

UNDERSTANDING SHADOW BANKING AND IT'S ROLE IN THE RECENT FINANCIAL CRISIS

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Abstract

Prevailing approach which dominates science of economics is "invisible hand," that is, a world where private decisions are unknowingly guided by prices to allocate resources efficiently. The credit crisis raises the question of how it is that we could get slapped in the face by the invisible hand. What happened? Very actual opinion today is: that market is a imperfect mechanism? There is strong polarity in economics thoughts: but today fewer economists argue the ability of "invisible hand" to fully regulate market. Taking into account this situation, we started to believe that there are many different ways of thinking about the recent financial crisis. And we wanted to focus on one way that people think about it in terms of probabilities of deviating good bank equilibrium. Through our research of bank nature, we found that the shadow banking system played a major role in the recent financial crisis. Focus of this paper is to contribute understanding of shadow banking system in function of avoiding future financial crisis.

Key words: Shadow Banking, Crisis, Market, Securitization.

1. Introduction

This paper draws on a number of current researches of financial crisis. We acknowledge their influences on my thinking and thank them: Stiglitz, Vi Dang, Krugman, Bengt Holmström, Metrick, and Gordon.

We are going to put the interest of this work in a concrete context, namely, the crisis that the world has been through since 2007, and which we're still in at this point. It's a financial crisis that's bigger than any since the Great Depression of the 1930's. There's many different ways of thinking about a crisis like this. And we want to focus on one way that people think about it in terms of probability of deviating the good equilibrium. So, that's not the only way of thinking about crisis, but that way of thinking comes from thinking about bank, its function and nature.

So, let's just think about the crisis. Most people, when they talk about financial crises, they talk in terms of narrative, of a historical narrative. So, we'll give a quick and easy historical narrative about the crisis. The crisis began with bubbles in the stock market, and the housing market, and also in the commodities market. Bubbles are—I will talk about these later, but bubbles are events, in which people get very excited about something, and they drive the prices up really high, and it's got to break eventually. And there was a pre-break around 2000 when the stock market collapsed around the world. All over the world, the stock markets collapsed in 2000. But then they came back again after 2003 and they were on another boom, like a roller coaster ride. And then they collapsed again. That's the narrative story. And then, both the housing market, and the stock market collapsed. And then, what happened is, we see a bunch of institutional collapses. So, we see, in 2007, failures in companies that had invested in home mortga-

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ges. And we see a run on a bank in the United Kingdom, Northern Rock. It was arrested, but it looked like 1930's all over again with the bank failure. We saw bank failures in the United States. And then, we saw international cooperation to prevent this from spreading like a disease. And then, we had governments all over the world bailing out their banks and other companies. So, a disaster was averted, and then we had a nice rebound. That's the narrative story. And it makes it sound.

And what financial theorists will think about is that actually it's not just those few big events. The crisis we got into was the accumulation of a lot of little events. And sometimes they accumulate according to the laws of probability into big events. And you are just telling stories around this accumulation of shocks that affected the economy. And the stories are not, by some accounts, not that helpful. We want to understand the underlying probabilities.

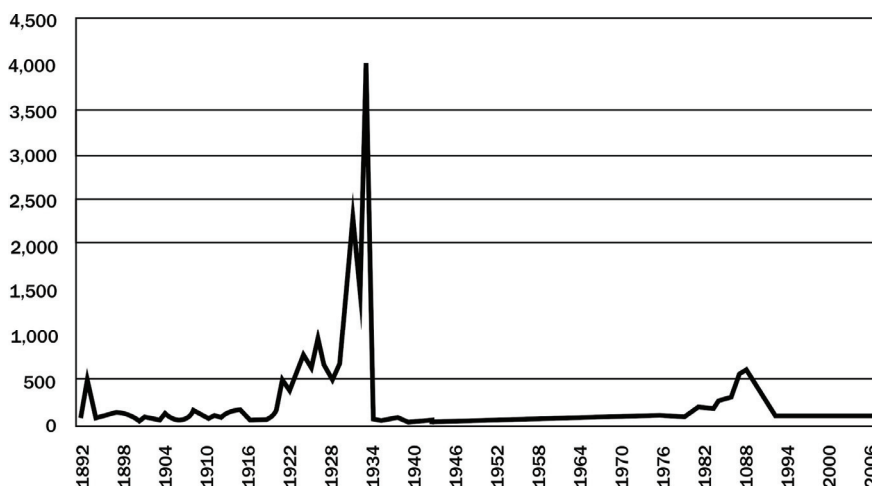
2. What happened?

