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## **Working Paper No. 827**

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### **Minsky on Banking: Early Work on Endogenous Money and the Prudent Banker**

by

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## **Abstract**

In this paper, I examine whether Hyman P. Minsky adopted an endogenous money approach in his early work—at the time that he was first developing his financial instability approach. In an earlier piece (Wray 1992), I closely examined Minsky’s published writings to support the argument that, from his earliest articles in 1957 to his 1986 book (as well as a handout he wrote in 1987 on “securitization”), he consistently held an endogenous money view. I’ll refer briefly to that published work. However, I will devote most of the discussion here to unpublished early manuscripts in the Minsky archive (Minsky 1959, 1960, 1970). These manuscripts demonstrate that in his early career Minsky had already developed a deep understanding of the nature of banking. In some respects, these unpublished pieces are better than his published work from that period (or even later periods) because he had stripped away some institutional details to focus more directly on the fundamentals. It will be clear from what follows that Minsky’s approach deviated substantially from the postwar “Keynesian” and “monetarist” viewpoints that started from a “deposit multiplier.” The 1970 paper, in particular, delineates how Minsky’s approach differs from the “Keynesian” view as presented in mainstream textbooks. Further, Minsky’s understanding of banking in those years appears to be much deeper than that displayed three or four decades later by much of the post-Keynesian endogenous-money literature.

**Keywords:** Banks; Deposit Multiplier; Endogenous Money; Financial Innovation; Financial Instability Hypothesis; Horizontalists; Minsky; Originate to Distribute; Prudent Banking; Say’s Law; Securitization

**JEL Classifications:** B3, B50, B52, E2, E4, E5

# 1 INTRODUCTION

Some quarter of a century ago I wrote a paper that presented Minsky's approach to money, linking it to his Financial Instability Hypothesis. The paper was rejected by one of the heterodox journals, because a referee took particular issue with my use of the new word "securitize" adopted from Minsky to describe the packaging of assets (such as mortgages) into securities. The paper was published a couple of years later in a Minsky festschrift marking his retirement from Washington University (Wray 1992).

In that piece, I argued that from Minsky's earliest work, he had adopted what became known as the "endogenous money" approach that was revived by post Keynesians in the 1980s. The most important contribution to that literature was Basil Moore's book (Moore 1988), in which he formulated the "horizontalist" approach to endogenous money. My own contribution (Wray 1990) was based on the dissertation I wrote under Minsky's supervision between 1986–1988. It traced the early history of the approach from the Currency School-Banking School controversy, through Marx and on to Keynes and Schumpeter. I then focused on the post-war revival from Kaldor and the Radcliffe committee to Gurley and Shaw, and on to Minsky, and then to Tobin, Moore and Lavoie.

Unlike some other post Keynesians,<sup>1</sup> I have always included Keynes's liquidity preference theory, as well as Minsky's financial instability within the endogenous money approach. For some time, the "horizontalists" argued that Keynes's liquidity preference theory was equivalent to the "money demand meets fixed money supply" approach of IS-LM textbook Keynesians. Hence, they wanted to drop a liquidity preference approach to interest rate determination in favor of an "exogenous interest rate" approach.<sup>2</sup> While I never thought that was either necessary or appealing, it seems that most post Keynesians are now comfortable with the argument that endogenous money and liquidity preference are compatible. We take the overnight interest rate as "exogenously determined" by central bank policy, but we leave a role for liquidity preference to play in influencing other rates.

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<sup>1</sup> Particularly Moore (1988) and Lavoie (1985)

<sup>2</sup> The IS-LM model uses Keynes's exposition of "money demand" in Chapters 13 and 15 of the *General Theory*; most "fundamental Keynesians" adopt instead Keynes's exposition of liquidity preference theory in Chapter 17. See Wray 2006a.

Some post Keynesians also argued that Minsky's financial instability hypothesis must be inconsistent with endogenous money.<sup>3</sup> Minsky's basic model of investment posits that firms use a combination of internal and external funds; external funds are subject to lenders' and borrowers' risks, with the first of these reflected in the cost of external funding. As an expansion gets underway, firms and their bankers willingly accept riskier financial profiles (Minsky was famous for his distinctions among hedge, speculative, and Ponzi positions). Minsky argued that over the course of an upswing, the supply of finance can become less than perfectly elastic as lending rates rise. Rising interest rates and/or disappointing revenues can cause the financial positions to deteriorate beyond what was desired—eventually to the point that investment is reduced and the expansion is transformed into a downturn; via the Kalecki profit equation, this only makes the financial difficulty worse because lower investment reduces profits, all else equal. Further, if the current account balances or if the government's balance moves toward surplus, profits are reduced even if investment does not decline. For these reasons, financial positions generally worsen as the economy peaks.

Horizontalists did not like this exposition for two reasons. First, the extreme horizontalist position was that banks simply take the exogenously determined overnight rate set by the central bank, and then add a mark-up to determine the lending rate—with the supply of credit through bank loans infinitely elastic at that rate. Hence, Minsky's approach seemed to imply some fixed quantity of finance (some, like Lavoie, even claim that he adopted a savings-driven loanable funds approach) that was at odds with the endogenous money approach. Further, some critics also adopted a sort of Say's Law approach to investment: since investment creates equivalent profits (holding all else equal) then the revenue of firms could never be disappointing.<sup>4</sup> Firms can always service all external funding because the investment creates the profits needed to pay the banks.

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<sup>3</sup> For those arguing that Minsky's FIH depends on a loanable funds approach, see Lavoie (1983, 1986, 1995, 1996, 1997), Lavoie and Seccareccia (2001), and Parguez (2003); for an argument that Minsky adopts the orthodox deposit multiplier story, see Rochon (2003).

<sup>4</sup> Lavoie and Seccareccia (see note 3) are the most important examples. Their critique is that Minsky ignored the Kalecki relationship that shows that holding all else constant, if investment rises, that creates an equivalent amount of profits so that investment should be self-funding. If that is the case, they argue, it cannot be true that debt ratios of firms rise as investment increases, which is one of the driving forces in the financial instability hypothesis. In reality, however, Minsky was well aware of this link and took it into account. For example, in his 1975 JMK book (p. 114 in the original edition and p. 112 in the new edition) he argued: "In the case illustrated the improvement of realized profits partially frustrates the planned debt-financing of investments of firms and simultaneously reinforces the willingness of firms and bankers to debt-finance further increases in investment. The unused leverage carries over and is available for financing future investment." In his *Stabilizing* book (page 237 of the new edition) he

Note that the endogenous money approach mostly concerns commercial bank activity—with banks creating demand deposits when they make short-term loans to firms or households. On the other hand, Minsky’s FIH was about investment finance—the proper purview of investment banks, not commercial banks. During the time that Minsky was formulating his FIH, the US maintained a strict separation between commercial banking and investment banking. For some reason, this distinction was not recognized by those criticizing Minsky. In much of the post Keynesian literature, the treatment of investment finance was rudimentary at best. (An exception is Paul Davidson.) It has largely been presumed that investment is internally financed out of retained earnings. In that case, commercial banks provide the short-term loans to investment goods producers; spending on the wage bill in that sector generates the profits that are then used to internally finance investment. While this is theoretically possible, it is not consistent with the empirical reality that firms take on long-term debts to finance positions in real and financial assets. In particular, this view sheds little light on the 1980s explosion of mergers and acquisitions and leveraged buyouts. These “innovations” intentionally leveraged corporate income flows with huge debt as financial profiles moved from hedge to speculative and Ponzi. Minsky’s “Wall Street view” developed from the 1950s was prescient and became increasingly useful for understanding these trends. By contrast, the “financial Say’s Law” based on the Kalecki profits-investment equation ignores these matters.

