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## Money, Credit, and Crisis

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ABSTRACT. The financial crisis of 2008–2009 has antecedents in earlier crises, including the Great Depression. In order to understand how the current crisis arose, we must review the most fundamental principles of banking. Doing that, we find that the main service performed by banks is the creation of liquidity, a collective good that can be destroyed by the behavior of individual financial institutions. The key element in creating liquidity is the monetization of various types of collateral. When collateral takes the form of land or capital that turns over slowly, banks lose liquidity. That is why major banking crises have frequently been associated with real estate lending. The best way to restore health to the financial system is by restoring the principles of the “real bills” doctrine that requires loans to be self-liquidating.

### I

#### Introduction

THE MOST OBVIOUS CULPRIT in the recent economic quagmire is the errors in judgment made by the managers of banks and other financial institutions.<sup>1</sup> As a result of these errors, a number of them have gone into receivership or been merged with better capitalized banks. According to the U.S. Federal Deposit Insurance Corporation (2008), an average of 3.4 banks failed per year from 2000 through 2007, followed by 25 bank failures in 2008, and another 25 failures by April 17, 2009. The failure of Washington Mutual Bank (WaMu) in 2008 was the largest bank failure in U.S. history. It held nearly \$307 billion in assets when it was declared insolvent. IndyMac Federal Bank, with

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\$32 billion in assets when it went into receivership in July 2008, was the largest savings and loan in the Los Angeles area. Its failure was the fourth largest in U.S. history.

To provide a bit of perspective, the deposits of suspended banks in 1931 and 1933 amounted to around 0.6 percent and 2.9 percent of GNP in those two years, respectively (U.S. Bureau of the Census 1960: Series X-173, F-1). The combined failures of WaMu and IndyMac alone amounted to 2.4 percent of GDP in 2008. This does not include (a) the failure of many smaller banks; (b) the more than \$500 billion of write-downs and credit losses as of September 2008 (before the bankruptcy of Lehman Brothers, valued at \$639 billion in May 2008) (CNBC.com 2008); or (c) the billions in additional asset losses around the world after the Lehman bankruptcy led to liquidation of commercial real estate holdings at fire-sale prices. Surpassing all of the above liquidations, however, was the decline of asset values sustained by the Federal National Mortgage Association, Fannie Mae, and the Federal Home Loan Mortgage Corporation, Freddie Mac, which owned or guaranteed over \$5 trillion of the \$12 trillion mortgage market before they were placed under the conservatorship of the Federal Housing Finance Agency (FHFA) on September 7, 2008. By that time, their share prices were down about 90 percent from their high in 2007 (Goldfarb, Cho, and Appelbaum 2008: A1).

Crises involving large numbers of bank failures have occurred with some degree of regularity in the United States and other countries, although the current crisis would appear to be on a larger scale than previous contractions. In each case, the pundits have attributed the most sensational cases to personal fraud and malfeasance. Certainly, there are individuals who manipulate markets, gamble with invested funds instead of acting prudently, or extend loans to people or institutions with bad credit histories. There are also regulators who look the other way rather than enforcing the rules strictly. So it is easy to view the debacle entirely through the lens of personal morality.

The more important question, however, is who or what creates the *conditions* under which imprudent and fraudulent behavior by banks and regulators take place. To find out the answer to that question, we have to go behind the headlines to understand the fundamental nature of banking and what kinds of regulation are appropriate to prevent

crises of the sort we currently find ourselves in. As we shall soon see, the fundamental problem lies in bank lending in which real estate serves as the collateral. By lending for housing and nonresidential land and buildings, banks risk losing their capacity to remain liquid, which thereby puts the entire financial system in jeopardy.

*A. The Trap of Conventional Wisdom*

In our effort to learn about the underlying causes of financial crises, we cannot simply turn to standard textbooks on money and banking. Of course, they are useful for explaining some of the basic mechanisms, such as fractional reserve banking. But a subtle bias enters into all conventional writing about the financial system, which creates the illusion that banks can be either healthy or insolvent independent of the real economy, as if finance operated in a different universe than the world of work and production.

The ordinary economist, even more than the ordinary person, is terrified of being thought different, or outside the loop, or “poorly trained,” or “unaware” of what others are saying. Ordinary texts therefore keep in step with each other, in stupefying conformity. Conformity has some social value, especially, of course, to the extent that the conventional wisdom is true, and when the alternative is chaos. However, conformity breeds habits of suppressing observation, and shutting out facts that do not fit one’s model. It also lets a few influential people manipulate and intimidate and exploit others by controlling their “training,” and defining quality, and dehumanizing those outside what they call “the mainstream.” This leads to error at all times, but more so in times of change and crisis, like the present.

*B. Misleading Keynesian/Monetarist Orthodoxy*

Keynesian/monetarist orthodoxy so dominates the minds of many leading economists that they ignore other perspectives almost entirely. Since orthodox macro has failed to prevent crises, or to cure them when they occur, one would imagine that some economists would look elsewhere for inspiration.

According to the Keynesian view, financial contractions can be explained in purely monetary terms, without any reference to real

economic relationships. The chief symptom of a financial crisis is a “liquidity trap,” in which people prefer to hold cash instead of investing in capital goods. This preference is often deemed to be a psychological phenomenon, which is to say that it is inexplicable.

I agree that the loss of liquidity is the fundamental symptom of a financial crisis. The basic difference between my approach and the neoconventional one is that I believe and can show that the loss of liquidity has a real basis. The previous chapter considered the ways in which tax policy influences the kinds of capital into which investments flow. Overinvestment in long-term capital goods has the effect of constraining liquidity. Now we will examine the same problem from the side of banking.

## II

### **Liquidity and the Real Economy**

IN ORDER TO PRESENT an alternative view of how we might think of the monetary side of economics, I will begin with the most basic elements in order to explain how current thinking leads to instability.

#### *A. The Amount of Money*

There was about \$1.5 trillion of checking deposits and currency in circulation in 2007. Deposits and currency constitute *M1*. They are about one-eighth of the GNP.

The ratio of GNP/*M1* is what the usual macroeconomics text today calls “velocity.” More exactly it is “GNP velocity.” “Velocity” alone, in proper banking parlance, means transactions velocity or deposit turnover. This is a much higher figure that covers the use of money in all intermediate transactions, not just those that enter into GNP. This may seem insignificant, and economists tend to overlook the difference, but it is of great importance.

The banking system is essential to the health of a modern economy, and its contribution lies largely in its ability to maintain liquidity. That refers to the ability to permit a smooth flow of transactions. The biggest factor reducing liquidity is the lumpiness of certain investments, which pay back investors over a period of many years. Tying

up capital in long-term projects effectively depletes the liquidity of the banking system and the economy. Balancing those long-term projects are other forms of capital, such as retail inventories, that turn over in periods ranging from a few days to a few months. The high turnover of that capital is a major source of the liquidity of any economy. That sort of turnover is directly related to transactions velocity in a business or a bank, but it is not considered at all by economists who specialize in finance. They are concerned only with GNP velocity. As a result, the financial indicators that economists use to evaluate the health of the banking system are systematically biased because they cannot recognize liquidity problems that result from a slowdown of the turnover of capital in intermediate transactions. The previous chapter explained why the rate of capital turnover is important.

### *B. How Liquidity Is Created*

The social problems that banking solves are (1) coordinating the savings and investments of diverse individuals and institutions; and (2) mediating between short-term lending and long-term borrowing. Because banks borrow short to lend long, there is a fundamental imbalance in any financial system. That structural vulnerability is entirely separate from irresponsible behavior of individuals. Financing long-term assets with numerous short-term liabilities creates a perennial risk of insufficient liquidity.

Thus, the systemic problem for the managers of any banking or financial system is how to maintain sufficient confidence to avoid liquidity crises. To understand how that is done, let us begin with the basics.

How can anyone or any bank create net liquidity? A's asset is always B's debt on its flip side, so some have argued that there is no net effect when debts are created. That would be a false inference from a true premise. Banks do create liquidity, in spite of the flip side. The flip side makes banking tricky and hazardous. Nonetheless, people have been doing it for centuries.

How do banks do it? Basically, it is a matter of exchanging IOUs. When a bank creates new deposits, it works like this. It finds a borrower who will pledge some asset (collateral) to secure payment

of a loan. It takes the borrower's IOU and records it on the asset side of its balance sheet. In return, it gives the borrower the bank's IOU, now called a demand deposit (dd).<sup>2</sup> (Originally, it was a bank "note," a piece of paper reading "will pay to the bearer on demand . . .") This "demand deposit" goes on the liability side of the bank's balance sheet.

In the American colonial period, the original banks did not even accept deposits. They started, rather, with a certain amount of equity, and then created bank notes as loans. (Like deposits, those bank notes were demand liabilities, meaning that anyone could come to the bank and instantly redeem them for cash.) There was little currency circulating for them to accept as deposits, so instead they *created* a currency by accepting collateral in return for issuing bank notes.<sup>3</sup>

These bank notes were pieces of paper that linked the exchange process to real assets. This is how assets are "monetized," transformed from something like solid to liquid form so they can circulate. In principle, those real assets can be seized to make whole those who rely on the pieces of paper, which is how those assets serve to "back" the value of money and other financial instruments. The effect of issuing notes backed by real assets is the same as though title to the collateral were now chopped into small units, circulating in bearer form. (As we shall see later, land has been a major form of collateral accepted by banks. The bank notes are thus the equivalent of a small interest in the land used as collateral by borrowers. But there is no reason land has to serve this role. Many other assets can serve as well.)

This begins to explain the great mystery whereby banks create money, seemingly out of nothing. This process is deeply disturbing to many people, who regard banking as fraudulent and the interest as a form of social theft. Since fears and prejudices associated with lending have led to conflict in the past (including attacks on Jews in Europe and Chinese in Southeast Asia), the mistaken view that banks have no positive social function can have serious social consequences.

Thus, it is best to think of bankers not as creators of money, but as facilitators of liquidity. Currency and credit are two very important instruments of liquidity. They facilitate transactions and contribute to prosperity in a real way. Banks thus perform a role in the production

of real goods and services, as real as the person who makes computer chips or who serves meals in a restaurant. Without liquidity, economies would fail.

The “drying up” of liquidity is precisely what most concerns bankers and the managers of a national economy. This occurs when the money creation process (or liquidity creation process) works in reverse. Instead of assets being monetized, money is turned into assets. We might say the assets are then “demonetized.” That happens when banks seize collateral when borrowers fail to perform (i.e., can no longer make payments on their loans). When the bank accepted a claim on the asset as its collateral, it created a counterbalancing liability that was liquid. When the bank seizes the asset that served as collateral, the same process retires the deposits, a liquid asset, that had monetized the collateral. The net effect is to reduce money supply by that amount. Since banks cannot meet demands for liquidity with those assets, this poses a problem unless banks can sell the assets quickly. In 2007, as banks foreclosed on the holders of nonperforming mortgages, the banks became less liquid, less monetized. Taking liquid assets out of circulation restricted the ability of banks to lend working capital, which has endangered the entire economy. (In addition, the value of the assets had shrunk, so the equity or capital of banks also declined, which will be addressed below.)

### *C. The Rationale for Interest*

Why does the borrower pay interest to the bank? As I explained earlier, a loan from a bank is actually a quid pro quo, an exchange of IOUs. If the value of the two is equal, why should the borrower pay interest? The answer is not obvious unless one understands that what the bank is “selling” is liquidity.

The bank’s IOU is worth more than the borrower’s because it is liquid. The borrower can spend it immediately. Banks borrow short, but lend long. If the borrower instead received a note that merely gave partial title to a large and bulky asset (a particular mortgage, for example), other people would be reluctant to accept that note, because it would lack easy convertibility or fungibility. The borrower

could not buy groceries with notes assigning ownership to particular assets. The bank creates liquidity by breaking the value of large assets into small pieces of uniform size that are universally recognized. That practice is what gives banks the ability to cover loans and enables borrowers to spend the borrowed money freely.