Since 1934, almost 75 years the World had of relative quiet in banking (see Graphic 1). What has changed? How could problems in one part of the housing sector cause a banking panic in the 21st century?

The banking system metamorphosed in the last twenty-five to thirty years and this transformation re-created the conditions for a deviating of bank's good equilibrium. But, what does that mean exactly? Shadow banking system has developed, and become the main factor for creating conditions for leaving good bank's equilibrium. Focus of this paper is to contribute understanding of shadow banking system. What is the "shadow banking system"? Understanding that the shadow banking system is, in fact, real banking and that current events constitute a banking panic is vital to thinking about the future of the financial system. The failure to understand the transformation of banking has led to a great deal of confusion about the state we are in now. The functions of "banks" and "banking" remain, and these must be understood to see how a banking panic can occur. Understanding this is the only reasonable basis for new policies.

What was causing a deviation of banks good equilibrium? Obviously "bad things" caused that the banking system was insolvent. The reality was that the banking system could not honor contractual demands; there are no private agents who can buy the amount of assets necessary to recapitalize the banking system, even if they knew the value of the assets, because of the sheer size of the banking system. When the banking system is insolvent, many markets stop functioning and this leads to very significant effects on the real economy. Weather the ongoing "credit crisis" is a "banking panic."

Graphic 1: U. S. Bank Failures 1992-2008



Source: Banking and Monetary Statistics and FDIC.

The current crisis has its roots in the transformation of the banking system, which involved two important changes. First, derivative securities have grown exponentially in the last twenty-five years, and this has created an enormous demand for collateral, i.e., informationally-insensitive debt. Second, there has been the movement of massive amounts of loans originated by banks into the capital markets in the form of securitization and loan sales. Securitization involves the issuance of bonds ("tranches") that came to be used extensively as collateral in sale and repurchase transactions ("repo"), freeing other categories of assets, mostly treasuries, for use as collateral for derivatives transactions and for use in settlement systems. Repo is a form of banking in that it involves the "deposit" of money on call (as repo is short-term, e.g., mostly over night) backed by collateral. The current panic centered on the repo market, which suffered a run when "depositors" required increasing haircuts, due to concerns about the value and liquidity of the collateral should the counterparty "bank" fail.

3. Bank Creation of Informationally-Insensitive Debt

The main function of a bank is to collect money, and borrow it. All people know is that he put his money in the bank for safe keeping, and it ought to be there when he wants to draw it out. People put money because they trust in banks, and they expect interest. Banks, also give loans, and earn interest greater than interest on deposits. All players are satisfied.

Most of this academic literature focuses on the bank's asset side of the balance sheet, namely, loans. The basic argument is that bank loans are special because they involve monitoring of the borrower by the bank and the production of private information about the borrower when the loan is made initially. Bank loans are usually the first source of external finance for firms. The implication of these arguments about banking is that bank loans cannot be sold by the bank because then the bank would have no incentive to produce the information in the first place when it made the loan or to monitor the borrower during the life of the loan. What we have in reality is that loans are, in fact, sold in significant quantities. This is part of the development of the shadow banking system. So, the academic theories, and reality do not correspond with reality (Gorton).

On the liability side of the balance sheet, the situation is clearer. Banks produce special securities, that is, informationally-insensitive debt that can be used for transactions. Demand deposits are the leading example of this. Their special features are designed to make checks easy to use to conduct transactions. But, the main point about demand deposits is that counterparties accepting checks written to them need not worry about the value of the check, unlike in the Free Banking Era. Many features of checks contribute to make demand deposits currency. This point was not obvious in the 19th century. Dunbar argues that demand deposits are like currency, which means that it has the basic features of currency.

