central bank, it can buy them by crediting bank accounts with reserves. If there are unemployed workers who want to work for a wage, government can hire them by crediting bank accounts. There may be reasons why hiring unemployed labor, or buying output from private firms, is not desired in a slump, but “affordability” is not a legitimate excuse when offered by a sovereign government that issues its own nonconvertible monopoly currency. And it cannot be a matter of insufficient demand for the currency—unemployment and unsold goods are together strong evidence of an unmet demand for the currency—a demand that can be easily met by the monopoly supplier of currency.

Understanding how a monopoly money works would advance public policy formation a great deal. Affordability is never the issue; rather, the real debate should be over the proper role of government: how it should use the monetary system to achieve the public purpose.

## REFERENCES

- Atwood, Margaret. 2008. *Payback: debt and the shadow side of wealth*. Toronto: Anansi Press.
- Bell, Stephanie. 2001. "The role of the state and the hierarchy of money." *Cambridge Journal of Economics* 25(2): 149–163.
- Davidson, Paul. 1978. *Money and the Real World*. London: Macmillan.
- Dillard, Dudley. 1980. "A monetary theory of production: Keynes and the institutionalists." *Journal of Economic Issues* 14: 255–273.
- Goodhart, Charles A.E. 2008. "Money and Default." in Mathew Forstater and L. Randall Wray (eds.), *Keynes for the Twenty-First Century: The continuing relevance of the General Theory*. New York: Palgrave Macmillan.
- . 1998. "Two concepts of money: implications for the analysis of optimal currency areas." *European Journal of Political Economy* 14: 407–432.
- Graziani, Augusto. 1990. "The theory of the monetary circuit." *Economies et Societes* 24(6): 7–36.
- Ingham, Geoffrey. 2000. "Babylonian madness: on the sociological and historical 'origins' of money." in John Smithin (ed.), *What is Money?* New York, Routledge.
- Innes, A. Mitchell. 2004a. "What is money?" in L. Randall Wray (ed.), *Credit and State Theories of Money*. Northampton: Edward Elgar.
- . 2004b. "The credit theory of money." in L. Randall Wray (ed.), *Credit and State Theories of Money*. Northampton: Edward Elgar.
- Keynes, John Maynard. 1930[1976] *A Treatise on Money*, volumes I and II. New York: Harcourt, Brace & Co.
- . 1914. "What is Money?" *Economic Journal* 24(95): 419–421.
- . 1964. *The General Theory of Employment, Interest, and Money*. New York and London: Harcourt Brace Jovanovich.
- . 1971. "A Tract on Monetary Reform." in D.E. Moggridge (ed.), *The Collected Writings of John Maynard Keynes*, volume IV. London and London: Macmillan and Cambridge University Press for the Royal Economic Society.

- . 1973a. “*The General Theory and After, Part I, Preparation.*” in D.E. Moggridge (ed.), *The Collected Writings of John Maynard Keynes*, volume XIII. London and London: Macmillan and Cambridge University Press for the Royal Economic Society.
- . 1973b. “*The General Theory and After, Part II, Defense and Development.*” in D.E. Moggridge (ed.), *The Collected Writings of John Maynard Keynes*, volume XIV. London and London: Macmillan and Cambridge University Press for the Royal Economic Society.
- . 1982. “Social, Political, and Literary Writings.” in D.E. Moggridge (ed.), *The Collected Writings of John Maynard Keynes*, volume XXVIII. London and London: Macmillan and Cambridge University Press for the Royal Economic Society.
- Knapp, George Friedrich. 1924[1973]. *The State Theory of Money*. Clifton, NY: Augustus M. Kelley.
- Kregel, J.A. 1976. “Economic methodology in the face of uncertainty: the modeling methods of Keynes and the Post Keynesians.”, *The Economic Journal* 86(342): 209–225.
- Minsky, Hyman P. 1986. *Stabilizing an Unstable Economy*. New Haven, CT: Yale University Press.
- Moore, Basil J. 1988. *Horizontalists and Verticalists: The Macroeconomics of Credit Money*. Cambridge, UK: Cambridge University Press.
- Wray, L. Randall. 1998. *Understanding Modern Money: The Key to Full Employment and Price Stability*. Cheltenham, UK: Edward Elgar.
- . 1990. *Money and Credit in Capitalist Economies: The Endogenous Money Approach*. Aldershot, UK: Edward Elgar.
- . 2004. *Credit and State Theories of Money: The Contributions of A. Mitchell Innes*. Cheltenham, UK: Edward Elgar.