The bank's IOU is liquid because the bank spends money to make it so. That is how it uses the interest it receives from borrowers. Banks use their income to create liquidity by creating social trust, which is what enables the whole system of banking to work. Without trust, it would be impossible to transform fixed assets into liquid forms that permit complex transactions. Some degree of mystery is an inherent part of the banking function because trust can only be created indirectly by creating conditions that will quiet fears. That is why the earliest banks were temples and why many banks are still built to look like ancient temples.

A great social benefit can be achieved if people will trust the banking system. How exactly do the banks invest in building trust? They do it by:

- guarding your money;
- paying cash on demand, from an attractive building in a convenient location;
- clearing checks;
- attracting enough other depositors so their clearing balances are not negative for long;
- holding reserves;
- having some net worth as a cushion (and justifying it by paying dividends on their capital);
- maintaining a reputation for always meeting their obligations on demand.

For those benefits, depositors are willing to forego interest income. If they do not like what they are getting, they "disintermediate," meaning they can make their investments directly in other financial instruments or in direct loans. Then bank balance sheets have to contract. They have fewer assets and fewer liabilities.

Banks play the percentages, and are never literally in a position to perform on their contracts, that is, to redeem all their deposits



on demand. Some have advocated “100 percent reserve” banking to avoid that. This cause is a remote dream and a diversion from reality.<sup>4</sup>

The workable alternative is to retain a fractional reserve system and to require banks to stay highly liquid by restricting their loans to commercial paper or “real bills” secured by highly liquid collateral like accounts receivable. Banks and their economist-spokesmen resist this policy, which they parody and flay mercilessly with all the considerable influence and authority at their command. Nevertheless, banking based on “real bills” would permit capitalism to function without repeated cycles of sudden expansion and contraction. We will return to the subject.

#### *D. Cost of Creating Liquidity*

It should now be clear that bankers provide a social benefit by serving as intermediaries between borrowers and lenders and by creating liquidity in the process. The fact that liquidity is a more abstract service than car repair or even health insurance does not make it any less a real service. Like other real services, it requires real resources to provide it.

The cost of creating liquidity varies with several factors, some of which have natural equilibrating effects. The basic principle is that each transaction is a cost. For example, teller services for ordinary deposits and withdrawals are expensive to maintain in retail banking, but banks maintain those services because they instill confidence in customers. Since liquidity depends on trust, teller service is an important element of producing that service.

The cost per dollar of deposits rises with:

- velocity (deposit turnover);
- renewal frequency of loans (loan turnover);
- cost of borrowing funds (i.e., the interest rate at which banks borrow funds from other banks);
- share of assets that must be held in dead reserves;
- cost of bank capital—required dividend rate times required volume of capital;
- cost of suitable location and improvements;

- taxes on banks (generally very light);
- operating expenses (such as teller services in retail banks).

Cost per dollar of deposits falls with:

- average size of checks;
- average size of loans;
- average period of loans (converse of renewal frequency, already cited, repeated here for emphasis to offset usual neglect).

I have emphasized loan turnover here as a cost of maintaining liquidity. There is a tendency for banks to seek out lending opportunities that allow them to cut those costs. From the perspective of the individual bank, it is better to have loans that turn over slowly than to have short-term loans that require a lot of processing time. However, from the perspective of the banking system as a whole (and for society as a whole), long-term loans decrease liquidity for reasons made clear in the previous chapter.

Each bank would like to shift the cost of maintaining social liquidity (in the form of high-turnover loans) onto other banks while keeping its own costs low by issuing only long-term debt. That poses a systemic problem that will continue to manifest itself in periodic liquidity crises. Rectifying this problem is an essential function of central banks. Unfortunately, Chicago School dogma rules this out as “selective credit control.” This is a form of “intervention,” a violation of basic principles to the followers of Milton Friedman.

#### *E. Technical Limits on Destabilizing Effects*

There are several normal equilibrating effects that tend to maintain stability and limit radical changes in deposit expansion. They may be overwhelmed by other destabilizing factors at times. Some stabilizing factors are:

1. Higher velocity translates into more bank transactions per each dollar of reserves. This raises the cost of maintaining accounts, and reduces incentives to create new demand deposits by lending money into existence. This is a natural limit on the expansion of M1.

2. High liquidity preference by the public increases cash balances. This reduces bank costs, which encourages expansion during downturns in the economy. Thus, even liquidity preference, the prime cause of “glitches” in Keynesian macro theories, is not all bad.
3. Low yields on investments reduce costs of holding capital and reserves, tending to offset the discouragement to expansion. Low yields for nonbank lenders and direct loans tend to drive funds into banks.

Those are not definitive observations. They are intended to show there are damping factors tending to limit instability. Some model builders get carried away showing major changes springing from positive feedback loops triggered by minor causes. They may do us a service to warn that instability is possible, but it is a disservice to misspecify the effective causes of instability. To destabilize, a cause must be powerful enough to overwhelm various natural equilibrating effects.

### III

#### **Sources of Equilibrium and Liquidity**

THE ABILITY OF BANKS to create money at will has frightening inflationary possibilities. Yet banks do not routinely generate inflation or overextend credit in ways that make the banking system unstable. Although banks are ultimately a source of instability, it is helpful first to note the internal limits on banks that prevent more frequent catastrophes. It is apparent that any one bank is limited in its capacity to issue loans by the loss of its reserves to other banks. The question we consider in this section is what limits *all* banks from expanding together during extended periods of moderate growth (in contrast to periods of euphoric land booms and excessive lending on inflated land collateral).

##### *A. Limit #1: Loss of Public Confidence*

The most important factor limiting the growth of bank balances is the anxiety shared by depositors that banks might be unable to

redeem deposits in cash on demand. The creation of the Federal Reserve system and deposit insurance allays those fears to some extent. Nevertheless, as recently as September 2008, there was a run on Washington Mutual Bank when it was rumored that it could not cover its liabilities. Customers withdrew \$16.7 billion in deposits over a period of 10 days, leading the Office of Thrift Services to declare WaMu insolvent (U.S. Department of the Treasury, Office of Thrift Services 2008).

There are many episodes in history of cash withdrawals and runs on banks. It happened many times in the 19<sup>th</sup> century. The Federal Reserve Act of 1913 was supposed to end all that, but it failed in 1929. In 1933, there was a bank “holiday” to shortcircuit a dangerous positive feedback loop, “the fear of fear itself.” However, bank panics have seldom been based solely on group psychology. In most cases, the fears of depositors were in fact well-founded, due to crashing collateral values.

The legislative remedies that were developed during the 1930s to instill public confidence in the banking system include deposit insurance; tighter bank examination and controls on quality of bank loans; “Glass-Steagall,” or separating investment banking (floating new securities) from commercial banking (checking deposits);<sup>5</sup> and cartel protection for banks, that is:

- caps on allowable interest rates paid by banks to attract customers;
- limits on charters for new banks;
- tight limits on interterritorial competition, giving banks virtual franchises on their turfs;
- FHA insurance on mortgage bank loans;
- greater power for the Federal Reserve Bank to supply notes on demand;
- elevation of Federal Reserve notes to becoming the basic legal tender, as we went partially off gold (domestically), and gold clauses in contracts were illegalized.

Associated with the last two was a major expansion of federal debt, much of which the banks bought. With all its faults, federal debt supplied a more stable collateral security behind bank loans

than the volatile common stocks and real estate on which they had been lending before, and that had collapsed. This may be the main real point behind the otherwise shaky Keynesian case for deficit spending.

### *B. Limit #2: Federal Reserve Board Controls*

#### *1. Reserve Requirements*

One of the key instruments by which the Federal Reserve Board stabilizes the banking system is the requirement that banks hold cash in reserve, in order to avoid a situation in which banks cannot cover demands. Banks must hold a specified percentage of their deposit liabilities as a cash reserve deposited with the Federal Reserve Bank.

The Federal Reserve Bank also issues Federal Reserve notes (paper money) to facilitate exchange. Public demand for paper money (notes) determines the ratio between Federal Reserve notes and Federal Reserve deposits. The public demand for paper currency has increased dramatically in recent decades (U.S. Council of Economic Advisers 2009: Tables B-70, B-71). The ratio of paper currency to deposits by banks in the Federal Reserve Bank has grown almost sixfold—from around 3 to 1 in 1966 to 18 to 1 in 2007. Then in August 2008, to stave off a potential run on the banks, banks sharply increased their reserves. By November, reserve deposits were 14 times greater than in August, and the ratio of currency to deposits had fallen to its lowest level in over 40 years (1.3 to 1).

The Federal Reserve Bank can increase the amount of currency and deposits in circulation by making loans to the U.S. Treasury, which it does by buying Treasury securities (bonds, bills, and notes). It buys some from the Treasury direct, and others from the public, on the “open market.” (To reduce the money supply, it sells the same securities and thereby reduces the currency and deposits in circulation.) These “open market operations” are the major operating variable in Federal Reserve Board policy. Federal Reserve Board intentions are traditionally treated like military secrets, lending an aura of mystery, intrigue, and class warfare to the whole business.

Treasury securities thus back Federal Reserve notes and deposits. The securities so used are said to be “monetized.” Actually, any other

asset used for collateral is also monetized, and I will so use the term. (Curiously, many economists are stuffy about the usage, and insist on reserving “monetizing” for what happens to U.S. securities.)

Federal Reserve Bank expansion is loosely limited by its own gold reserves. Under the international gold standard, it was tightly limited by gold. An import balance, if unrelieved by foreign loans, caused an outflow of gold and forced a tight money policy, correcting the imbalance.

Today, more or less the same effect is achieved, but without automaticity, by tightening money to correct an import imbalance. (If a country buys more than it sells, the value of its currency declines, requiring a decrease in its money supply and a corresponding increase in interest rates to restore balance.) This necessity greatly limits the power of central banks to pursue independent national policies.<sup>6</sup> They can reestablish their independent scope of action by devaluing their currencies. That, however, if done often, undermines confidence in the local currency and leads people to do business in a more stable foreign currency, totally undermining the power of central banks. Some think this only happens to lesser breeds and nations, but it could easily happen to us if our hubris continues blinding us to the hazard of deficit finance.

## *2. Federal Reserve Bank Lending to Member Banks*

Another way the Federal Reserve system can provide liquidity to banks is by lending them money during difficult periods. This also creates deposits, usually on a small scale. The rate charged was formerly called the “rediscount rate,” and now simply “the discount rate.” It is symbolic of the Federal Reserve Board’s mysterious intentions, and closely monitored for that reason.

During the crisis in the fall of 2008, when it seemed there might be a national run on banks (after Fannie Mae and Freddie Mac were nationalized), the Federal Reserve Bank lent member banks hundreds of billions of dollars to increase their reserves. This enabled banks to keep operating even though some of them were probably technically insolvent. The Federal Reserve lends money on the expectation that asset prices will recover, which will increase the capital of banks and

also permit them to sell the assets and become liquid once again. It remains unclear when, if ever, that might happen.

### *3. Qualitative Controls on Bank Lending*

Most discussions of the Federal Reserve Board and its power to maintain financial stability consider the question solely in quantitative terms. Through its reserve requirements, “open market operations,” and the discount rate at which it lends to member banks, the Federal Reserve Bank can regulate (but not entirely control) the money supply and short-term interest rates. It has far less influence on long-term bonds (10- to 30-year maturities), which are determined by investor confidence in the future stability of the economy and interest rates.

Much less attention has been paid to the qualitative controls the Federal Reserve Board can exercise. It is my contention that these qualitative controls could prove more successful than purely quantitative controls have proven to be in avoiding crises.