Gorton and Pennacchi (1990a, 1993a) argue that banks create liquidity by producing securities which have this property. Bank debt is designed to be informationally-insensitive, that is, these bonds are not subject to adverse selection when traded because it is not profitable to produce private information to speculate in these bonds. In the extreme, the securities are riskless, like insured demand deposits. Also, Dang, Gorton and Holmtröm (2009) argued that "Banking" corresponds to the process of creating this type of debt. Clearly, if the debt is a claim on a diversified portfolio, like a portfolio of bank loans, this is made easier. But, this portfolio need not reside at a regulated commercial bank.

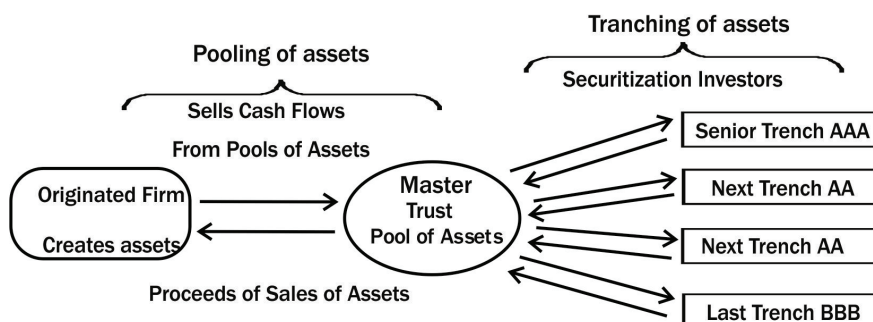
Also a firm may be financed by issuing securities that are claims on the general credit of the corporation, that is, they are backed by the assets of the company (bonds), or the firm can finance itself by segregating specified cash flows and selling claims specifically linked to these specified cash flows. The latter strategy is accomplished by setting up another company, called a Special Purpose Vehicle (SPV) or Special Purpose Entity (SPE), and then selling the specified cash flows to this company; the SPV in turn issues securities into the capital market to finance the purchase of the cash flows from the company (called the "sponsor"). The sponsor services the cash flows, that is, makes sure that the cash flows are arriving, etc. The SPV is not an operating

company in the usual sense. It is more of a robot company in that it is a set of rules. It has no employees or physical location. As we will see, an SPV has some special properties that make it different in other ways as well. The latter process is called securitization.

Securitization involves seniority and large portfolios. The figure below shows the general process of securitization. The figure 1 shows how that the cash flows from assets (loans) created by an originating firm are sold to a special purpose vehicle, which finances this by issuing securities in the capital markets. These securities are based on seniority and are called “tranches.”. As shown in the figure, securitization involves two conceptual steps. First, underlying cash flows from assets are put into a pool. In other words, the specific assets that are generating the cash flows, usually loans of some sort, are identified and sold (in a specific legal sense) to the SPV. As mentioned above, an important distinguishing feature of asset-backed securities (ABSs) is that they are securities that rely upon the cash flows from a specified pool of assets for payment rather than on the general credit of an issuing corporation. The cash flows emanate from assets originally created by a sponsoring corporation. When they are securitized, the cash flows from these assets are sold into a separate legal entity, the SPV (often its legal structure is a Master Trust) that finances the purchase of the assets through issuance of securities to investors.

The second conceptual step in securitization is that the pool of cash flows sold to the SPV is tranced, that is, securities with different seniorities are designed and issued against the pool. Another way to say this is that the SPV has to have a capital structure, so its liability side must be designed. This is called tranching.

Figure 1: General process of securitization



Source: Adapted to Gorton & Souleles, p. 34.