In this paper, I will revisit only the main underlying issue: did Minsky adopt an endogenous money approach in his early work—at the time that he was first developing his financial instability approach? If he did, that, by itself, does not prove that his FIH is consistent with an endogenous money approach. Nor does it disprove the claim that there is a Say’s Law of finance. Both of those criticisms could still be made whether or not Minsky held and explicated an endogenous money approach. I have argued elsewhere, however, that these positions do not hold up to scrutiny. In fact, Minsky’s FIH relies critically on an endogenous approach to money,

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argued: “In a robust financial structure, the supply of short-term financing responds to demand, so that investment will rise, increasing the yield of the existing stock of capital assets. Thus, not only does the price of a capital asset for a given set of quasi-rents increase, but on the average the quasi-rents increase as well. This means that the internal financing through retained earnings is greater than anticipated, and the push toward a greater use of short-term debt in liability structures is frustrated. The rise in profits and in internal funds available for the financing of investment is another reason why it takes time for a robust financial structure to be transformed into a fragile structure. This is especially true as the rising profits that are the mirror image of an investment boom increase the apparent debt-carrying capacity of profit-earning firms.” See Wray 2006b for a response to the critics.

and the Say's Law approach of some post Keynesians is fundamentally flawed. In any case, we will not detail those critiques here.<sup>5</sup>

## 2 MINSKY VERSUS “KEYNESIANS” AND ENDOGENOUS MONEY

In an earlier piece (Wray 1992), I closely examined Minsky's published writings to support the argument that from his earliest articles in 1957 to his 1986 book (as well as a handout he wrote in 1987 on “securitization”<sup>6</sup>) he consistently held an endogenous money view. I'll refer briefly to that published work. However, I will devote most of the discussion here to unpublished early manuscripts in the Minsky archive (Minsky 1959, 1960, 1970).

After Minsky died in 1996 I helped to organize his papers and discovered he had started several extended pieces that were meant to become books. One was a long piece on poverty that we supplemented with other related pieces and published as Minsky 2012. Another was a set of chapters written in the early 1990s on “reconstituting the financial system” that was clearly meant to become a monograph (see Wray 2010). There were also unfinished manuscripts from his earliest career that might have been written for a text on “money and banking.” The 1959 manuscript that forms a basis for this paper might have been part of that work. In the 1960s Minsky also worked on projects investigating banking supervision and regulation—one for the Board of Governors of the Federal Reserve System (Minsky 1966/1970), and another for the

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<sup>5</sup> See Minsky 2008(1975) for his classic treatment of the investment finance position. It is clear that he did not suppose that firms rely on commercial banks to finance investment. For example, he argues: “Loans, mortgages, bonds, and shares are the currency business firms use, either directly or indirectly after first exchanging them for money, to buy capital assets from the market, or from new production (i.e., investment)” (p. 104-5). He goes on: “Typically, additional capital assets are acquired partially by own funds and partially by borrowed or outside funds, new-share capital being one class of outside funds” (105). He invokes “lender's risk” as the reason that the costs of issuing debt tend to rise as the ratio of debt to assets increases: “Lender's risk shows up in financial contracts in various forms: higher interest rates, shorter terms to maturity, a requirement to pledge specific assets as collateral, and restrictions on dividend payouts and further borrowing are some of them” (107). “Lender's risks do lead to observable patterns of borrowing rates, such as those that appear in the ‘ratings’ put on municipal and corporate debt by various services or the premiums over the prime rate that firms have to pay at banks” (108). “As lenders and borrowers seek new ways to finance investment, borrowers increasingly, on the margin, will tap sources of funds that value liquidity ever more highly—that is, contract terms on debts will rise. This implies that short-run cash needs due to debts can outrun the cash being generated by the Q's. This is due mainly to the short-term nature of many boom debts, which require the repayment of principal at a faster pace than the cash generated by the underlying operation permits” (112). While Minsky probably did not accept the horizontalist approach to commercial bank lending rates, it is clear that none of these explanations of rising lender's risk violates either the horizontalist approach or the Kalecki equation. See Tymoigne and Wray (2008) for an explication of Minsky's financial theory of investment that incorporates the Kalecki Investment-profits relation.

<sup>6</sup> This was later published as Hyman P. Minsky, “Securitization,” *Levy Policy Note* 2008/2, <http://www.levyinstitute.org/publications/?docid=1073>.

California State financial supervisors (Minsky 1965)—so it is also possible that this manuscript was part of one of those projects, although it does not appear that the manuscript made it into any publication. Another piece I will draw on was a 1960 handout written for his students. The final piece is a manuscript that was heavily marked by Maurice Townshend from April 7, 1970, presented at Queens University, Belfast, and intended as a Washington University working paper.

In any event, these manuscripts show that from his early career, Minsky had already developed a deep understanding of the nature of banking. In some respects, these unpublished pieces are better than his published work from that period (or even later periods) because he had stripped away some institutional details to focus more directly on the fundamentals. It will be clear from what follows that Minsky's approach deviated substantially from the postwar "Keynesian" and "Monetarist" approaches that started from a "deposit multiplier." The 1970 paper, in particular, delineates how Minsky's approach differs from the "Keynesian" approach as presented in mainstream textbooks. Further, Minsky's understanding of banking in those years appears to me to be much deeper than that displayed three or four decades later by much of the post Keynesian endogenous money literature.

Why is this important today? First, many economists remain confused about the banking business. For example, Paul Krugman has recently revisited Minsky in several of his influential blogs for the New York Times. Krugman is a "public intellectual," the most visibly prominent public face of "Keynesianism," and he adopts the old "bank as intermediary between savers and investors" and "deposit multiplier" views in his critique of Minsky.<sup>7</sup> He also connects this to both the loanable funds arguments and to the IS-LM model. Krugman's views today are very close to the mainstream Keynesian views of the 1960s and hence provide a particularly transparent and current "Keynesian" view. To piece together his views, I will draw on three of his blogs. I'll then contrast those with Minsky's views in the 1960s.