The Federal Reserve Board has certain powers over the kind of collateral that is eligible to secure bank loans, in other words, to be monetized. The ones used today are primarily margin requirements applied to loans made for the purpose of buying and carrying common stock, and restrictions on loans for some kinds of consumption (but not consumption of housing, which on the contrary receives favored treatment). The first of these serves to limit the monetization of common shares of corporations. It does not, however, limit the monetization of the assets of corporations. These are monetized every time a corporation pledges them to a commercial bank as loan security.

The Federal Reserve Bank is one agency that examines banks as well. Here is an opportunity to apply qualitative controls more generally. Bank examination should see that banks remain liquid.

What does “liquidity” mean in this context? Required reserves provide an element of liquidity that is only specious. They are in dead storage and can never be used. So why are they required? Reserves are used largely as a matter of tradition. They are thought to help sustain confidence. But in practice, reserves provide stability only as a method

of increasing liquidity quickly when a crisis emerges. Reserves are cure more than prevention, and not very effective at either.

What is called “secondary liquidity” is provided by keeping a substantial part of bank assets in short-term loans that are financing the working capital of businesses and that are therefore automatically self-liquidating in a few months. This “secondary” liquidity is actually primary, since the “primary” reserves are dead and cannot be used.

The idea that liquidity is important is known as the “commercial loan theory,” also known as the “real bills doctrine.” In England, it is called the “banking school” position. An early and eloquent advocate was Adam Smith in *The Wealth of Nations* (1776). “Real bills,” like so many terms, conveys many meanings with different baggage to different people. Here we use it only to mean maintaining banks’ liquidity by regulating them away from volatile real estate collateral and derivatives therefrom (of which there are now far too many).

Ordinary texts today wrongly dismiss the real bills doctrine, citing the studies of Lloyd Mints (1945), the predecessor of Milton Friedman at the University of Chicago. Adam Smith, the apostle of laissez faire, is too regulation-minded for the Chicago School of economics, the arbiter of modern market orthodoxy. Chicago orthodoxy, chiefly decreed by taste dictator Milton Friedman, brooks no twilight shadow of qualitative control on bank lending.

The valid idea in “real bills”—not to be confused with “real estate”—is that banks should avoid lending on real estate collateral and for long terms. The two previous chapters in this volume provide the reasons why real estate serves poorly as collateral. Land prices are too volatile and the payback period too long, which are the two characteristics of loan portfolios that create the conditions for financial crises to develop. Default on real estate loans was the major cause of bank failures from 1929–1933, the period in which half the nation’s banks failed. Chicago orthodoxy has taken that disastrous cataclysm and stuffed it down the memory tubes. The resulting collective amnesia is one of the greatest, most brazen feats of thought control in history.

There are at least three reasons why Chicago School orthodoxy cannot tolerate the real bills doctrine. First, it questions absolute faith in markets. Second, it proposes the need for regulation of banks.



Third, it casts doubt on the social utility of private ownership of land, by revealing a weakness in the use of land as bank collateral. Let us consider those reasons in more detail.

1. “Real bills” rejects the dogma of market perfection. The real bills doctrine implies that there is some systemic weakness in the market, which lets collapses be generated endogenously. The ideology of the Chicago School demands that collapses be caused only by errors of short-term policy judgment by the Federal Reserve Board. That was one of the conclusions of Milton Friedman and Anna Schwartz (1963) in their study of the impacts of changes in money supply on the real economy. Although they recognize that economic expansions and contractions occur independently of monetary policy, they tend to view the business cycle as an unexplained phenomenon, leaving the regulation of the money supply as the only policy variable of any significance. In particular, they attribute the banking crises of 1929–1933 to “panics” that made healthy banks illiquid, rather than to factors in the economy that reduced the value of assets and made banks insolvent.<sup>7</sup> On that basis, the Chicago School effectively ignores the reality of a land-value boom-and-bust cycle driven by its own internal dynamic—by factors outside the scope of monetary policy. Although the Keynesians differ in many respects from the Chicago School, they agree that the economic causation runs largely from financial factors to real events, rather than vice versa. As a result, the Keynesians make common cause with the “monetarists” in neglecting the obvious influence of land on the business cycle.<sup>8</sup>

2. The Chicago School rejects qualitative regulation. The premise that economic crises arise from problems in the real economy, not the financial world, implies that economic stability cannot be achieved solely through control of the money supply, interest rates, or other financial indicators. It further implies that financial institutions need to be monitored and regulated in terms of their operating practices. The Chicago School accepts general “quantitative” controls, and rather tight ones at that, in order to be rid of all specific “qualitative” controls. It is this ideology, in the name of Reaganomics and deregulation, that led directly to the savings and loan (S&L) fiasco of the 1980s and 1990s, in which over 1,000 S&Ls failed and taxpayers lost about \$124 billion (Curry and Shibut 2000: 31, Table 4). In brief, the Tax Reform

Act of 1981 encouraged real estate speculation (primarily commercial real estate), which accelerated the growth of land prices. Home mortgages outstanding grew by 66 percent from 1981 to 1986; mortgages on commercial property grew by 102 percent (U.S. Council of Economic Advisers 2009: Table B-75). Deregulation of savings and loans, combined with deposit insurance, enabled those institutions to make imprudent loans without fear of loss. In addition, the equity held by S&Ls became tied to real estate when the Federal Home Loan Bank Board in 1982 allowed buyers to put up real estate as equity, instead of cash, permitting S&Ls to be far less liquid than banks (U.S. Federal Deposit Insurance Corporation 2002). When land prices began to fall in 1987, hastened by the Tax Reform Act of 1986, many savings and loans became insolvent for the same reasons banks would become insolvent 20 years later. As L. William Seidman, former chair of the FDIC, concluded in 1996: "The banking problems of the 1980s and 1990s came primarily, but not exclusively, from unsound real estate lending" (Seidman 1996: 57). But all of this history is ignored by both the Chicago School and the Keynesians, who focus exclusively on the financial cause of crises.

3. The unconventional idea that real estate matters. In the 1960s debate between the Keynesians and the monetarists (Chicago School), the Friedman and Schwartz (1963) book discussed earlier was instrumental in shifting attention away from real events as explanatory variables. I am not disputing the idea that the money supply influences economic outcomes and that many of the real variables previously emphasized in explaining inflation or unemployment involved ad hoc explanations. My issue with Friedman and Schwartz (1963) (and with the Chicago School more generally) is not so much with what they say as with what they leave unsaid. Their analysis simply ignores the easily observed fact that land speculation has preceded major economic crises and deprived banks of liquidity. They choose not to recognize that "real estate matters" because doing so would withdraw a major support from the value of real estate, an interest with which the Chicago School identifies. The real bills doctrine also tends to desanctify property as a good in itself, property for the sake of property. Rather, it points up the danger of using land as a "store of value" instead of using it simply as a factor of production.

Thus, the theoretical question about whether banks should be regulated by means of quantitative restrictions (on reserves or interest rates) or qualitative regulations (on the kinds of collateral that can be used to issue loans) turns out to have ideological consequences concerning the autonomy of the market and the types of government regulation that are deemed legitimate.

But the issue is not ideological. On purely pragmatic grounds, the historical evidence strongly indicates that past efforts to prevent economic crises with quantitative regulations of banks have failed. That is why banks are in such trouble today in 2009, as they were in the 1930s and the early 1990s. They followed the principles of the Chicago School and flouted the real bills doctrine. As a result, they became stuck with nonperforming (defaulted) long-term loans backed by real estate collateral. In a larger sense, most corporate debt is secured by pledging corporate real assets, in every industry.

Why is the real bills doctrine still important? Why should the government regulate the kinds of assets used as collateral? Adam Smith recognized that there are things that individuals can do one at a time that they cannot do collectively. One of those things is liquidating real estate investments: an individual can sell real property, but from a social perspective that is a transfer, not a liquidation. Real bills, as a policy, would make the banks stick with “self-liquidating” loans that turn into money through sale of the collateral to consumers. (An example is a printing company that buys paper and turns it quickly into a printed product and sells it, so the capital turns over quickly.) That is something that can be done collectively, because the process of liquidating the loan is done routinely, daily, in the normal course of production and exchange.

Land, in sharp contrast, is not self-liquidating because the corpus of land is not sold to consumers in the course of ordinary use and consumption. Land is never liquidated, it just changes hands. The cash flow from unappreciating land is just enough to pay interest on its purchase price. The cash flow from appreciating land is less than enough, and must be augmented each year by additional outside payments. In that sense, land does not “throw off” capital during periods of growing prosperity. Instead, it absorbs liquid capital and

solidifies it. That is why it is the wrong sort of collateral for the banking system.

### *C. Limit #3: The Market*

In addition to Federal Reserve regulations that limit the expansion of bank balance sheets, the market also constrains bank lending that would otherwise cause inflationary pressure. Each bank has an incentive to survive and to maintain its reputation for stability, because that is how it attracts the deposits that enable it to extend loans and make money. Even if the Federal Reserve Bank did not exist, banks would show some restraint in order to preserve their assets and their reputation.

As the banks expand their balance sheets, they need to squirrel away more capital and surplus to maintain a safe ratio of equity to liabilities payable on demand. For this they must either save, sell more stock, or borrow long-term. In addition, if existing loans are not self-liquidating, the slow return of loans outstanding chokes off the flow available for new loans. Those two factors increase demand for liquid assets and reduce the supply. Since the supply of and demand for liquidity determine loan rates, new loans must be financed at higher interest rates. The higher rate screens out projects for which the rate of return is too low or too slow. Thus, the market has an automatic feedback mechanism that slows down investment as banks become overextended. Since the decline in the demand for loans takes place at the same time that banks are increasing their capital and reserves, this explains why there have been periods when banks have had excess reserves, and still did not expand their loans. Some attribute this to lack of demand for loans, caused by lack of "investment opportunities." In fact, that is more effect than cause. The true problem is that banks lack liquidity.

#### *1. "Creditworthiness" of Borrowers*

We have seen that the share of eligible collateral that is monetized by banks depends on their costs relative to those of competing lenders. Next we ask what determines the sum of "bankable" collateral that may be pledged to secure loans. The amount of money is the product of the two factors.

The basis on which lenders ration or allocate credit among borrowers is not marginal productivity, but collateral security. Likewise, the basis of expanding loans is collateral security, regardless of investment opportunities. This helps explain the otherwise mysterious and frustrating phenomenon, which sometimes occurs, of excess reserves and low interest rates failing to stimulate lending at a time when many businesses desperately need credit and want to expand. That was true in 1991, and it is occurring again in 2009.

Money is never easy for those lacking bankable assets on which to borrow. This is especially true in the aftermath of a boom and crash, when banks lack liquidity, and they demand more collateral to make loans. In November 2008, CNN reported that “[t]he Federal Reserve’s recent Senior Loan Officer Opinion Survey found that 75 percent of the banks surveyed had tightened their lending standards for small-business loans” (Cowley 2008). As a result of the credit crunch, small business failures have risen. In 2008, the small business failure rate was 12 percent, up from 2.4 percent in 2004 and 8.4 percent in 2007 (Maltby 2009).

Another such time, more notorious and aggravated, was after the collapse of collateral values in the Great Crash, 1930 and thereafter. The few “creditworthy” borrowers were swamped with lenders, so recorded interest rates were very low. But the majority of ineligible borrowers could not borrow, even at high rates. (Another cause of credit rationing is the drop of bank capital, discussed later.)

During the Great Depression, when the real interest rate on Treasury bills was as low as  $-1$  percent, Joseph Nicholson (1938: 31–34) sought to explain the source of the complaint by small business that the cost of capital for expansion of plant and equipment was “prohibitive.” Although banks provided U.S. Steel with a three-year, \$50 million loan, banks had become so concerned about liquidity that they were unwilling to provide such financing to small business at any price. Small companies were forced sell securities, paying registration fees, legal fees, and other costs amounting to 9–10 percent for bonds and 15–20 percent for stocks (Nicholson 1938: 32).