In addition to home mortgages, some other asset classes that have been securitized include: aircraft leases, auto loans (prime), commercial real estate, etc. Securitized asset classes, e.g., mortgages, credit card receivables, auto loans, may be examples of relatively informationally-insensitive debt, created by the private sector without government insurance. Several features make securitization debt potentially immune from adverse selection. First, most of the debt is senior and investment-grade. Second, with securitization, the debt is backed by portfolios. Third, a by-product of many structured products is that they are complex. Complexity raises the cost of producing private information. Finally, securitization does not involve traded equity; this is important because there is no information leakage or externalities from the equity market, as with corporate bonds. In summary, senior tranches of securitizations are informationally-insensitive, though not riskless like demand deposits. The most senior tranches of securitization transactions have never experienced defaults.

Because of the security design, informationally-insensitive debt is surrounded by a different set of trading and related infrastructure and institutions compared to informationally-sensitive asset classes, in particular, equity. Broadly speaking, this debt does not really correspond to the textbook descriptions of “efficient markets,” a notion that is basically about stock

markets. The primary market is over-the-counter, where debt is sold based almost exclusively on its rating. There is no organized secondary market; instead, the secondary market is organized around dealer banks and depends on intermediation via the repurchase market.

Intuitively, informationally-insensitive debt is debt that no one need devote a lot of resources to investigating. It is exactly designed to avoid that. Just as consumers do not spend a lot of time doing due diligence on the bank that is holding the money of someone buying something from you, the counterpart amount firms and institutional investors will turn out to be collateral, i.e., informationally-insensitive debt. "Think of it as like electricity. Millions of people turn their lights on and off every day without knowing how electricity really works or where it comes from. The idea is for it to work without every consumer having to be an electrician" (Gordon, 2009, p. 17).

A "systemic shock" to the financial system is an event that causes such debt to become informationally-sensitive, that is, subject to adverse selection because the shock creates sufficient uncertainty as to make speculation profitable. In summary, fear of the resulting lemons market can cause the (inefficient) collapse of trading in debt and a stoppage of new credit being issued. The current crisis was caused by a shock which led to the collapse of debt, because the banking system broadly has evolved to be susceptible to such a shock. This is discussed below. Continuing the analogy from above, when the shock hits, suddenly the electricity stops working. When that happens, an event no one really contemplated, it is too late for everyone to become an electrician. Because the event of losing electricity is so rare, no one understands it, how it could happen, but the solution of everyone becoming an electrician in the future makes no sense.

4. The Demand for Collateral

Collateral is the currency for firms, that is, firms need to post collateral to mitigate default risk, but also obtain collateral that can be reused or "spent." "Posting collateral" is a way to make good on a promise to pay, as long as the collateral does not lose value while it is posted to the counterparty. We will see that "collateral" is almost synonymous with informationally-insensitive debt, although obviously there are degrees of sensitivity.

The use of collateral has expanded rapidly in the last decade or so. This is due, in large part, to the use of bilateral collateral agreements to address counterparty risk. There is a huge demand for collateral. Financial firms, e.g., dealer banks and commercial banks, have large needs for collateral, and this has grown to an enormous extent. First, collateral is needed in repo markets, where the transaction involves the "deposit" of cash in exchange for a bond as collateral. Second, collateral is also needed in derivatives markets, where it is used to offset counterparty credit risk. Finally, collateral is needed in payment and settlement systems. See, e.g., Bank for International Settlements (BIS) (2001). Probably, the largest demands for collateral come from the repo market.

5. Shadow Banking

Creation of informationally-insensitive debt is the function of the banking system. In the regulated bank sector this corresponds to insured demand deposits. The characteristics of demand deposits are: a) demand deposits have no fixed maturity; they can be exchanged for cash at par on demand; b) they are senior claims; c) they are claims on a portfolio; d) they can be used in transactions. This form of debt is created by depository institutions and by money market mutual funds that offer checking.

Shadow banking combines repo with securitization (or other forms of informationally-insensitive debt) to accomplish the same function for firms. Senior tranches of securitized debt and commercial paper (not discussed here) are also quite informationally-insensitive. The shadow banking system, the combination of repo and securitized debt, is a kind of bank, as follows: (1) repo has a short maturity; it is typically overnight and can be withdrawn (not rolled over) on demand; (2) it is senior in that the collateral is senior, but also senior in the sense that the-

re may be a haircut on the collateral (this is discussed below); (3) repo collateral is backed by a portfolio if the collateral is securitization-based debt; (4) the collateral can be used in other transactions, i.e., it can be rehypothecated. Repo is discussed further below.