I had an insight: banking is where left and right meet. Both the Austrians — who believe that whatever the market does is right, unless it's fractional reserve banking, which is somehow terrible — and the self-proclaimed true Minskyites view banks as institutions that are somehow outside the rules that apply to the rest of the economy, as having unique powers for good and/or evil. I guess I don't see it that way.... For in the end, banks don't change the basic notion of interest rates as determined by liquidity

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<sup>7</sup> See here for a discussion and links to Krugman's pieces: <http://www.economonitor.com/lrwway/2013/11/02/what-do-banks-do-what-should-they-do/>. See also Scott Fullwiler's critique of Krugman: <http://neweconomicperspectives.org/2012/04/krugmans-flashing-neon-sign.html>.



preference and loanable funds — yes, both, because the message of IS-LM is that both views, properly understood, are correct. Banks don't create demand out of thin air any more than anyone does by choosing to spend more; and banks are just one channel linking lenders to borrowers (<http://krugman.blogs.nytimes.com/2012/03/27/banking-mysticism/>).

If I decide to cut back on my spending and stash the funds in a bank, which lends them out to someone else, this doesn't have to represent a net increase in demand. Yes, in some (many) cases lending is associated with higher demand, because resources are being transferred to people with a higher propensity to spend... (<http://krugman.blogs.nytimes.com/2012/03/27/minsky-and-methodology-wonkish/>).

Hence, according to Krugman, banks can raise demand by lending the savings of those with a low propensity to spend to those with a higher propensity to spend. They don't really create higher purchasing power but simply move the power to those willing to use it.

As I read various stuff on banking... I often see the view that banks can create credit out of thin air. There are vehement denials of the proposition that banks' lending is limited by their deposits, or that the monetary base plays any important role; banks, we're told, hold hardly any reserves (which is true), so the Fed's creation or destruction of reserves has no effect. This is all wrong, and if you think about how the people in your story are assumed to behave — as opposed to getting bogged down in abstract algebra — it should be obvious that it's all wrong.

First of all, any individual bank does, in fact, have to lend out the money it receives in deposits. Bank loan officers can't just issue checks out of thin air; like employees of any financial intermediary, they must buy assets with funds they have on hand. I hope this isn't controversial, although given what usually happens when we discuss banks, I assume that even this proposition will spur outrage.

But the usual claim runs like this: sure, this is true of any individual bank, but the money banks lend just ends up being deposited in other banks, so there is no actual balance-sheet constraint on bank lending, and no reserve constraint worth mentioning either.

That sounds more like it — but it's also all wrong.

Yes, a loan normally gets deposited in another bank — but the recipient of the loan can and sometimes does quickly withdraw the funds, not as a check, but in currency. And currency is in limited supply — with the limit set by Fed decisions. So there is in fact no automatic process by which an increase in bank loans produces a sufficient rise in deposits to back those loans, and a key limiting factor in the size of bank balance sheets is the amount of monetary base the Fed creates — even if banks hold no reserves. (<http://krugman.blogs.nytimes.com/2012/03/30/banking-mysticism-continued/>).

As we'll see, Minsky does not view "banks as institutions that are somehow outside the rules that apply to the rest of the economy, as having unique powers for good and/or evil," as Krugman claims. Yet, according to Minsky, banks do not "lend out" "stashes" of savings, nor is their lending limited by deposits or reserves. Loan officers do not lend out funds on hand; and, yes they do create credit out of "thin air." The central bank does not limit the currency, so this is not the liquidity constraint faced by banks. Indeed, we'll see that every statement made by Krugman about Minsky and about the way banks operate is wrong.

For example, Minsky (1960) explains the bank creation of money "out of thin air" in the handout he wrote for his Berkeley students in 1960:

A commercial bank lends by crediting the borrower with a demand deposit and it invests either by crediting the seller of the security with a demand deposit or by writing a check on itself in favor of the seller of the security. The bank expects that the borrower or the seller of the security credited with a deposit will use their deposit very soon after it is created. This will result in checks being drawn on the initiating bank.

In a banking system with many banks, such as the American Banking System, the expectation is that the checks drawn on any particular bank will be deposited in another bank. The bank upon which the check is drawn must pay the bank in which the check is deposited the face amount of the check. This payment takes place by transferring reserves or banker's money. In an active trading community offsetting claims for payments arise among the banks. Bankers are sophisticated enough to set up a clearing arrangement so that only the difference between payments from a bank and payments to a bank are made in the form of reserve money. (if a check drawn upon a bank is deposited in the same bank, the entire transaction is internal to the bank: the writer's account is decreased and the depositor's account is increased.)

Minsky (1960) goes on to argue that if all banks expand at a rate such that none experiences net losses of reserves through clearing (each gains reserves from deposit of checks drawn on other banks but loses reserves when its own checks are presented at other banks), then there is no limit to their ability to expand loans and deposits—precisely counter to what Krugman believes:

Within a banking system with a stable amount of deposits and distribution of customers, and assuming that no striking changes are taking place in the economy, a particular bank will expect that in the long run the value of the checks written on it and the value of the checks deposited in it will be equal. On the average a bank in such an environment will not have any clearing losses. However there will be random, seasonal and cyclical shifts of deposits among the banks. In order to be able to meet the clearing losses which result from such shifts, a prudent banker will always try to keep some minimum ratio of reserve money to its deposits and will always try to have its portfolio of earning assets so arranged that it can acquire additional reserve money when needed without paying too great a penalty.

Later in the piece Minsky correctly links this need for reserves for clearing with the attempt by banks to maintain a fairly constant reserve to deposit ratio:

From a banker's perspective, the purpose of the reserve is to enable a banker to meet the clearing drains due to the behavior of secondary depositors. Each banker, to protect his ability to meet his obligations when due, will set a minimum value to this ratio below which he does not want to see it fall.

This is not because banks lend either reserves or deposits to their loan customers. Indeed, he explicitly looks at the case of the individual bank that receives a deposit, and argues (against the typical textbook exposition) that the single bank does increase the money supply as it increases loans and reserves. For Minsky, reserves are not a “raw material” from which loans are made but rather are held against adverse clearing. Exactly how much needs to be held depends on institutional arrangements. (He goes on to address the US case, which had legal ratios which varied for central reserve city banks, reserve city banks and country banks, and he deals with the case of nonmember banks holding deposits at the larger reserve city banks that were members of the Federal Reserve System.)