The most eligible borrower in the 1930s was the U.S. Treasury. Treasury debts are “nondefaultable” because they are backed by the ability of the Treasury to raise taxes *and* to borrow from the Federal

Reserve Bank. The Fed can lend simply by printing money that is legal tender for the payment of taxes and other debts, and that no one can force it to redeem in anything but more money that it can also print. The Treasury moved into the breach, slowly at first and then rapidly during World War II. It issued new debt that the banks seized and “monetized.”

During the 1980s and from 2002 to 2007, private collateral values moved back up, way back up. Almost anyone could borrow on his or her home, for almost any purpose, including personal consumption. The banks monetized those new collateral values and allowed real estate to displace federal debt as the major backing of our money supply. Repeating the mistakes of the 1930s led to the current wave of defaults on the loans that backed our money supply and the subsequent fragility of the banking structure.

The logic of economic contraction is built into the cycle from the start. There is direct conflict between the high land values of the boom phase and the rate of return on productive, job-making real investments. High land values may mean low rates of return on new investments. The high land values are supported by siphoning off part of cash flow to income payments to those who own the land, or to those who lend entrepreneurs funds to buy it. The combination of high creditworthiness with low returns on newly created capital can only spell trouble: banks expand as real investment falls. At the same time, rising land values discourage saving and encourage consumption, for example, by using home equity loans.

When land is so overpriced as to cut deeply into rates of return on job-making new investment, banks turn to taking land itself as collateral. When land gets so overpriced that the borrowers cannot pay the loans, banks panic, freeze up, and stop originating new loans. Then as old debts are paid, the money goes into the bank and never comes out again. What banks have created they can destroy. Just as expanding banks issue new money, contracting banks swallow it up again.

This is a major source of the notions of oversaving and cash hoarding, notions so common in depressions. “Where has all the money gone?” people ask, and look under the mattresses of misers. Most of it has simply been retired by banks that collect old debts without originating new ones.

*2. Major Kinds of Loan Collateral; Basis of Valuation*

The following are major kinds of collateral, and factors determining their volume and valuation.

- a. U.S. Treasury securities, determined by the U.S. government.
- b. Volume of trade times the mean period that inventories are in stock, or that accounts are receivable (this is the basis of “real bills”).
- c. Amount of durable capital and its valuation. There is an upper limit on valuation—the cost of reproduction. There is no floor under values of durable capital, however. Once capital has been produced, value depends on discounting expected future cash flows. When expected flows fall, and discount rates rise, present values fall.
- d. Valuation of land. This depends at all times only on discounting expected future cash flows, and never has any anchor or basis in cost of production. It is highly subject to changes in expectations, and hypersensitive to discount rates.

The financial system is most vulnerable to collapse when an unexpected sharp rise of interest rates pulls the plug on “c” and “d” above. Land values are especially sensitive to interest rates; and doubly so in a rising market, such as that that prevailed in farming in the 1970s, and throughout the United States from 1984 to 1988 and 2002 to 2007. In a rising market, land values are based on this formula:

$$L = a/(i - g), \quad (1)$$

where  $L$  is value,  $a$  is current cash flow,  $i$  is nominal interest rate, and  $g$  is anticipated annual rate of growth of cash flow. (Both  $i$  and  $g$  are expressed as decimals, such as 0.04 or 0.07.) Cash flow is measured in current dollars, to be consistent with the use of nominal interest rates.

Equation (1) applies literally only to land. However, during the recent real estate frenzy, most income properties were trading based on that valuation formula, and with little equity contributed by the buyer. The result was “negative cash flow.” Negative cash flow is what you get when your debt service is greater than your operating cash flow ( $a$  in Equation (1)). (On a long-term debt, debt service is 97

percent interest in the first few years.) To get negative cash flow from Equation (1), solve Equation (1) for  $a - Li$ :

$$a - Li = -Lg. \quad (2)$$

Equation (2) shows that if you finance your purchase 100 percent at the bank, the interest exceeds the operating cash flow by  $Lg$ . That is, the hypothesized (mortgaged) real estate does not yield enough cash to pay interest on the debt each year. That difference is “negative cash flow.” The borrower has to get that cash from some other source.

In practice, borrowers seldom get 100 percent financing. But values during land booms have gone so high relative to cash flows that one could get 70 percent financing and still suffer negative cash flow. That is, cash flow ( $a$  in Equation (2)) was less than 70 percent of  $Li$ . Making it worse, in 2003–2007, a period of “irrational exuberance,” many lenders financed buyers up to 100 percent, or even more. Nor was it just buyers whom the lenders financed. Many existing owners borrowed on the rise of their land values in homes, businesses, pure speculations, or income properties to live beyond their means.

The debt service therefore comes only partly from the mortgaged real estate. The difference has to come from the other incomes of the borrower. Many borrowers assumed that values would continue to rise, so that soon they could borrow more on the same real estate, using a second deed of trust, to pay the negative cash flow. And they assumed that rents would continue to rise, so in a few years the operating cash flow would exceed  $0.7Li$ . Many of the early buyers lucked out. Others, especially later buyers, did not. The entire economy is now suffering the consequences of that behavior.

The same factors that freeze up the circulation of capital also act to pull the plug on valuations of land and durable capital. Thus a banking contraction or collapse is caused by the same real factors that make macroeconomic trouble anyway. It can be a fearful combination.

The trick, when the economy gets caught out too long, is to segue from collaterals  $c$  and  $d$  to  $a$  and  $b$ . However, with too high a share of capital frozen in  $c$ , alternative  $b$  takes a while to redevelop. That leaves  $a$ , U.S. Treasuries. It is a way to solve the banking crisis.



But in terms of reviving the market economy and producing private goods, we need to restimulate *b*, real bills.

### 3. *Bank Capital or Net Worth*

Bank expansion is limited also by bank capital. The capital ratio is used to evaluate the stability or health of a bank. It is equal to the bank's equity or net worth divided by a sum of the assets, weighted by the risk that they will not perform. The primary capital ratio is based only on "Tier 1" assets in the numerator. (The assets counted in Tier 1 are cash and government securities; common stock, valued at issue price, not market value; and accumulated net retained earnings.) In those evaluations, government securities are generally given a 0 percent risk weighting, and mortgage-backed assets are given a 50 percent risk weighting, while loans to individuals or companies are given a 100 percent risk weighting. (That means the loans in those three categories are multiplied by 0, 0.5, and 1.0, respectively, in calculating the denominator.) By this means, the Federal Reserve Bank encourages member banks to hold government securities and mortgage-backed assets.

When a bank creates a deposit to fund a loan, its assets and liabilities increase equally, with no increase in equity. That causes its capital ratio to drop and increases the risk of insolvency.<sup>9</sup>

The Federal Reserve defines a capital ratio of 4 to 6 percent as "adequately capitalized" and over 6 percent as "well capitalized." In practice, the Federal Reserve Bank begins monitoring banks if the capital ratio falls below 8 percent. Discussing the possibility that the same sort of discipline might be imposed on investment banks that is now imposed on commercial banks, Prudent Speculations (2008) observed:

Based on my rough calculations Goldman Sachs has a tier one capital ratio of between 10.5 percent and 11 percent, Lehman a ratio of between 7.8 percent and 8.3 percent, Morgan Stanley a ratio of between 7.1 percent and 7.6 percent and Merrill Lynch a ratio somewhere between 7.75 percent and 8.25 percent. As you can see, Morgan Stanley, Lehman and Merrill Lynch would all be of concern to Federal Reserve regulators, if they were commercial banks instead of investment banks.

That commentary was written in the wake of the bankruptcy of Bear Stearns in April 2008. By the end of September 2008, Lehman Brothers

and Merrill Lynch, plus AIG, Fannie Mae, and Freddie Mac, had all become insolvent and were acquired by other entities. This is an indication that the market failed to send the right signals to investment bankers, who imagined they were not subject to the same risks as commercial banks.

Why were the investment banks so vulnerable to a change in market conditions? A few major defaults cut deeply into their net worth and forced them to contract. If a bank had \$20 billion in assets, \$19 billion in liabilities, and \$1 billion in equity (5 percent of assets), the bank would become insolvent if only 5 percent of its assets become nonperforming. Being highly leveraged is the normal condition of banks, both commercial and investment banks. It is the feature that makes them vulnerable to economic changes that affect the marginal value of the collateral that backs their assets, such as sudden declines in the value of land. These declines do happen, and are continuing to happen as we write.

The necessity of maintaining a sufficient capital ratio helps explain the “mystery” of why commercial banks would not expand after the banking collapse of 1929–1933, even though they had excess reserves. The same pressure reappeared in 1991 and again today in 2009, when banks had to raise more capital to maintain liquidity. The problem faced by banks with bad assets is that the numerator (equities) must rise in a crisis to compensate for all of the high-risk (mortgage-based) assets in the denominator. To the extent that banks cannot raise new capital (increase the numerator), they must contract (reduce the denominator) by reducing their balance sheets.

After a crash, if banks hold mortgages of individual properties, foreclosure and seizure of collateral (real estate) leaves banks with more real property and fewer nonperforming mortgages. The bank now has a physical asset carried on the books. A house that exchanged for \$600,000 in 2006 (the original collateral value) might be worth only \$400,000 in 2009. Banks would prefer to avoid marking the value of that home down to its current market value (“mark to market”) because the markdown reduces the equity of the bank by the difference between the 2006 collateral value and the 2009 market value. Banks hold on to houses in hopes of selling them for a price closer to the 2006 price. According to Rick Sharga of RealtyTrac (cited

in Olick 2009): “The lenders are simply trying to defer the losses to a later date, because having to recognize the losses short term might pose severe risks to the banks in question.” Banks are valuing repossessed homes on their books for the value of the mortgage on the property. But in many cases, the property is worth far less than the mortgage on it. “Untold numbers of these properties [are] sitting on banks’ accounting ledgers where, the imputed value is considerably higher than the market value,” says Sharga (qtd. in Olick 2009). (By contrast: “The Federal Deposit Insurance Corp. has said that it encourages banks to sell REOs [real estate owned—by banks] as quickly as feasible, because they are non-earning assets. FDIC rules permit banks to hold REOs for up to 10 years” (Condo Vultures 2008).)

The issue has been made more complex because of the growing practice of bundling mortgages into derivatives called “mortgage-backed securities” (MBSs) or “collateralized mortgage obligations” (CMOs) that were then traded by investment banks. That process mixed together sound and unsound mortgages. When the unsound mortgages are in default, an entire package declines in value, but the amount of its new value is hard to determine. The good apples were supposed to hide the bad, but now the bad ones spoil the barrel: it all becomes “toxic.” Forced sales of CMOs in 2008 to meet margin calls and raise capital-adequacy ratios lowered their price below the capitalized value of expected cash flow from the mortgages within the bundle. On that basis, investment banks that hold large amounts of derivatives as collateral have argued for lifting the mark-to-market rule on those derivatives. An April 2009 ruling by the Federal Accounting Standards Board allowed banks to value securitized property at a value different from current market value (Applebaum and Goldfarb 2009: A15).

By failing to mark to market, the banks are failing formally to recognize what everyone knows: their equity has declined because of toxic assets. Their equity has been reduced by the amount of the loss, but they do not record it until the assets are sold. In this way, foreclosure and repossession improve the *visible* capital ratio of a bank, but since its net worth and capital ratio have actually declined to a dangerous level, it is less able to make loans. In addition, the bank now holds assets that do not turn over at all (i.e., they provide little or no payback that can be used as working capital for new loans).