The shadow banking system is different than depository institutions in that the activity involves the repo market, where depositors and lenders are individually matched; each depositor gets their own collateral. So, the shadow banking system involves a market, the repo market. Securitization enters via the need for collateral. If securitization debt is informationally-insensitive, it can be an input into the repo system of creating a kind of transaction medium, i.e., collateral that can be rehypothecated.

The demand for collateral for purposes of mitigating counterparty risk in derivatives and settlement systems appears large, though the evidence is scanty. Prior to the current panic, there was also evidence on the potential scarcity of collateral. For example, the BIS (2001) warned of the problems of a scarcity of collateral, concluding that "Current issuance trends suggest that shortfalls of the stock of preferred collateral may eventually lead to appreciable substitution into collateral having relatively higher issuer and liquidity risk" (p. 2). Also, see Domanski and Neumann (2001). In a "Letter to the European Central Bank," November 28, 2003, from The Bond Market Association: the increasing market focus on collateralization - a focus encouraged by central banks, by supervisors in encouraging the use of collateral in risk management, by payment and settlement systems in their own endeavors to ensure the integrity of their systems and by market participants' own risk management efforts - means that the demands for collateral within the financial markets are rapidly increasing and can be expected to increase very significantly in the future

6. The Evolution of Banking in the last 25 Years – The Rise of "Shadow" Banking

Banking has always been in a constant process of change. The evolution of banking in the last 25 years is due to a number of forces, but the main point here is that the shadow banking system that emerged is a real banking system. Above, the shadow banking system was defined as a combination of the repo market and the necessary collateral, including securitization debt. This section describes the development of the shadow banking system and explains a bit more about how it operates to provide banking services.

The banking system evolved over the last twenty-five years in a number of fundamental ways. This evolution was a product of increased competition from nonbanks, decreased regulation, and innovation in financial products. Increased competition came from money market mutual funds, on the liability side of the bank balance sheet, and from junk bonds, on the asset side of the bank balance sheet. In the early 1970s interest rate ceilings on deposits were phased out; banks were allowed to engage in a variety of other financial activities; restrictions on geographic scope were eliminated. Innovation came in many forms. Derivative securities became an important product line. Loans became more liquid; they could be sold in secondary markets. And securitization allowed portfolios of loans to be sold into the capital markets. For our purposes securitization is the most important development. Later, loan sales are briefly discussed.

As discussed above, securitization is a form of off-balance sheet banking. Loans originated by banks are sold to a special purpose vehicle (SPV) (a legal entity) which finances the purchase of the portfolio of loans by issuing investment-grade securities in the capital markets. The SPV is robotic in the sense that no one works there and there is no physical location for the SPV. Servicing the loans is outsourced and the cash flow from the loans is allocated according to pre-specified rules. Importantly, SPVs are bankruptcy remote, meaning that the failure of the originator of loans is not relevant to the investors in the securitization bonds, called "tranches." The loans that were sold to the SPV cannot be clawed-back by an originator that is in bankruptcy. Also, the SPV itself cannot go bankrupt. If the cash flow from the loan portfolio that constitutes the assets of the SPV is insufficient for make the payments on the tranches, then early amortization is triggered. This is not an event of default. See Gorton and Souleles (2006) for more details.

The table 1 shows issuance of various asset classes in US, over the period 1996-2008. The two relevant columns with regard to securitization are the columns labeled “mortgage-related” and the column labeled “asset-backed.”