Minsky's 1960 views hold up quite well. He was writing in a time during which the Fed targeted interest rates, but did not announce the targets. It forced markets to “find” the target, supplying reserves at the discount window and in open market purchases to keep market rates within discretionary bounds unknown to markets. Banks were innovating to get around constraints—for example, by expanding the fed funds market (as discussed in his earlier [Minsky 1957] article, this economized on reserves), by using “liability management” (encouraging depositors to shift to time deposits with lower reserve ratios), and by shifting deposits and reserves among different classes of banks (which had different reserve ratios).<sup>8</sup> However, Minsky fully recognized the reasons for these actions—to allow banks to meet required reserve ratios and to assure they could clear with other banks and with the Fed. He did not accept a simple deposit multiplier story—indeed, he argued that in the absence of legal requirements, banks could if they wanted to expand loans and deposits together without limit. Minsky understood all these matters in the late 1950s much better than most economists—including Krugman—understand them today.<sup>9</sup>

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<sup>8</sup> See Wray 1992 and also 1990, beginning at page 135 for a discussion of the arguments made by Minsky.

<sup>9</sup> While Minsky did not directly address Krugman's claim that the central bank still controls deposit creation even in the absence of reserve holdings because it controls the quantity of cash, this is a red herring in any case. Banks hold some cash in vaults and when that runs out, they order more from the Fed. The Fed would be even less likely

### 3 MINSKY AND PRUDENT BANKING

The second reason to return to Minsky's early writing is to understand how a "prudent banker" operates. We can then compare that to the financial system that collapsed in 2008 to demonstrate just how far away from "prudent banker" practices we had come over the last half century. In the early 1990s Minsky began a project that he called Reconstituting Finance to Promote the Capital Development of the Economy. This earlier piece shows the direction that the needed reconstitution should take—to return to a financial model based on prudent banking. In what follows, I will include lengthy quotes from Minsky's 1959 paper—with commentary and shorter quotes.

In 1957 Minsky had published a paper that showed how the development of the federal funds market allows a given level of aggregate bank reserves to support a greater expansion of deposits, and how repurchase agreements allow a given volume of demand deposits to support a greater quantity of bank loans (see Minsky 1957 and Wray 1992). More broadly, financial innovations allow banks to stretch liquidity as they make loans by issuing liabilities, driving asset-to-reserve ratios and loan-to-equity ratios higher through reserve-economizing behavior. In doing so, he explained why we should not accept a stable "deposit multiplier," and why these innovations would tend to reduce liquidity and potentially increase the risks of financial fragility. In this piece, it was clear that Minsky recognized that as loans are made, bank liabilities grow—and since some of these are counted in our definition of money supply, the money supply would tend to grow with lending and spending. This is the basic idea behind endogenous money—which reverses the direction of causation associated with monetarism: spending "causes" money.

Finally, Minsky also described a complex link between innovation and interest rates. Rising interest rates encourage financial innovation; in part that was due to institutional arrangements that existed in the US at the time (including Regulation Q that set maximum deposit rates) so that financial institutions had to innovate to get around constraints. However, innovations also allowed banks to expand the supply of credit to meet rising demand. In that way, higher demand for loans would not necessarily generate higher rates on loans. Importantly, Minsky argued that such innovations made it more difficult for central banks to restrain lending.

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to refuse to supply cash to meet withdrawals than it would refuse to clear checks among banks. Ensuring par clearing and preventing runs on banks is among the most important functions of a central bank. The Fed's extensive preparations in advance of 2000's Y2K demonstrates the Fed's unquestionable commitment.

Further, as innovations “stretch liquidity” and as a central bank stands ready to act as a lender of last resort should problems arise, intervention “validates” the innovations. In other words, the private financial institutions increasingly force the hand of the central bank, whose policy becomes endogenously determined as it tries to protect the integrity of the system.

All of this will sound quite familiar to those who know Minsky’s later work in which he continued to develop his FIH. However, in some respects, the 1959 manuscript is more revealing as Minsky focuses on the nature of prudent banking, rather than on particular innovations and the incentive effects of central bank interventions. In what follows, one is reminded of Minsky’s later claims that “anyone can create money” and that we can analyze any economic unit as if it were a bank, issuing liabilities to take positions in assets. Yet banks are special and need to operate based on prudent principles.

Like any firm, a bank seeks profits while facing both liquidity and solvency constraints that are fundamentally more severe for banks than for other types of firms:

A commercial bank is a business enterprise. The aim of its management is similar to the aim of the management of any other business: to maximize profits while paying due attention to the various constraints within which the firm operates. In banking the firm’s business constraints deal with the maintenance of liquidity (the ability to pay debts when due) and solvency (the continual existence of a positive net worth). In addition to these constraints, a bank is subject to legal restrictions and controls. Hence, given the legal restrictions, a bank will maximize profits under liquidity and solvency constraints. Bankers have existed and functioned well without special legal controls. It is desirable to examine how a banker not subject to regulation by the government or by the central bank would operate. To do this we use a theoretical construct, a prudent banker. A prudent banker is a banker who is fully aware of the fact that the continued existence and profitability of his business depends upon his ability to meet his obligations. He therefore plays it safe with respect to the liquidity and solvency constraints. Obviously differences in judgment among bankers as to what constitutes playing it safe exist, and these differences make it possible for the actual behavior of different prudent bankers to differ.

In particular a prudent banker is not swayed by the unwarranted optimism of good times and the equally unwarranted pessimism of bad times. With these specifications it would be difficult to point to any particular banker and say that he is truly prudent. However in one respect we allow the banker to deviate from virtue and still remain prudent. The prudent banker can and expects to make mistakes in evaluating loans and securities which he must acquire in order to make profits. He knows that he will make errors of judgment as to what is a desirable loan and security to acquire. He knows that some of his loans will be defaulted and the market price of some of his securities will depreciate. He uses an insurance principle to make allowances for such defaults and depreciations. That is each loan will carry some, albeit estimated, charge to compensate for possible losses due to default so that even if particular loans and investments do not turn out well,

on the whole the loans and investments will be profitable. In addition to the risk premium charged the issuer of the loans and securities the banker acquires, the prudent banker will insist that his loans and securities be properly secured so as to minimize the number and amount of default and depreciation losses. That is the assets that the banker acquires will be protected to serve extent against losses due to market prices. As a result of these specified attributes the prudent banker is a theoretical construct and existing practicing bankers deviate to a greater or smaller extent from this ideal.

It is interesting that Minsky argues that banks have operated safely without special regulation, and then begins to lay out the principles that a prudent banker would follow even in the absence of regulation—points we will return to below. Note that in Minsky's view, a bank "acquires" bonds and loans—its assets—that are risky; at the same time, it issues its own debts that it must service. Elsewhere he argued that all economic units finance positions in assets by issuing debts—a point we'll cover in more detail in the next section.

Let us return to Minsky's prudent banker and the banker's relation with the borrowing firm.