This matter tends to be shrouded in secrecy because banks avoid disclosing the volume of defaulted loans. RealtyTrac's U.S. Foreclosure Market Report (<http://www.realtytrac.com>) now logs information on the total number of "foreclosure events" and properties affected by foreclosure. But after the foreclosure process, it is difficult to determine what happens to the property that served as collateral. Banks repossess the property and eventually sell it or otherwise transfer ownership, but there is no readily available database of those transactions. By comparing its own database of foreclosures with the Multiple Listing Service of the National Association of Realtors, RealtyTrac discovered that as many as two-thirds of the foreclosed properties are not being sold (Said 2009; Boomershine 2009). The FDIC maintains some information about bank-owned real estate (known as REOs or real-estate owned), but that information is released sporadically, with no assurance of completeness. RealtyTrac listed 190,543 REOs as of the first quarter of 2009 (RealtyTrac Staff 2009). At an average of \$200,000 per house (the mean national house price before the bubble (U.S. Bureau of the Census 2009)), that would equal \$381 billion. The FDIC reports only \$23 billion in REOs at the end of the third quarter of 2008. That would suggest that, as of the middle of 2009, banks hold over \$300 billion in residential foreclosed property that they have not yet put on the market.

In the Great Depression, banks deferred accounting "recognition" of losses by hanging on to foreclosed real estate for years and years. They took advantage of a form of mythology allowed by generally accepted accounting principles (GAAP) whereby capital gains and losses do not occur until they are "recognized" by some overt act like a sale, or formal ceremony like a "write-down." This mythology is taken much more seriously than its intrinsic credibility warrants.

During a previous real estate downswing, powerful interests pushed for a return to the same kind of deception. Paul Craig Roberts (1991), former Assistant Secretary of the Treasury in the Reagan Administration, wrote: "Depressed real estate prices are not only an important reason why we are in recession but they are likely to make it all but impossible for us to spend our way out of it." He proposed to "breathe life back into real estate values" with a capital gains tax cut, to:

save many financial institutions from failure, and save the government—or taxpayers—billions of dollars in bailout costs. . . . The downward spiral will have a long way to go if regulators succeed in forcing financial institutions to “mark-to-market,” or value at current market prices their long-term investments.

The practice by banks of deferring the mark-down in value is obvious nonsense. Losses are actually taken when assets lose value, regardless of formal recognition. The banks knew then (in 1932 or 1991, to name but two years of crisis), as they know now in 2009, that their net worth was much too low. They chose to give the public other reasons to explain their low enthusiasm for expanding. The public and the banking professors let them get away with it: the clout of organized bankers is awesome; the eagerness of the public to be deceived and gulled is frightening.

Note in passing here a vital distinction between the volume of loans outstanding, and the volume of new loans. The first is a static economic “fund,” a store of value. The second is a “flow” of new investment. The fund of M1 depends on the volume of loans outstanding, but the flow of real investing—the net income-creating investment (represented by  $I$  in standard macro equations)—depends on the volume of new loans, and on equity reinvested from the cash flows of self-financed businesses, mostly corporations, that do not depend on commercial loans.

A bank that lends long gets repaid only slowly, and can therefore originate only a small volume of new loans each year, relative to its assets. A bank whose borrowers default is in the same pickle, only worse. And their pickle becomes everyone’s pickle to the extent that we depend on them to finance the flow of investment that keeps the Great Wheel of economic life turning.

#### *D. Limit #4: The Limited Liquidity of M2*

Do money substitutes increase net liquidity? As with demand deposits, there is a flip side to savings accounts, time deposits, CDs, S&L deposits, cash management accounts, money market funds, and so forth, and that is the liability of some debtor. All of those sorts of deposits are included in the category of “M2.” As with M1, there is some net increase

in liquidity that is manufactured by the intermediaries. That is how they earn their spread, and persuade their depositors to accept less interest than they could get by lending directly.

The intermediaries borrow short and lend long. It is just that they do not borrow quite so short as when they create demand deposits. Their deposits are not transferable on demand, and do not serve as media of exchange. They do, however, serve as stores of liquidity.

How important this is depends on how seriously you take demand-side economics. Economics texts take it seriously, and therefore emphasize the benefits that stem from this sense of liquidity created by M2. M2 lets individuals hold less M1, which causes money to circulate faster (increased “velocity”) and raise aggregate demand.

Does M2 create net wealth? No, obviously, the flip side totally counterbalances the top side.

Money market funds (MMFs) are now included in M2. You can transfer them by check, like demand deposits, so they are a means of payment. These funds held \$3.83 trillion at the end of 2008, 23 percent more than at the end of 2007 (Henriques 2009). MMFs do not create new deposits by expanding, as banks can. They can only lend money they have previously received from depositors. They still monetize the collateral they lend on, as banks do. However, what the MMFs monetize, the banks cannot. One asset can only be monetized by one lender at one time. MMFs compete for both depositors and borrowers, but they do not create new money. Their significance is that they are less regulated than bank loans and are uninsured. They lend only short, which is a selective control on the lines of the real bills doctrine. The fact that they spotted opportunities in the money market may suggest that regular commercial banks were neglecting it—a bad sign about the banks.

Two final forms of liquidity that do not show up as part of M2 are (1) credit card balances and (2) lines of credit that have been extended to some firms and individuals. The first form of credit at least shows up on the balance sheets of banks. The second category does not. These are a contingent liability of the banks, but do not appear on the books as demand deposit liabilities. Nevertheless, the firms that have them are certainly made more liquid, and access to such lines of credit dries up during periods of economic contraction.

## IV

**The Lorelei that Lure Banks Onto the Rocks of Illiquidity***A. Short-Term Gains*

Confidence in banks is something of a collective good: it depends on collective behavior more than individual behavior. Thus, each individual bank is tempted to expand more than is good for banks collectively. To cut costs and increase profits, banks are lured into taking actions that provide them with short-term gains, but that collectively lure the financial system into illiquidity:

- Long-term loans. One loan agreement lasts for many years, and it costs staff time to evaluate and make loans. As we saw in the previous chapter, the ability of an economy to sustain full employment is more a function of how often capital turns over than the total stock of capital. Each bank has an incentive to make long-term loans. Rather than trying directly to regulate the average length of a bank's loans, regulators could more easily control the type of collateral that is accepted.
- Large loans. In the wake of potential insolvency among large investment banks and automobile manufacturers, Americans have become accustomed to the rationale that some entities are "too big to fail." When banks make large loans, such as loans made to foreign governments in the 1970s, a default by just a few debtors could wipe out the bank's capital (which is just 5 percent or so of the bank's total assets). Large banks may rely on the "too big to fail" principle in taking those risks, knowing that their collapse could damage the entire economy. When there are only a few extremely large banks, they take their cues about risk from each other rather than from any market signals.
- Excessive leveraging. For every dollar of capital, banks want to lend the maximum possible because that is how they make money. But that imposes risks on the whole financial system if every bank becomes excessively leveraged and if some loans become nonperforming. When regulators try to restrict lending with quantitative controls (such as the capital ratio), banks are

able to circumvent those rules by granting “credit lines” to businesses. Since these are open-ended, they do not appear as liabilities in the accounts of the banks on which they are drawn. (The bank does not actually create a demand deposit. It simply allows a business to spend in excess of its immediate cash, on the expectation that revenue will soon cover the expenditures.)

- False savings on employees. It might seem to banks that they can save money in the short run by increasing the volume of loans faster than personnel are hired to oversee the loans. At the same time, overworked and often unrecognized loan officers are asked to issue an increasing number of loans. Should it come as a surprise then if banks are uncertain about the quality of their loan portfolios? When Continental Illinois went bankrupt in 1984 (the largest in U.S. history at that time), it seems that loan officers were so overworked that they did not keep accurate records on all of their loans.

All of the actions that cut costs and raise profits for the bank endanger its liquidity and reduce its service to the community. What makes them think they can get away with it? Banks can take comfort in recalling that if they get into deep trouble there is a history of federal aid. In the 1930s, the Home Owners’ Loan Corporation and Reconstruction Finance Corporation and farm credit agencies took over billions of defaulted mortgages. In the 1980s, the savings and loans were rescued after they invested directly in real estate, using funds raised from federally insured accounts. Taxpayers eventually paid \$124 billion to rectify those errors.

The banks might feel with some justice that the federal government is devoted to supporting real estate values by continually pumping in credit. It is one of those short-run solutions that keeps inflating the problem it is designed to correct: a vicious spiral, or positive feedback loop, with no good end in view.

### *B. Periodic Land Booms*

Bankers, like other humans, tend to follow fashions. When some banks begin lending on the rising value of real estate, others feel safe in following suit. So banks compete with each other in lending money



for real estate that can reach “irrationally exuberant” levels before it levels off and collapses, leaving banks holding assets of declining value and a highly illiquid portfolio. Thus, indirect land speculation is one of the most important ways banks are led into actions that result in low levels of liquidity.

The starting point of this irresponsible behavior lies in the confusion of land and capital. There is a tendency in modern parlance and theory to conflate the two and to treat lending for land on a par with lending for capital.

### *1. The Difference Between Land and Capital*

Land and capital are mutually exclusive categories. Between them, they include all assets with intrinsic value. Some of each is needed for all production (each is “limitational”), so both are always relevant. As to formation, land (by definition) is what nature gives. It is only capital that humans form, by producing in excess of consuming. Propositions relevant to capital formation must always distinguish land from capital. Capital formation involves spurts of sacrifice, self-restraint, self-discipline, and self-control. Capital maintenance, and avoiding dissaving, calls for *continuous* self-restraint, generation after generation, and throughout life cycles, not “eating the seed-corn.” Land (other than exhaustible natural resources) cannot be consumed, but capital must be maintained and replaced.<sup>10</sup>

Capital formation is not aided by, and may be deterred by, raising returns to land. All relevant analysis must carefully distinguish the two. Land and capital are not mutually convertible.<sup>11</sup> Capital is convertible into any other kind of capital each time it turns over. With each turnover it is 100 percent *fungible*. Land is not convertible even into other land, and certainly not into capital.

### *2. Interest Rates and Asset Values*

Both land and durable capital are highly sensitive to interest rates. Rising interest rates lower the market value of each, with falling interest rates having the opposite effect. The value of every asset is affected by interest rates according to the expected life of the asset. Land is most strongly affected, then durable capital. Capital that turns over quickly is hardly affected. That is because, as we saw in the

previous chapter, the longer the life of the capital, the larger the proportion of the cash flow from it that goes to interest instead of capital replacement. Since land does not depreciate at all, it is even more sensitive to interest rate fluctuations than any capital. As a result, when interest rates fall, the price of land rises more rapidly than the value of durable capital, which rises faster than the value of capital of short maturity.

A boom (period of rapid asset price appreciation) may be set off by any number of events, alone or together: a drop in interest rates, an expectation of increasing personal income (nominal or real), or a major “peace dividend,” meaning a tax cut without loss of public services. Almost any such event will translate into higher land prices more fully and quickly than a rise in the value of capital. Once the price of land starts to rise, that may create the expectation of a further rise, which becomes a self-fulfilling prophecy up to a manic peak, unsustainable, to be followed by a depression.

### *3. The Role of Banks in Fueling Booms*

Although binges of easy credit have fueled boom-bust cycles in the past, even bankers have short memories. (So do some economists, it seems.) Instead of remaining cautious about lending against an asset that can fall in price as readily as it rises, banks jump on the bandwagon and give increasingly risky loans on the expectation that land prices will continue to rise. As a result, banks accept land as collateral even when the ratio of price to annual lease value (similar to the price/earnings ratio for common stock) rises to an absurd level.