Table 1: Issuance of various asset classes
 (Issuance of Various Types of Securities in the U.S., 1996-2008, \$ billion)

	Municipal	Treasury ¹	Mortgage-Related ²	Corporate Debt ³	Federal Agency Securities	Asset-Backed	Total
1997	185.2	612.4	492.6	343.7	277.9	168.4	2,080.2
1997	220.7	540.0	604.4	466.0	323.1	223.1	2,377.3
1998	286.8	438.4	1,143.9	610.7	596.4	286.6	3,362.7
1999	227.5	364.6	1,025.4	629.2	548.0	287.1	3,081.8
2000	200.8	312.4	684.4	587.5	446.6	337.0	2,568.7
2001	287.7	380.7	1,671.3	776.1	941.0	383.3	4,440.1
2002	357.5	571.6	2,249.2	636.7	1,041.5	469.2	5,325.7
2003	382.7	745.2	3,071.1	775.8	1,267.5	600.2	6,842.5
2004	359.8	853.3	1,779.0	780.7	881.8 ⁴	869.8	4,642.6
2005	408.2	746.2	1,966.7	752.8	669.0	1,172.1	5,715.0
2006	386.5	788.5	1,987.8	1,058.9	747.3	1,253.1	6,222.1
2007	429.3	752.3	2,050.3	1,127.5	941.8	901.7	6,202.9
2008	389.1	1,037.3	1,344.1	706.2	1,114.9	163.1	4,754.7
YTD '07	429.3	752.3	2,050.3	1,127.5	941.8	901.6	6,202.8
YTD '09	389.1	1,037.3	1,344.1	706.2	1,114.9	163.1	4,754.7
% Change	-9.4	37.9	-34.4	-37.4	18.4	-81.9	-23.3

Notes: ¹Interest bearing marketable coupon public debt; ²Includes GNMA, FNMA, and FHLMC mortgage-backed securities and CMOs and private-label MBS/CMOs; ³Includes all non-convertible debt, MTNs and Yankee bonds, but excludes CDs and federal agency debt; ⁴Beginning with 2004, Sallie Mae has been excluded due to privatization.

Sources: U.S. Department of Treasury, Federal Agencies, Thomson Financial, Inside MBS & ABS, Bloomberg.

The column labeled “Mortgage-Related” includes all securitized mortgages, both privately securitized product but also securitizations by the housing government-sponsored entities. By issuance, mortgage-related bonds are the largest category traded debt in the U.S. Also, of particular note, is the fact that non-mortgage asset-backed securities (“asset-backed”) exceeded the issuance of U.S. corporate debt in 2004-2006. These securities are the obligations of SPVs holding a variety of loan types, such as, credit card receivables, auto loans, student loans, and so on. Securitization is a very significant form of financing.

Securitization is banking in the sense that the SPVs hold loans and finance these loans with high-grade debt, debt which is largely informationally-insensitive. This debt is investment-grade and has an information advantage over equivalently rated corporate debt. Speculation can occur in corporate bonds based on information from the company's stock. Capital structure arbitrage, which involves taking long and short positions in different instruments of a company's capital structure. Implementation of this strategy involves comparing credit derivative swap spreads to the firm's equity price with a structural model.

Why did securitization arise? We do not know for sure. One possibility, discussed further below, is that it was a response to bank capital requirements, which created a cost without a countervailing benefit. Banks, being private institutions, can exit the industry if it is not profitable. Another possibility is that the demand for collateral made securitization profitable, and this could not be accomplished on-balance sheet because deposit insurance was limited. That is, as discussed above, the demand for informationally-insensitive securities to use as collateral for various purposes may also have played a role. Third, bankruptcy costs are minimized with off-balance

sheet financing. But, the off-balance sheet debt is not tax advantaged for the originator. Thus, one would expect that companies with lower credit ratings would find it optimal to securitize. Finally, the innovation in structuring the special purpose vehicle as an off-balance sheet vehicle may have been the driving force for growth. Whatever the cause, securitization has become a very significant form of financing.

Another aspect of the development of banking off-balance sheet is loan sales, which refers to the sale of secondary participations in commercial and industrial loans to firms. This is not the way that banks operated for hundreds of years. Instead, bank loans resided on bank balance sheets until maturity. And, as mentioned above, academic theory says that only if the bank holds the loan will it have an incentive to produce information and monitor, an argument which also suggests that securitization should not occur.