The borrowing business firm is the source of the banker's income. The banker considers these firms as its customers. The loans to these customers are dated. Presumably the banker is convinced before making this loan that the customer will receive enough money prior to the due date to pay off the debt. It is not enough for the banker to be convinced that the borrower has sufficient assets to protect the banker against losses of value; the borrower must also have a sufficient flow of funds to pay his debt when due and hence protect the banker against loss of liquidity. Hence the banker traditionally favors loans for production and trade rather than loans for either consumption by households or the purchase of durable long lasting capital goods by business. The banker customer relation is one of mutual trust and confidence. The trade connection that a good customer represents is valuable to the bank and the bank is the recipient of confidential information about the operation of the business. Due to the value of the connection, a banker hesitates to refuse to accommodate an established customer when he desires a loan that falls within agreed upon limits. A banker is also reluctant to use these customers' loans in order to obtain liquidity unless there is a grave emergency. This is true because he would have to reveal information about the customer to whomever supplies him with bankers cash in exchange for the customer's loan and the information he has received in confidence. Such a violation of confidence could result in the loss of the customer as the customer could object to having his financial condition made public. In addition, the banker has exercised his own judgment as to the capabilities of the customer. Whoever is willing to acquire such a customer's loan from the banker would expect the banker to back up his judgment by endorsing the note and hence accepting a contingent liability. In times when a banker is sorely pressed for banker's cash, his endorsement may be relatively worthless. Hence a banker cannot depend upon the sale of customers' loans to provide for the cash flows needed to offset an unusually large clearing loss.

In recent decades, however, banks moved from making and holding loans to the “originate to distribute” model. This is not a legitimate activity for a commercial bank as it reduces the incentive to do good underwriting; rather it is an investment banking activity in which the main criteria for purchasing an asset is the price at which it can be sold. In Minsky’s view there is a legitimate reason for holding marketable assets—but not for expected profits on the sale of the asset, but rather for liquidity purposes.

Customer loans are dated. As they become due the customer has to deposit sufficient funds in the bank to meet the debt. At the due date, the customer’s debt is paid by running down the customer’s deposit. Outstanding customer loans therefore will yield a flow of banker’s cash to the bank as their due date approaches. By the mutual cancellation of a deposit and the customer’s debt, the bank’s need for banker’s cash is lowered. However there is no way the bank by its own actions can accelerate this flow of bankers (sic) cash and the reduction in its liabilities that results when customer loans are repaid. As a result, if customer loans were the only asset aside from banker’s cash that is available for a bank’s portfolio, banks would have to keep a large enough cash reserve to meet any possible withdrawals by its depositors. On the other hand if a banker can acquire earning assets which are either marketable or which he can obtain repayment of on call or short notice, he will be able to along with a smaller cash reserve in proportion to his deposits.

Minsky discusses other reasons for diversifying bank portfolios into treasury securities and impersonal loans that do not require a close relationship with customers: to diversify risk and to obtain assets that can be sold when high-powered money is needed.

Another aspect of banking business will also make a banker look for earning assets other than customer loans. Today there are many giant banks, both single banks and branch banking systems, whose customers are national or state wide in scope. However there are also many local banks whose customers are restricted to the area where the bank is located. As agriculture, industry and trade are all somewhat specialized as to location the portfolio of these local banks would be heavily weighed by the debts of firms in the local industry. This means that the bank’s business would depend upon how the local industry fares; and any adverse shocks to the dormant local business would adversely affect the bank’s fortunes. One way a prudent banker can escape from this dependence upon the business that relatively few industries generate, is to diversify his portfolio. Although possibilities of sharing loans with other banks (through correspondent relations) exist and obviously branch banking does eliminate the dependence upon the business of a particular locality, the prudent banker really desires some assets which are not basically customer loans.

The desire for impersonal and hence marketable earning assets takes two directions; one is the purchase of securities, the other is the making of impersonal loans. As both securities and impersonal loans make it possible for the prudent banker to have a smaller ratio of banker’s cash to deposits than if he had only customer loans as his assets, he is

willing to acquire such assets at a lower interest rate than he receives from his customers loans. The actual type of securities and impersonal loans that bankers acquire at any time and place will depend upon the usages and institutions. However two assets which bankers have usually acquired are short dated government debt and if an appropriate market exists, call loans.

Government securities are typical widely held. As the government has the sovereign right to issue fiat money, government debt is safe from danger of default of either interest or principal when due. If short dated they will not fluctuate much in market values whereas if longer dated they will fluctuate in market value as the current market interest rate varies. Hence government debt serves as an interest earning asset which is marketable. Being marketable they can be used to replenish the bank's reserve position when there is an unusual loss of reserves.<sup>10</sup>

Here, Minsky has again recognized that sovereigns that issue currency ("fiat money") do not face default risk, hence treasury debt acts as a secondary reserve. The huge growth of "repo markets" over the past decades expanded the types of securities that provided market liquidity—including "impersonal loans" in the form of mortgages that were originated to back MBSs and CDOs. As we found out, however, much of the liquidity was "fictitious" and that disappeared when needed in 2008. We'll return to the lead-up to the crisis below.

#### **4 MINSKY ON THE NATURE OF MONEY AND BANKING**

Let us turn to Minsky's "peculiar" understanding of the nature of money and banking. Minsky persistently argued that "anyone can create money," and the "problem is to get it accepted." If anyone can create money, what is fundamentally different about a bank? First, its liquidity constraint is more severe because it purchases assets (including loans) by issuing liquid demand deposits and other short-term liabilities. Second, it operates with a very small equity cushion to cover losses.

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<sup>10</sup> Minsky goes on to discuss the place of callable loans in portfolios: "In addition to government debt, other markets may exist which are willing to finance their operations on the basis of loans from bankers which are either of short term or callable. To be willing to borrow on call, the borrower must either have assets which are quickly saleable or have alternative sources which he can use to finance his activities if the banks withdraw from the market. Given that the borrower has sufficient alternative financing sources or has assets which are readily marketable without any appreciable possibilities of these assets depreciating in value, call loans are an ideal asset for bankers to have in their portfolio. They are income earning and being call assets that can be used to offset any unusual loss of banker's cash. Call assets enable a prudent banker to get along with a smaller amount of bankers cash than he otherwise would require."



The liquidity obligation of a banker is peculiar. Whereas an ordinary business has dated debts, debts which are not due until a specified date, the essential attribute of a bank is that its liabilities, aside from the owner's investment, are demand liabilities. The initiative in making a bank's liabilities current lies with the depositor, the owner of the bank's liabilities. As a result the banker must always keep sufficient banker's cash<sup>11</sup> on hand to meet whatever clearing losses result from depositors' actions and in case of unexpectedly large clearing losses a banker must be able to replenish his stock of banker's cash.