When the boom is in full swing, as it was in 1925, 1955, 1972, 1988, or 2005, and there is easy money to be made “flipping” properties, banks expand their balance sheets and allow their capital ratios to decline to a precarious level, which becomes the proximate cause of the ensuing recession or depression (Norris 2007).<sup>12</sup> Since everyone participates in the euphoria, it is difficult for loan officers to cast doubt on the premise that the good times will last forever.

When asset prices (particularly land prices) stop rising, they cannot simply level off. The only thing sustaining the inflated price of land (“property values”) is the expectation of future rising prices. As soon

as that expectation starts to evaporate, as soon as it becomes evident that there is not another buyer willing to pay an extra percentage point over the last sale price, then prices fall. They do not fall gradually; they come down in an avalanche, returning to a level that can be sustained from annual leases. Banks are not passive in the process. They accelerate the fall in land prices by refusing to lend against inflated collateral values.

Many or most banks cannot save themselves by prudence at the final stage in the cycle. Their balance sheets have been overextended by making loans on real estate with inflated land prices. When prices fall far enough, many owners find themselves “under water”: they have negative equity (real estate worth less than the mortgage), and abandon their holdings. Or, they cannot make the payments, and the lenders foreclose. Either way, banks end up with large amounts of property that yield no income. Instead of working assets, banks have frozen assets. Their capital is effectively depleted because of the losses they have sustained by lending on land that has declined in value. Because of their low capital ratios, banks cannot expand their balance sheets by lending again. They are unable to perform their basic service of creating liquidity.

#### *4. How Capital is Destroyed During a Speculative Boom*

While credit is being extended during the upswing, a second process is also occurring that will put an additional restriction on bank lending after the land price bubble has burst. Saving, capital formation, and capital replacement all decline during the upswing. Thus, the personal saving rate (ratio of saving to disposable income) dropped precipitously on three occasions: by 25 percent from 1992 to 1993; by 44 percent from 1998 to 1999; and by 81 percent from 2004 to 2005 (U.S. Council of Economic Advisers 2009: Table B-30). These were all during periods when the economy was recovering or surging, either from real economic growth or from a bubble.

The loss of savings during the upswing reduces the capacity for capital formation. That is particularly a problem for small businesses that need working capital. The decline of personal saving pales in comparison, however, with the loss of value from the existing stock of capital.

The loss of value of existing capital during the period of rapidly rising asset prices stems from two sources:

1. Equity withdrawal. Rapidly rising residential and commercial land values create the illusion of increased wealth, even though there is no corresponding increase in real goods. Nevertheless, homeowners and other property owners treat the rise of land value as an increase in real wealth and increase their consumption accordingly. The capital in existing buildings is “consumed” economically because building owners treat land value increases as income and consume their depreciation allowances rather than reinvesting them.<sup>13</sup>
2. Misallocation of capital. When land values rise rapidly, there is a corresponding increase in construction of houses, offices, and commercial buildings to take advantage of the rise in demand for land. Much of this new construction represents a misallocation or waste of capital, which becomes evident in the downswing. The loss of the economic value of capital that occurs during a contraction as a result of misallocation has much the same economic effect as lowering the aggregate supply. The misallocation of capital takes three forms: (a) building in locations of low productivity, not ripe for development; (b) excessive building to economize on overpriced land during upswings; and (c) overinvestment in durable capital with long payout. All three categories lead to an unrecoverable loss of capital value during the downswing of the cycle, at which point there is excess capacity, locational obsolescence, and a very limited supply of working capital because so much capital is now frozen in durable structures.

As John Stuart Mill (1872: BK. I, Ch. V, §6: 47) said: “Capital is kept in existence from age to age, not by preservation, but by continual reproduction.” Capital reproduces itself by yielding a capital consumption allowance. When rising land prices create the illusion of increased income, building owners consume that allowance instead of saving it, so capital stops reproducing itself. This is how rising land prices drive capital out of production and create so much unemployment and suffering during the downturn.

**Lessons from the 1920s and 1930s**

FOR THE PAST YEAR OR SO, we have heard many examples of how banks become overextended by lending on real estate and construction during periods of rapid expansion, only to find themselves unable to provide liquidity in the following downturn. “Subprime” loans (i.e., mortgages for borrowers who did not meet normal loan criteria) and financial pyramids of derivatives built on bundled mortgages of varying quality have been blamed for the crash. But those are the particulars, and we need to be looking for the general cause of economic failure, if we are to prevent it from recurring.

The general cause we have been examining in this essay is the tendency of banks periodically to break loose of regulatory moorings and to lend recklessly on overpriced land and speculative buildings that are being developed during a manic bubble. At the end of each round of that cycle, banks have been left holding large, unwieldy, low-value assets, and the economy has suffered from the inability of banks to extend credit, even to healthy businesses. By tying up capital in land and long-term projects that cannot be liquidated, banks allow the assets of the nation to become frozen and partially unusable.

The clearest example of that process of tying misallocation of capital to bank failures is the Great Depression of the 1930s. Yet economists have largely ignored that feature of the 1930s because of their focus on monetary causes of economic ills. According to this conventional view, the financial system is largely autonomous from the real economy and can be manipulated (well or badly) without reference to actual events. Here, rather, we provide evidence from the depression of the 1930s that land speculation is the chief cause of periodic booms and busts.<sup>14</sup>

*A. Nationwide Perspectives*

One way to understand the relationship between the land boom of the 1920s and the Great Depression of the 1930s is by viewing these events in terms of the national economy.

Simpson (1933) diagnosed the central cause of the economic contraction as “real estate speculation.” Noting that speculation in western lands and railroad lands had caused previous boom-bust cycles in the 19<sup>th</sup> century, he observed that the 1930s cycle was the first one caused by *urban* land speculation, brought on in part by the massive migration from depressed rural areas to cities.<sup>15</sup> He provided as an example the speculation that took place around Chicago, where approximately half a million lots were subdivided in the 1920s and left vacant as of 1928 (Simpson 1933: 164). Banks and other financial institutions throughout the nation played a major role in the inflating of land values by their lending practices:

[A]ll the financial resources of existing banking and financial institutions were utilized to the full in financing this speculative movement. . . . Real estate interests dominated the policies of many banks, and thousands of new banks were organized and chartered [to provide] the credit facilities for proposed real estate promotions. [Most were] located in the outlying sections of the larger cities or in suburban regions not fully occupied by older and more established banking institutions. . . . [C]ommercial banks . . . [were placed in a] highly over-extended position. . . . [A] large . . . portion of this loan structure depended for its solvency upon . . . a continued advance of real estate values. When [those real estate values stopped rising] . . . the banks found themselves loaded with frozen assets, which we have been trying ever since to thaw out. . . . [R]eal estate, real estate securities, and real estate affiliations in some form have been the largest single factor in the failure of the 4,800 banks that have closed their doors during the past three years and in the “frozen” condition of a large proportion of the banks whose doors are still open. . . . [I]t becomes increasingly apparent that our banking collapse during the present depression has been largely a real estate collapse. (Simpson 1933: 164–165).

Based on this broad-brushed analysis by Simpson, it should be possible to find evidence of the problem he describes in national statistics. However, since bank failures caused by real estate bubbles are localized, national banking statistics give only limited evidence of how real estate lending leads to the contraction of bank balances. Nevertheless, some national statistics from the 1920s and 1930s may be instructive.

Data on construction reveal something about the pattern of over-extended investment in real estate. Housing construction was the largest factor in the boom of the 1920s (U.S. Bureau of the Census:

Series N106, N115). Housing starts from 1922 through 1928 averaged 833,000 per year, almost exactly twice the average from 1910 to 1916. In the peak year, 1925, there were 937,000 starts, a level not reached again until 1949, when the number of families had grown by more than 30 percent. This figure declined by 20 percent from 1925 to 1928, and then by an average of 26 percent per year from 1929 to 1933.

Since housing construction began to decline after 1925, it might seem that the building boom of the 1920s was only peripherally related to the depression starting in 1930. The factor that explains the gap is the high level of nonresidential building construction from 1926 through 1929, which was 48 percent higher (in constant dollars) than the years 1922–1925 (U.S. Bureau of the Census 1960: Series N5, E133). In 1929, the peak year, investment in nonresidential building construction was 80 percent higher than in the base year of 1922. Then, in the downturn, from 1929 to 1932, investment in nonresidential buildings fell by 77 percent. By 1929, it would seem that banks had exhausted their liquidity and could no longer support construction loans.

The banking problems of the 1930s were not created by averages but by differences. For example, the ratio of real estate loans to all loans differed dramatically between nationally chartered banks and other banks (state-chartered banks, trusts, and other institutions). In national banks, the ratio averaged 6 percent in the 1920s. By contrast, the ratio in nonnational banks averaged 38 percent (U.S. Bureau of the Census 1960: Series X44, X45, X66, X67). In both cases, the ratio continued to rise in the 1930s as other types of loans were liquidated while real estate loans remained frozen on the balance sheets. State banks faced serious problems of liquidity because such a large portion of their portfolios was tied to real estate. Between 1930 and 1933, national banks liquidated 50 percent of their non-real estate loans, but nonnational banks had to liquidate 65 percent of the same loans (U.S. Bureau of the Census 1960: Series X42, X68). That left the state banks, on average, far less liquid than national banks. In 1931, state commercial banks outnumbered national banks by a factor of 2.2, but state banks were suspended 4.6 times as often as national banks (U.S. Bureau of the Census 1960: Series X42, X91, X166–168).

These national data hide the fact that real estate lending by a small number of banks in each region created liquidity problems for the

entire banking system. Thus, it is necessary to look beyond national data to understand how overextended real estate investment damaged the banking system.

The regional nature of economic contractions can be observed in 2009. There is currently an obvious state-level relationship between recent real estate transactions and current economic difficulties. Of the 10 states with the highest foreclosure rates in the first quarter of 2009, eight had higher than average rates of unemployment, with Michigan, California, Oregon, and Nevada all facing double-digit joblessness, largely as a result of the “mortgage meltdown” in those states (U.S. Department of Labor, Bureau of Labor Statistics 2009; RealtyTrac Staff 2009). The integration of financial markets has spread the losses over every region and even to other countries, but the hardest-hit areas in the United States are still the epicenters of real estate speculation.

The best way to see how real estate speculation causes monetary problems is to examine how these relationships develop at the local level. To that end, we now turn to case studies of Florida and Detroit (with a brief reference to New York City).

#### *B. Florida and New York City in the 1920s*

The Florida land boom of the 1920s is well-known as an object of historical curiosity. Only a few contemporary observers recognized its economic significance. In his 1931 book *Only Yesterday*, Frederick Lewis Allen journalistically described at length the real estate frenzy that overtook Florida from 1922 to 1925 ([1931] 1959: Chap. 11). He said only a little about the connection with banking, but it was highly suggestive of the economic meaning of the land boom:

In 1928 there were thirty-one bank failures in Florida; in 1929 there were fifty-seven; in both of these years the liabilities of the failed banks reached greater totals than were recorded for any other state in the Union. . . . Bank clearings for Miami, which had climbed sensationally to over a billion dollars in 1925, marched sadly downhill again:

1925.....	\$1,066,528,000
1926.....	632,867,000
1927.....	260,039,000
1928.....	143,364,000
1929.....	142,316,000 (Allen [1931] 1959: 199–200)



The previous rise of bank clearances had been equally rapid.<sup>16</sup> The bank-clearance data reveal the extreme local effects of the land boom on the banking system, and they hint at the severity of the banking contraction that occurred during the downswing of the cycle.