7. What should be done about the Shadow Banking System?

What should be done about bank regulation? A good starting point is the recognition that (1) there is a demand for collateral by firms for many purposes and, (2), there is the need for a safe way for firms to save cash in the short-term. The shadow banking system arose to meet these demands. Securitization created collateral and the repo market provides a banking mechanism for firms and institutional investors. Collateral means informationally-insensitive debt. Firms could be provided a safe savings location with large size insured accounts at banks. But, forcing everything back on-balance sheet does not solve the collateral problem. Collateral is needed for derivatives and settlement, as well as for savings in the form of repo. Forcing everything back on balance sheet seems like an attempt to return to the Eden of the Quiet Period without recognizing that the world has changed.

Further, as discussed above, a key part of the Quiet Period was a valuable bank charter, which provided an incentive to self-regulate. If the shadow banking system is recognized as a genuine banking system, then perhaps the Quiet Period for this banking system can be achieved by creating charter value and informationally-insensitive debt. Very broadly this would mean three things:

- Senior tranches of securitizations of approved asset classes should be insured by the government.
- The government must supervise and examine “banks,” i.e., securitizations, rather than rely on ratings agencies. That is, the choices of asset class, portfolio, and tranching must be overseen by examiners.
- Entry into securitization should be limited, and any firm that enters is deemed a “bank” and subject to supervision.

Informationally-insensitive debt is created by points 1 and 2, which then provides a way for repo to serve as a short-term savings mechanism for firms. Point 3 creates charter value for firms that engage in the production of the new informationally-insensitive debt. Being able to securitize is valuable.

These three points simply highlight the kind of thinking needed if it is agreed that shadow banking is real banking, which needs to be protected. The alternative viewpoint seems somewhat problematical because the rise of securitization and repo as very significant parts of the capital markets cannot be explained as a bubble, or as the product of greed, and so on. The “originate-to-distribute” viewpoint, discussed by Gorton (2008), is the view that appears to securitization per se is the problem, again an attempt to rationalize going back to the view of pushing everything back on balance sheet.

The demands for more informationally-insensitive debt to serve as collateral have been hard to satisfy and the economy needs more of it. That is the modern equivalent of saying that consumers need insurance for their demand deposits. Imagine that we had had the broad system outlined above. Under point 2, would the government have rejected subprime securitization as

eligible for insured collateral? Probably not. The government probably cannot do better than private entities. But, the effects of the mistake would have been different. The government would have borne the losses on the AAA and AA rated tranches (assuming those were insured) and a systemic event would have been avoided.

It is important to emphasize the implications of "informationally-insensitive" debt. Whenever debt is created, a residual security is also created by definition. So, to the extent that there is a demand for informationally-insensitive debt, there must also be a residing place for the very informationally-sensitive residuals (equity) that are a by-product of this debt creation. Creation of a valuable charter is intended to address that risk. As Keeley (1990) highlights, the usual "moral hazard" argument about banks and deposit insurance did not have any force during the Quiet Period, because of the valuable charter.

8. Summary

The shadow banking system is, in fact, a banking system. The "depositors" are firms seeking a place to save cash in the short-term, often money market funds and corporations. The "lenders" are financial firms seeking cash to finance themselves. The deposits are designed to be informationally-insensitive by backing them with informationally-insensitive collateral. Often that collateral is securitization bond. The collateral can be "spent," i.e., rehypothecated. Depositors can "withdraw" their funds by not rolling over their repo agreements, and returning the bond, or they can withdraw by increasing the haircut on the collateral. This is depository banking in a different form, but banking nevertheless. Like demand deposits at regulated commercial banks, this system is vulnerable to panic.

It is easy to summon up the old adage that one should not borrow short to finance long assets, but the reality is that banking inevitably involves that because part of making the "deposit" near riskless is for it to be short maturity. Note that with insured deposits, the debt is effectively long maturity because depositors have no need to run their banks to try to withdraw cash. The shadow banking system resembles the pre-FDIC U.S. banking system in some ways.

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