The solvency constraint on a banker is more demanding than is true for nonfinancial businesses. A bank has a much greater ratio of assets and hence liabilities to net worth than is true for a nonfinancial business. As the acquisition of most of the banker's assets is financed by the issuance of the bank's own debt, demand deposits, a relatively small drop in the value of the bank's assets will result in the value of the bank's assets being less than the value of the bank's demand deposits. This means that banks cannot survive as large a fall in the value of its asset as ordinary business firms can. The only assets a banker will willingly acquire are those that he believes will not fall in market value. A banker's business makes him conservative. He is willing to give up possible gains from the appreciation of the assets he owns to avoid the losses that would occur if his assets fell in value. As a result banks, a thin equity business, will hold only assets which are believed to be well protected against declines in their value.

Note that here Minsky has clearly argued from an endogenous money perspective when he says: "most of the banker's assets is financed by the issuance of the banks own debt." Banks do not lend their deposits (or central bank reserves). Rather, they create the deposits as they acquire loans (and other assets). However, the liquidity of their asset portfolio is substantially less than that of their liabilities—creating a potential liquidity problem—and their leverage ratio is very high because net worth is small relative to assets. In both of these respects, banks are different from other entities that issue liabilities to take positions in assets.

He goes on to explain why banks do not operate with 100% reserves: they want to reduce liquidity in order to enhance profitability:

From the perspective of the liquidity and solvency constraint, a perfect asset for a banker to hold is banker's cash, reserves. Reserves cannot depreciate in value and are of course that which the banker is obligated to pay upon demand. With banker's cash equal to demand deposits there is no possibility for the banker not to be able to meet his obligations. In these circumstances the bank's earning assets would be equal to the value of the banker's net worth. As the bank owners would have a portfolio equal to their investment in the bank, there would be no need to accept and service deposits in order to hold this portfolio. As deposits would not yield any revenue, the banker would not handle deposits unless the service charges fully paid the costs involved in handling deposits and checks.

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<sup>11</sup> By "banker's cash" he means monetary base or high-powered money—currency plus central bank reserves.

Holding reserves equal to demand liabilities is not profitable unless service charges are large. Prudent bankers have operated with small or no service charges--in fact in the past prudent bankers paid interest on demand deposits. This is because of what is known as the "Goldsmith's principal". This principal states that except for unusual circumstances not all of the depositors of a bank will either draw checks payable at another bank or withdraw their deposits in the form of currency at the same time. A banker therefore does not need all of the liquidity that 100% reserves (reserves equal to deposits) provides. He can substitute assets not as liquid as reserves for reserves in his portfolio. These assets will be interest earning assets and hence they would make the business of deposit and check banking profitable even if service charges are not sufficient to compensate for the costs involved in handling deposits and checks.

In other words, "narrow banking" can be profitable only if banks can impose fees for the operation of the payments system. As Minsky would later argue, that is difficult unless regulation can stifle innovation and competition because "nonbank banks" or what we now call "shadow banks," such as money market mutual funds, will operate with less liquidity and even higher capital leverage ratios so that they can undercut bank fees (and even pay interest on deposit-like liabilities). As we'll see below, the increased competition encouraged regulators to relax restrictions on banks, which fundamentally changed the nature of banking. Minsky goes on to return to his discussion of prudent banking behavior:

However these interest earning assets cannot be such that there exists a significant probability that their value will decline. This solvency constraint rules out the ownership of businesses and of property, hence banks will not willingly substitute common stock or property for reserves in their portfolio. The only property banks willingly own is the property required for their activities such as their premises. Such property is a small part of the total assets of the banks and the acquisition of this property is not financed by deposits. It is financed by the owner's investment, the bank's net worth, of which the value of such property is but a small fraction. In addition to the ownership of their premises banks unwillingly acquire titles to property or stock as the result of foreclosures on loans. Such unwilling acquisitions of property are indicative of something having gone wrong in the banker's lending and investing operations. Assets which are well protected against having their value decline are properly secured debts. The phrase "properly secured debts" means that the market value of the assets owned by the debt issuer are significantly larger than the value of the debts of the issuer. The protection against loss on such debts is the excess of the market value of the assets over the value of the debts. If the market value of the assets owned by the issuer falls so far that the value of the debts are greater than the value of the assets, then the bank will have to take some losses for the debt issuer is then insolvent. As the probability of large declines in the value of assets increases with time, to minimize the chances of such losses occurring the banker will not only desire debts which are well protected by an excess of value of assets to value of the debt, it will also desire short dated debt.

A banker therefore is ready to make properly secured relatively short term loans. Ordinary nonfinancial businesses need funds to finance seasonal variations in their activities. The banker is the obvious source of such business financing, and relatively short dated business loan is the traditional core of the banking business. Collateral for such loans may be some evidence that the borrower has assets which are marketable or that he has some debts which are or will be due to him. However more often business loans do not have specific assets as security, rather they are based upon the fact that the borrower's total assets are sufficiently in excess of his debts to protect the prudent banker. These loans without specific collateral are called one-signature paper (the borrower's signature). In addition two signature paper exists. In this case the borrower has the debt endorsed by another person. This other person by endorsing the note accepts a contingent liability, that is, the endorsement signifies that if the borrower is unable to pay the endorser will pay. For the bank to make a loan to a person whose own net worth is not large enough to satisfy the banks security requirement as a result of such an endorsement, the endorser must have sufficient net worth to satisfy the banker that the debt will be paid.

It is interesting to keep all of this in mind as we contemplate the rise of the derivatives business over the past quarter century. We'll discuss the implications of this development below. Not only did Minsky have a peculiar view of bank creation of money but he also differed from today's mainstream view of government's money creation. Minsky analyzed the government as if it were a special kind of "bank." He argued that

money is created when banks acquire assets and destroyed when their assets are decreased.... When banks purchase a newly created instrument, they finance either expenditures or a position in some asset. Part of the money supply may be fiat or specie, and some of the assets owned by the banking system may be government debt. Nevertheless changes in the money supply are mainly related to banking activity such as the making and repaying of loans and the purchase and sale of securities. Financing demand as money is created and absorbing funds generated by income production as money is destroyed are essential characteristics of the economy (1970 p. 3-4).

He goes on to explain the relation of banks to other kinds of financial institutions:

Many types of financial organizations other than banks exist. As a result there is a complex and layered network of payment commitments and receipt expectations among the various sectors. These financial interrelations are in the form of demand, dated and contingent contracts to make or receive money payment. That is such financial instruments state commitments for cash to flow among units, and normal functioning of the economy upon these commitments being fulfilled and new ones being undertaken (1970, p. 4).

He goes into some detail on this network of commitments, and then relates the layering to systemic instability:

If something goes wrong – and even over a seasonal cycle of activity – units may need cash in excess of normal receipts. The ability of the market used to obtain such cash can be an important determinant of system stability (1970 p. 5).