Homer B. Vanderblue (1927b) explained the way in which real estate lending in Florida drove down the capital ratio of the banks and how that led to their failure in 1926:

At the end of December, 1925, many of the Florida banks had deposits 20 and 30 times their combined capital and surplus; as these abnormally large deposits were drawn down, such banks as had become involved in the real estate speculation through heavy loans to “operators” and “developers” found themselves unable to meet the demands made upon them. (1927b: 266)

It is instructive, however, that only one Florida bank that was a member of the Federal Reserve system failed in 1926 (Vanderblue 1927b: 268). The Federal Reserve Bank insisted that its member banks follow the discipline of the “real bills” doctrine. As one observer noted in 1927:

The Federal Reserve System is properly given a great deal of credit for our present prosperity. The business world is now so well organized that any tendency towards trouble is quickly stopped before becoming general. As an example, the deflation of the Florida boom in the old days would have caused a country-wide panic, but now it made only a ripple on the surface. (*Credit Digest* 1927, qtd. in Holland 1972: 57)

It seems doubtful that the boom and crash in Florida real estate created only a “ripple on the surface,” since many independent banks in Florida failed, and banks outside of Florida were also involved in real estate loans. Their loss of liquidity almost certainly contributed to the weakening of the national banking system. Nevertheless, the Florida experience did demonstrate that if all banks had stayed within the bounds of the real bills doctrine, that sort of prudence would have avoided the instability that followed.

Florida was only the most sensational case of the 1920s. Because of journalistic accounts at the time, it seemed to be in a class by itself. But it was not. Allen ([1931] 1959) touched on the effects of the real estate bubble of the 1920s elsewhere. He mentions the many skyscrapers built in Manhattan (among other cities) during this period, which ultimately ended up creating excess capacity:

The final phase of the real-estate boom of the nineteen-twenties centered in the cities themselves. . . . There is scarcely a city which does not show a bright new cluster of skyscrapers at its center. The tower building mania reached its climax in New York . . . coming to its peak of intensity in 1928. . . . [B]etween 1918 and 1930 . . . [office space] was multiplied approximately by ten. . . . The confidence [was] excessive. Skyscrapers [were] overproduced. In the spring of 1931 . . . some 17 percent of the space in the big office buildings of the Grand Central district, and some 40 percent . . . [in] the Plaza district farther uptown, were not bringing in a return. . . . [F]inanciers were shaking their heads over the precarious condition of many realty investments in New York. ([1931] 1959: 203–204)

Those financiers were shaking their heads because their investments were causing serious problems as nonperforming assets on their balance sheets. Yet, because these effects were localized, the financial damage caused by the excessive building of the 1920s is seldom mentioned by economists seeking the causes of the Depression.

### *C. Real Estate Speculation and the Detroit Bank Failure of 1933*

Perhaps the most exhaustive case study of the origins of financial distress in real estate bubbles is the analysis by John Joseph Holland (1972), who explains the failure of banks in Detroit in 1933 in connection with land speculation in that city during the 1920s.

Although the case study by Holland deals with a single city, that city was of national significance in 1933. To begin with, Detroit grew much faster, by a wide margin, than any other American city from 1900–1930, rising from nowhere to become our fourth biggest city. It was boomtown U.S.A., the symbol of our successful industrialization and the nerve center of a mighty new economic empire. According to Holland (1972: ii), “the banking collapse in Detroit in 1933 touched off a national panic” that led President Roosevelt to declare a national bank holiday on March 6, 1933. That banking crisis “interrupted an economic recovery that had begun in mid 1932” (Holland 1972: ii). Thus, the events he examines are not merely of local interest. The experience of Detroit banks was symptomatic of the general causes of the Depression, and it was of particular importance in one distinctive phase of the national crisis.

Growth, of course, feeds speculation. One characteristic that made Detroit banks vulnerable to insolvency was the growth of real estate

loans.<sup>17</sup> As banks expanded their balance sheets with a large increase in loan volume in the 1920s, the proportion of loans for real estate grew from 33 percent in 1921 to 41 percent in 1926, then fell to 36 percent in 1930 (Holland 1972: 45). This was particularly true of lending of money held by the banks in the form of time deposits (saving accounts). Throughout the 1920s, Detroit banks committed a larger proportion of their time deposits to real estate loans than did banks elsewhere. In 1929, real estate loans were 56 percent of time deposits in Detroit, as compared to 26 percent for Federal Reserve member banks in other cities (Holland 1972: 45).

The problems with this form of lending were better understood in the 1920s than they are today. The Federal Reserve Act was originally based on the real bills doctrine that requires lending to be self-liquidating (Holland 1972: 57). The problem was that banking was no longer organized along those principles. A report by the Federal Reserve Board said:

the cause of banking difficulties in recent years has been the extension of activities of banks beyond the traditional field of commercial banking and into the field of capital financing and real estate loans. (Board of Governors of the Federal Reserve 1931: 53)

Detroit banks were unable to follow the principles of the real bills doctrine as strictly as Chicago and New York banks because the opportunities for commercial lending in Detroit were so limited. The automobile companies were mostly self-financed, and there was little trade-related commerce there.<sup>18</sup> Thus the proportion of loans in Detroit eligible for Federal Reserve backing fell from 12.3 percent in 1925 to 6.4 percent in 1929. This gave the Federal Reserve little basis for lending to Detroit banks in the event of a liquidity crisis. Holland (1972: 59) concludes that “[t]he gap between the Detroit banks and the Federal Reserve as a potential source of liquidity grew wider as the [1920s] progressed.” In any event, trust companies, which were not part of the Federal Reserve system, were the institutions most heavily engaged in real estate lending. As Holland (1972: 95) says: “The banking collapse in Detroit was triggered by the illiquidity of the Union Guardian Trust Company. The problems . . . originated with a predecessor, the Union Trust Company.”

After World War I, there was considerable latent demand for housing in Detroit, particularly in the suburbs.<sup>19</sup> For example, Dearborn grew by almost 2,000 percent and Ferndale by 750 percent in the 1920s (Holland 1972: 112). The postwar recession of 1921 delayed construction. The following were boom years:

From 1922 to 1929, real estate activity in Detroit went through three phases. First, was the boom in residential construction, which ran from 1922 to 1926. The second phase was the speculation in lots, subdivisions and improved farmland, which had its peak from 1924 to 1926. The final phase was the construction of large office buildings and apartment complexes, which reached peak activity from 1927 through 1929, when most of Detroit's skyscrapers were built. This was a "lagged" type of construction activity, which had its roots in the 1922–1926 boom when many of the plans for these buildings were made. But unlike residential construction built on subdivided farmland, these large buildings required considerable time between planning and construction. (Holland 1972: 102–103)

In the first few years of the residential building boom (phase 1), the new housing was filling an unmet demand. However, by 1925, that demand was met, but building continued, and created excess capacity. Construction of residences declined after 1925, but construction of large office buildings (phase 3) doubled from 1926 to 1928. In the interim, the growth in construction of suburban housing set off the speculation in new subdivisions (phase 2). About 91 percent of all lot subdivision in Detroit took place between 1915 and 1935, and 60 percent of that took place in 1924–1926. Although demand by builders for lots began to decline in 1925, speculative trading of lots continued into 1926. Lot prices in residential subdivisions rose in a speculative fever, far beyond their value for houses, to 10 or more times assessed value (Holland 1972: 115–117).

Builders who invested in large subdivisions after 1922 were constantly in danger of insolvency. They borrowed to buy the land, then had to borrow more to finance public improvements (streets, sidewalks, trees, etc.). They were "land poor." To assist them with their financing problems, the Union Trust Company invented "land contract bonds," which enabled it to lend money against entire subdivisions, despite the existence of previous liens on the property, with almost half of the bonds issued against the property of two subdividers as the security. The highly cyclical nature of employment in Detroit (tied to

the automobile industry) made such loans highly risky, and by 1926, defaults began to accumulate (Holland 1972: 121).

The Union Trust Company actually increased its mortgage lending during the years following the initial crash of the residential housing market, from \$6 million in 1925 to \$18 million in 1928, mostly because of its relationship with large contractors. In addition, whereas most state banks financed real estate in established parts of Detroit and older suburbs, the Union Trust Company lent money in new suburbs, where subdivision and construction were highly speculative (Holland 1972: 123–124).

As a result of its lending against real estate in the extensive margins of Detroit, the value of the collateral held by Union Trust fell rapidly after 1926. “Well before the full force of the depression was felt, the frozen nature of its assets and the company’s basic illiquidity was apparent” (Holland 1972: 127). Bills payable rose tenfold from 1927 to 1929, and real estate in foreclosure increased sevenfold. More than half of its assets were held in the form of mortgages or collateral loans. An exceptionally large proportion of mortgages were for low-cost houses (\$3,000 to \$5,000), which was the category of housing most hurt by the depression (Holland 1972: 127–130). (These were the sorts of houses bought by middle-income households most affected by unemployment, who were only marginally able to meet payment obligations during the best years, and the first to be foreclosed during the downturn.)

From 1929 to 1932, bank deposits shrank throughout the nation, as households feared the insolvency of banks and created the very condition they feared by withdrawing deposits. Since bank assets were largely in the form of real estate holdings, they could not be liquidated easily, and those that were liquidated through foreclosure lost much of their value. (The same process is occurring now, in 2009.) Thousands of banks closed during this period, as their capital proved insufficient to cover the drain on deposits (Holland 1972: 147).<sup>20</sup>

In 1931, weak banks borrowed from more liquid banks locally, and some banks borrowed from Federal Reserve banks to maintain liquidity. Fearing that depositors might start a run on the banks, every bank sought to increase its liquidity, but doing so meant selling off assets at a loss. Since everyone was trying to sell simultaneously, the price of

assets fell, which further reduced the value of each bank's capital and assets, but not its liabilities. Underlying the general problem of liquidity (and the resulting deflation of asset values) was the frozen character of real estate loans. Banks held assets that could not be used to pay off nervous depositors, which is precisely why the depositors were nervous.

Bank failures (as measured by aggregate deposits) were only half as severe in 1932 as 1931 (Holland 1972: 147). During the second half of 1932 (after a run on the banks in Chicago in June), the banking system began a recovery. At the end of 1932, the banking system as a whole had excess reserves, and withdrawals were slowing. However, while New York and Chicago banks were glutted with over \$500 million in free reserves, the banks in the rest of the country had negative reserves of \$200 million (meaning they had borrowed that much to shore up their capital) (Board of Governors of the Federal Reserve 1943: 397–399). The general decline of economic activity still prevented many borrowers from paying their debts—because banks were unable to provide working capital to businesses. Without repayments, the Great Revolving Fund had slowed almost to a standstill. Many banks remained illiquid, even if they were technically solvent. The Federal Reserve Bank was able to pump money into the banking system, but it could not make the money move. The problem was not the quantity of money or reserves. The problem was the immobility or illiquidity of the assets that prevented them from being recycled. Under those conditions, “[a]ny sharp jar to confidence could topple the entire structure. The storm broke in Detroit with the failure of the Union Guardian Trust Company” (Holland 1972: 196, citing Chandler 1959: 405).

The loss of liquidity of a single finance company (Union Guardian Trust) in a single city (Detroit) certainly could not have “caused” the bank run in 1933 entirely on its own. However, once hundreds of banks around the country became vulnerable because of their own real estate lending, the mutual reliance of banks within and between cities to provide liquidity to each other created the conditions for a domino effect. The failure of one major lender could then easily lead to the failure of many others. During January 1933, the withdrawal of \$1 million in deposits from Union Guardian made it insolvent, not just illiquid. Despite efforts on February 9 by President Hoover and his

advisors to persuade Henry Ford to salvage it, the Union Guardian Trust became insolvent. The governor of Michigan declared a bank holiday on February 14, 1933, because of the threat to the entire Michigan banking system posed by the public knowledge of the failure of the Union Guardian Trust (Holland 1972: 192–194). The fear of panic, as evidenced by a national surge in demand for currency (more than twentyfold increase in Chicago, for example) during the last week of February and the first week of March, persuaded governors in Maryland, Ohio, Illinois, and New York to suspend bank operations in their states as well. On March 6, 1933, President Roosevelt declared a one-week national bank holiday, and the panic subsided by April (Holland 1972: 196–198).