Such a disruption is, of course, what set off the severe liquidity crisis in 2007–2008. In a time of crisis, the government must play a role. As Minsky says,

Government is not only a user of resources, it is also a financial institution whose liabilities, government debt and fiat money have special properties. Governments are assumed always to meet the nominal terms as set on their contracts. As this belief varies for other contracts, the relative values can change. If the money supply is assumed to be fiat, then changes in the nominal quantity of money will be the result of government surpluses and deficits (1970 p. 6).

Contrast this view with the “government budget constraint” literature, as well as with post-Keynesian critics of the Modern Money Theory approach.<sup>12</sup> Orthodoxy, as well as many post-Keynesians see government as a borrower who must go to private banks or to financial markets to seek finance for its spending in excess of tax revenue. Minsky sees government as a financial institution (a “bank”) in its own right. Its deficit spending adds to the money supply. Bank money expands when banks buy assets; government fiat money expands when government buys goods, services and assets (or makes transfer payments). This can be through either Treasury spending or through “the result of the Central Bank owning, via a rediscounting process, business debt” or Treasury bonds (1970 p. 10).

Minsky also offers a very clear statement of the symmetry of government fiat money and bank “fiat” (or fractional reserve) money—that is to say, he explains why one would accept government currency (notes and coins) or bank money (notes or deposits) given that they have no intrinsic value.

For fiat money to be generally acceptable and valuable there must be a set of payments units must make for which this money will do. Taxes are such payments, thus fiat money really should not be introduced without introducing a government with taxes and expenditures.

Symmetrically money as a liability of a fractional reserve bank acquires value in the market because there exist units, the debtors to the banks, which have payments to make for which this credit money will be acceptable.

The acceptability and value of a money depends upon the existence of payments denominated in that money: thus fiat money without a government that taxes and spends

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<sup>12</sup> See Tymoigne and Wray (2014) for a summary of the arguments of critics as well as a response.

and credit money without debtors under constraint to meet payments commitments are quite meaningless concepts (1970 p. 23).

Some readers will recognize this as the argument that A. Mitchell Innes made, now adopted by Modern Money Theory (Wray 2004). One will accept the money-denominated debts issued by one's creditors since these can be delivered in redemption, wiping away one's debts. The same principle applies both to bank money and to government money. The difference is that the sovereign government has the ability to impose debts (taxes, fees, fines, tribute, or tithes) while private financial institutions must rely on some degree of voluntarism to create their debtors.

## **5 POLICY IMPLICATIONS**

Note how far banking is now removed from Minsky's prudent banker. Goldman Sachs now holds a banking charter, even though Goldman operates more like a hedge fund than like a traditional banker. Minsky's prudent banker entered into long-term relations with customers; the banker's success depended on the success of his borrowers. That is no longer true—at least for the biggest banks, as they often take positions that pay off when customers fail. They also originate many assets to sell—earning fees rather than relying on interest and principal payments (that, again, require borrower success; this matters to the securities buyers but no longer matters to the selling banks so long as the buyers have no recourse). Further, a bigger part of their asset portfolio consists of trading assets—where profits depend on asset price appreciation, rather than income flows.

At the time of the GFC, banking (at least at the biggest banks) had largely become an “originate to distribute” business—relying on fees rather than interest earnings—that was supposedly insulated from default risk. However, the banks were also buyers and sellers of derivative products, and had provided other kinds of risk coverage (including buyback guarantees) so the risks came back to them. Recall Minsky's warning above about layering of debts. It is hard to imagine how banks could have been insulated in a highly interconnected financial system, since the banks ultimately acted as the residual suppliers of liquidity.

These types of financial derivatives are just one (major) aspect of the new financial world operated by the biggest banks. In addition, the behemoths have moved into the “real” sector:

Today, banks like Morgan Stanley, JPMorgan Chase and Goldman Sachs own oil tankers, run airports and control huge quantities of coal, natural gas, heating oil, electric power and precious metals. They likewise can now be found exerting direct control over the supply of a whole galaxy of raw materials crucial to world industry and to society in general, including everything from food products to metals like zinc, copper, tin, nickel and, most infamously thanks to a recent high-profile scandal, aluminum (Taibbi 2014).

According to Taibbi, Goldman is now also into the uranium business. Furthermore:

banks aren't just buying stuff, they're buying whole industrial processes. They're buying oil that's still in the ground, the tankers that move it across the sea, the refineries that turn it into fuel, and the pipelines that bring it to your home. Then, just for kicks, they're also betting on the timing and efficiency of these same industrial processes in the financial markets – buying and selling oil stocks on the stock exchange, oil futures on the futures market, swaps on the swaps market, etc. (Taibbi 2014).

All of this was enabled by the Gramm-Leach-Bliley Act that permits banks to expand into business “complementary to a financial activity and does not pose a substantial risk to the safety or soundness of depository institutions or the financial system generally” (ibid).

Apparently, there is virtually no economic activity that is not “complementary” to a financial activity—since, after all, banks can lend for a huge variety of economic activities and hence can claim that by getting directly involved in those same activities, they gain “knowledge” about the activities that complement the lending activities. Indeed, the New York Fed concluded in 2012 that “The legal scope of the exemption is widely seen as ambiguous” (Taibbi 2014). Note also that there is no requirement that the expansion into new activities actually serves a public purpose—and clearly there is no public purpose in letting Goldman Sachs tie up a large enough portion of the nation’s aluminum supply in order to raise prices while also raising storage fees charged by Goldman at its warehouses:

As detailed by New York Times reporter David Kocieniewski last July, Goldman had bought into these warehouses and soon began pointlessly shuttling stocks of aluminum from one warehouse to another. It was a “merry-go-round of metal,” as one former forklift operator called it, a scheme of delays apparently designed to drive up prices of the metal used to make the stuff we all buy – like beer cans, flashlights and car parts. When Goldman bought Metro in February 2010, the average delivery time for an aluminum order was six weeks. Under Goldman ownership, Metro's delivery times soon ballooned by a factor of 10, to an average of 16 months, leading in part to the explosive growth of a surcharge called the Midwest premium, which represented not the cost of aluminum itself but the cost of its storage and delivery, a thing easily manipulated when you control the supply. So despite the fact that the overall LME price of aluminum fell during this time, the Midwest premium conspicuously surged in the other direction. In 2008, it represented about three percent of the LME price of aluminum. By 2013, it was

a whopping 15 percent of the benchmark (it has since spiked to 25 percent) (Taibbi 2012).

This is not prudent banking business as described by Minsky. Buying physical commodities can only pay off if prices continue to rise, unless one can corner the supply chain. So it is either a fundamentally speculative activity, or it relies on monopoly rents. In neither case does it serve a social purpose.