In the aftermath of the 1933 banking crisis, Detroit bankers became overly cautious, investing primarily in government and corporate securities, rather than making loans to local businesses (Holland 1972: 251). This was the wrong lesson to learn. While the bankers were wise to shy away from real estate lending, which tied up assets and reduced bank liquidity, they could easily have shifted into lending for accounts receivable and installment loans for consumer durables. These self-liquidating loans would not have left banks vulnerable to illiquidity. Even when household and business income dropped during a depression, these kinds of loans were still repaid (Holland 1972: 254, citing Board of Governors of the Federal Reserve 1957: 83). Because those sorts of loans turn over quickly, they not only benefit households and businesses, they also ensure the health of the banking system and the local economy.

In the 1930s and in later decades, some bank regulators drew the conclusion that branch banking was partially responsible for the insolvency of banks during the Depression. Those restrictions were lifted over time, but it is useful in retrospect to understand the partial validity of the original concern. The problem in Detroit was *not* branch banking per se. Instead, the connection between branch banking and instability was the creation of branches in new suburbs where the major form of lending was for subdivisions and other speculative real estate ventures. When the boom came to an end, the lending practices of those branches caused the banks or trusts to face a liquidity crisis or even insolvency. If branches had been set up

merely to create convenience for households, in order to attract deposits, there is no reason to believe that branch banking would ever have been viewed as problematic.

## VI

**Conclusion**

THE FINANCIAL SYSTEM of any nation is built on confidence. No amount of “backing” from gold or reserves or “too big to fail” plans can sustain a financial system in which participants have lost confidence. Trust is the greatest asset that any system of credit can have. It is what permits businesses to engage in exchange and allows an entire economy to succeed.

Periodically, trust and confidence recede, leaving an economy with very limited liquidity and the danger of shrinkage. Once that occurs, financial bailouts may succeed in preventing the complete collapse of the system, but they do not truly restore health. The soundness of an economy and its financial system must be based on the production of real goods and services, not merely the increase in financial transactions.

The aim of this essay has been to show that the trust created by banks is fragile and that it is a collective good. A relatively small number of banks can destroy the confidence that has been created as a collective good. They do so by lending against inflated real estate values and thereby losing their liquidity and their ability to issue short-term loans. Because banks are so interconnected, the high-risk behavior of a few banks can undermine liquidity not only in a small region, but now on a global basis.

Monetary authorities have tried with very limited success to prevent the creation of speculative bubbles by imposing quantitative controls on credit formation. There are too many ways to circumvent those controls. Thus, what I have proposed here is the establishment of rules that would implement the real bills doctrine, which favors short-term self-liquidating loans. That would entail curtailing real estate lending or at least limiting the proportion of any loan portfolio for that purpose. I have not tried to spell out in detail what sorts of rules might apply to banking. Until economists and the political leaders who follow their advice are convinced that the most serious



problems in banking stem from real estate lending, any effort to provide a specific reform plan is premature.

This proposal to operate the banking system according to the principles of the real bills doctrine is in keeping also with the recommendations in previous chapters to (1) adopt land-value taxation (which would reduce the capital value of land and thus require less financing); (2) adopt improved and more frequent property assessment (to reduce the likelihood that bubbles will form); and (3) adopt labor-friendly tax policies that will have the effect of reducing demand for the kinds of durable capital that cause liquidity problems for banks.

I repeat the adage from John Stuart Mill (1872: BK. I, Ch. V, §6: 47): “Capital is kept in existence from age to age, not by preservation, but by continual reproduction.” Most of the troubles of modern economies stem from failing to heed that message—by treating capital as a stock from which we can draw rather than as a revolving fund that must constantly be renewed. The taxation of land transforms the money loaned on it from a frozen capitalized lump to a flexible flow. As we saw in the previous chapter, the removal of taxes on labor will have the beneficial effect of increasing the turnover of capital and reducing unemployment while simultaneously reducing sprawl. Applying the same principle to turnover of capital in the financial system, we should seek to implement policies that preserve the liquidity of banks rather than waiting for crisis and then fruitlessly attempting to inject that liquidity.

The old lesson retaught by the financial crisis of 2008–2009 is that the liquidity of the financial system is endogenous. The kinds of loans that banks make affect the real economy and vice versa. By adopting a unified framework that encompasses land, capital renewal, and banking, economics could lead us out of the present morass and save us from the next. This next one is due in about 2026, based on the 18-year average period of past land cycles.

### Notes

1. As a result of deregulation in the past two decades, many institutions now perform some of the services previously limited to banks. For the sake of simplicity, we will refer to all of them as banks, except when it is necessary to differentiate among them.

2. It is called a demand deposit because it amounts to redepositing the bank's loan in an account on which the borrower can write checks at any time ("on demand").

3. One of the conventions in telling the story of the origins of banking is to insist that it began with gold as the collateral for loans. This perpetuates the mythology that gold is somehow an inherent store of value and that monetary systems not backed by gold are weak. In fact, the real source of backing of any currency is the real economic activity that gives value to the assets held by banks.

4. A 100 percent reserve requirement would mean that banks could only lend the currency they received as deposits. This would mean that banks could not issue credit and that the money supply would remain constant unless the government increased it by issuing more currency. Whereas banks create credit only in response to economic demand, governments can create currency without limit, thereby risking inflation. On the other hand, if governments issue insufficient currency, they can stifle economic development. Thus, a fractional reserve system leaves flexibility in private markets, where it should remain. That does not preclude other forms of public regulation of banks, however.

5. One of the contributing factors to the current crisis was the repeal of Glass-Steagall in 1998.

6. In theory, this constraint applies to every country. However, since the U.S. dollar is the global currency of account, the United States has not been held accountable in international markets for continuously running a trade deficit for several decades. If the international currency switched to the euro (for example, if OPEC started demanding payment in euros, not dollars), the world market would be glutted with dollars that no one would want. The value of the dollar would collapse, and the United States would suddenly have to begin paying off its international debts, which would lower the standard of living of Americans drastically. The United States would face the stringent demands currently confronting many developing countries—how to increase productivity while interest rates are high.

7. For an empirical refutation of the Friedman-Schwartz thesis, see Calomiris and Mason (2003), who argue that bank failures from 1929 to 1933 were not primarily the result of "contagion" and "panic" (the Friedman-Schwartz thesis). Instead, those failures represented shocks to the banking system from real economic factors. They do not, however, examine real estate speculation and price collapse as significant factors contributing to the liquidity crisis that caused the failure of hundreds of banks.

8. One partial exception to this general rule is Gordon and Wilcox (1981: 77–79, 103 fn. 36). Gordon and Wilcox recognize that (a) endogenous factors help explain "the Great Contraction," (b) excessive residential construction from 1924 to 1927—at 8.6 percent of GDP—was an important precipitating

factor, and (c) the resulting decline in housing starts from 1926 to 1930 reduced GNP by 5.6 percent (over 40 percent of the total decline). However, they do not recognize that the expansion and contraction of bank lending was in any way related to the boom and bust in construction. In that respect, they continue to follow the Keynesian and monetarist view that financial factors are independent of real events.

9. If the risk associated with bank expansion is not self-evident, consider this. Liabilities divided by assets ( $L/A$ ) is always less than 1 because assets equal liabilities plus equities. The higher that  $L/A$  ratio, the lower the percentage is left over as assets to cover nonperforming assets. Suppose  $L/A$  is initially  $4/5$  or 80 percent. The difference ( $5 - 4 = 1$ ) is the amount of equity. If the bank expands both assets and liabilities, the  $L/A$  ratio might become  $9/10$  or 90 percent. That still leaves 1 ( $10 - 9$ ) as the equity, but it must now cover a larger base of assets, which increases risk. In this simple way, expansion of bank assets (and corresponding liabilities) increases risk.

10. As John Stuart Mill (1872: 46–47) so ably expressed it: “When people talk of the ancient wealth of a country, of riches inherited from ancestors, and similar expressions, the idea suggested is, that the riches so transmitted were produced long ago, at the time when they are said to have been first acquired, and that no portion of the capital of the country was produced this year, except as much as may have been this year added to the total amount. The fact is far otherwise. The greater part, in value, of the wealth now existing in England has been produced by human hands within the last twelve months. . . . Capital is kept in existence from age to age not by preservation, but by perpetual reproduction: every part of it is used and destroyed, generally very soon after it is produced, but those who consume it are employed meanwhile in producing more.”

11. The important case of exhaustible resources is not considered here. It is a subject in itself. For one of many analyses, see Gaffney (1967).

12. Norris (2007) cites 1974, 1980, and 1991 as recession years. In each case, the recession followed a decline of at least 33 percent in housing starts over two years. The 1958 recession was preceded by a similar pattern, with housing starts peaking in 1955 (U.S. Bureau of the Census 1960: Series N-106). The depression of the 1930s will be discussed at length below.

13. Under normal circumstances, the cash flow from an existing, middle-aged building that has largely paid off the interest on the original construction loan will mostly finance the owner's depreciation allowance or capital consumption allowance (CCA). The CCA is invested elsewhere, to conserve the owner's capital. When the building is finally torn down, the owner (and society) will have as much capital as ever. When the price of the land under the building rises during a speculative boom, the cash flow of the building

remains the same. However, the price of the land under the building rises so high it is now worth as much as the combined land and building were worth before. The owner no longer feels the same pressure to save in the form of a CCA to conserve his or her wealth. Instead, it seems that the rise of land price has accomplished that goal. The cash flow from the land plus building combination is now imputable to the land alone, to justify the land's higher price. The cash flow is all net income because land does not depreciate. The owner may spend it all on consumption, which many do.

14. In the first essay in this volume, we examined the periodic nature of the expansion and contraction of the economy based on real estate speculation, of which the Great Depression was only one example. For analysis of the history of this phenomenon, see Cole (1927), Hoyt (1933), Harrison (1983, 1997, 2005), Foldvary (1997, 1998, 2007), Kavanagh (2007), Anderson (2008), and Gaffney (2008).

15. "The agricultural depression [of the 1920s] in reality contributed substantially to the urban inflation [of land prices] by forcing the movement of millions of people" into the cities (Simpson 1933: 163).

16. The value of bank clearances in Miami was \$202 million, according to Vanderblue (1927b: 262), the same as the 1927–1928 average. Similar figures on bank clearances for Tampa and Jacksonville, in Vanderblue (1927a: 118), show that the peak year in both of those cities was 1926, not 1925. The peak in Jacksonville was 57 percent higher than in Miami.

17. Detroit banks were also vulnerable because their capital ratio was lower than in many other cities: 12.7 percent in Detroit compared to 18.6 percent for banks in New York City and 19.5 percent in St. Louis and Pittsburgh (Holland 1972: 53). However, Holland points out that this weakness was actually a sign of strength in a way. Detroit banks had low capital ratios because their deposits grew so rapidly in the 1920s, compared to most other cities in the eastern United States. In San Francisco, which also experienced rapid growth in this period, the capital ratio of two major banks was around 9 percent (Holland 1972: 56).

18. On the problem of self-financing and the banks, see Currie (1931). Currie goes on to give this event a wrong spin, in my opinion, but the phenomenon he highlights was real enough.

19. This did not include Highland Park and Hamtramck, where the Ford and Dodge plants had moved in 1910 and that were mostly built out by the 1920s, when speculative suburban development began on a large scale.

20. Bank failures by size of deposits almost doubled from \$139 million in 1928 to \$234 million in 1929, then rose by 250 percent to \$865 million in 1930, and almost doubled to \$1.7 billion in 1931 (Board of Governors of the Federal Reserve 1933: 220).

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