In the early 1990s Minsky was revising various working papers as chapters for a new book that would bring his views on banking up to date. Obviously, many changes had occurred since 1960, indeed. Even his 1986 book was substantially out of date. The most iconic financial innovations (securitization, development of a range of other derivatives, and leveraged buyouts) were beginning to explode in the 1980s, and then literally took over the financial sector in the 1990s and 2000s. The prudent banker was gone; indeed, the commercial banker had disappeared at least among the most important banks (while over 4000 commercial banks still operated more or less as Minsky described banking in 1959, they accounted for a small share of the financial system). I examined much of Minsky's early 1990s writings in Wray (2010) and will only summarize the main thrust here.

His writings of that period were remarkably prescient; while he was addressing the banking crisis at that time (which followed the 1980s S&L crisis), most of his points could be made about the continuing evolution of the financial structure, which finally collapsed in 2007. He warned that the early postwar financial conservatism had given way to money manager capitalism that "ushered in a new era of pervasive casino capitalism," with the leveraged buyouts of the late 1980s serving as a good example of the excesses. Much of that boom was driven by pension funds "both as suppliers of the equity base for leveraged buy outs and as the takers of the high-yield bonds (junk bonds) [...] Systemic over indebtedness may well be a legacy of pension funds in the United States" (Minsky 1992c: part II, p. 9).

He argued that the decrease in the power of traditional banking and the concomitant rise of the power of managed money "has little to do with the movement to deregulate banks and other financial institutions" (Minsky 1992c: part II, p. 9). Instead he blamed the 1979–1982 Volcker experiment in monetarism that wiped out bank and thrift equity, payments systems innovations (such as electronic funds transfers and credit cards) that took away cheap deposit sources of bank funds, and the "change in the international clout of the United States" as more

important developments (Minsky 1992c: part II, p. 12). Thus, Minsky attributed the transformation of the financial sector away from banking and toward managed money that occurred over a long period to complex—and mostly endogenous—factors. While deregulation (in the early 1980s, and then again in the late 1990s after Minsky’s death) played an important role, Minsky insisted that this was of secondary importance.

On the eve of the 2007 crash, we no longer had any sharp distinction between investment banking and commercial banking—the repeal of the Glass Steagall Act in 1999 eliminated any remaining barriers. As a result, there was a handful of behemoth financial institutions that provided the four main financial services: commercial banking (short-term finance for business and government), payments services (for households, firms, and government), investment banking (long-term finance for firms and government), and mortgages (residential and commercial real estate). A lot of the debts were securitized and ultimately held in pension, university endowment, and sovereign wealth funds—what Minsky called managed money. Note that if anything, the largest institutions have consolidated their power as a result of the crisis, largely through government help.

The main goal of Minsky’s 1990s research program was to “reorient” finance back to the “capital development of the economy,” with that broadly defined to include private infrastructure, public infrastructure, and “human capital.”

That would require a number of reforms. Foremost among them would be to return banks to performing proper underwriting. In the 1980s, because the thrifts were not holding mortgages, they had funding capacity that flowed into commercial real estate; in the 2000s, the mania for risky (high-return) asset-backed securities fueled subprime lending. In both cases, the problem was a collapse of underwriting standards. In a prescient analysis, Minsky argued that

[b]ecause of the way the mortgages were packaged it was possible to sell off a package of mortgages at a premium so that the originator and the investment banking firms walked away from the deal with a net income and no recourse from the holders. The instrument originators and the security underwriters did not hazard any of their wealth on the longer-term viability of the underlying projects. Obviously in such packaged financing the selection and supervisory functions of lenders and underwriters are not as well done as they might be when the fortunes of the originators are at hazard over the longer term (Minsky 1992b: 22–23).



The implication is that good underwriting is promoted when the underwriter is exposed to the longer-term risks, but where the originator can shift the risk, there is no reason to assess capacity to service debt.

This brings us back to Minsky's skeptical banker:

When we go to the theater we enter into a conspiracy with the players to suspend disbelief. The financial developments of the 1980s can be viewed as theater: promoters and portfolio managers suspended disbelief with respect to where the cash would come from that would [validate] the projects being financed. Bankers, the designated skeptic in the financial structure, placed their critical faculties on hold. As a result the capital development was not done well. Decentralization of finance may well be the way to reintroduce the necessary skepticism (Minsky 1992a: 37).

For a while it was believed that capital requirements are a proper way to regulate bank lending: higher capital requirements not only make banks safer, but they also constrain bank lending unless the banks can raise capital. As Minsky argued, unfortunately, neither claim was correct. Higher capital requirements were imposed in the aftermath of the S&L fiasco, and codified in the Basel agreements. Rather than constraining bank purchases of assets, banks simply moved assets and liabilities off their balance sheets—putting them into special purpose vehicles, for example. Basel also used risk-adjusted weightings for capital requirements, to encourage banks to hold less risky assets for which they were rewarded with lower capital requirements. Unfortunately, banks gamed the system in two ways: a) since risk weightings were by class, banks would take the riskiest positions in each class; and b) banks worked with credit-ratings agencies to structure assets such as MBSs to achieve the risk weighting desired. For example, it was relatively easy to get triple-A-rated tranches (as safe as sovereign government debt) out of packages of subprime and “liar loan” Alt-A mortgages—with 85–90% of the risky mortgages underlying investment-grade tranches.

Finally, Minsky (1986) argued that, all else equal, high capital ratios necessarily reduce return on equity (and, hence growth of net worth), so it is not necessarily true that higher capital ratios increase safety of banks because it means they are less profitable. Indeed, with higher capital ratios they need to choose a higher risk/return portfolio of assets to achieve a target return on equity. If regulators want to constrain the rate of growth of lending, it appears that direct credit controls are better.

Effective reform requires direct oversight of bank activity mostly on the asset side of their balance sheets. Financial activities that further the capital development of the economy

need to be encouraged; those that cause it to be “ill done” need to be discouraged. Minsky advocated expansion of access to the discount window because he wanted the Fed to lend reserves to all comers so that they would be “in the bank”—that is, debtors to the Fed. As a creditor, the Fed would be able to ask the banker question: “how will you repay me?”:

The Federal Reserve’s powers to examine are inherent in its ability to lend to banks through the discount window... As a lender to banks, either as the normal provider of the reserve base to commercial banks (the normal operation prior to the great depression) or as the potential lender of last resort, central banks have a right to knowledge about the balance sheet, income and competence of their clients, banks and bank managements. This is no more than any bank believes it has the right to know about its clients (Minsky 1992c: 10).

Unfortunately, the global financial crisis did not result in any fundamental reforms. The biggest institutions were propped up. The “complementary activities” loophole still allows financial institutions to expand their reach well beyond anything that banks ought to do. The capital development of the economy continues to be ill served by our overblown financial system.

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