The Rise of Shadow Banking and Dodd-Frank Regulations

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1. INTRODUCTION

The unbridled rise in shadow banking in the last few decades was an important contributing factor for the financial crisis of 2007-2008. This paper discusses the growth in shadow banking and its role in the great recession. The paper also explores the Dodd-Frank (D-F) Act which was introduced in aftermath of the Great Financial Crisis (GFC) of 2007-08 to rein in excesses committed by banks and other financial institutions and to bring all banking activities, whether they are carried out by traditional banks or bank like financial intermediaries, under the umbrella of one regulatory framework.

2. THE RISE OF SHADOW BANKING

Shadow banking does not have the transparency of the traditional banking sector and operates outside the realm of the financial regulations that embrace the traditional banking sector. The term "shadow banking" was coined by Paul McCulley in 2007, who referred to shadow banking as "leveraged financial intermediaries whose liabilities were broadly perceived to resemble conventional bank deposits in quality and liquidity". Shadow banks operate without explicit public sector guarantees or access to Federal Reserve discount window. Like traditional banks, shadow banks conduct maturity, liquidity and credit transformations. Security dealers, investment banks, finance companies are principal actors in the wholesale banking business that encompasses shadow banking. Unlike its traditional counterpart, shadow banking developed a mysterious web of interconnectedness between financial companies through a set of exotic derivatives.

It is difficult to quantify shadow banking as it operates outside the jurisdiction of financial regulations. Pozsar and others (2010) estimated the size of shadow banking to be at $20 trillion in 2008 and $16 trillion in 2010, which still far exceeded about $6 trillion of insured bank deposits in 2010. The Financial Stability Board estimated the sizes of shadow banking to be $23 trillion, $22 trillion and $9 trillion in the USA, the euro area and the UK respectively in 2011 (Claessens *et al*., 2012).

A big component of the shadow banking started is the loan securitization process by slicing mortgages into securities to be sold to investors . According to Pozsar (2008), shadow banking, using a complicated process of securitization and arbitrary ranking of securities, transformed long term loans like subprime mortgages into risk free money market funds which require daily liquidity. In the nineteen eighties, the loan securitization process started with the main goal of injecting more liquidity in the mortgage markets since mortgages are usually long term and banks do not want their funds tied up for such a long period of time. To help banks to get rid of these long term assets, the US government created the two institutions, Freddie Mac and Fannie Mae. These government sponsored institutions kept the mortgage market liquid by buying mortgages from banks and selling mortgaged based securities (MBS) to investors. Return to these securities originates from cash flows from interest and principal payments from a pool of mortgages.

An important innovation took place in June, 1993, when Salomon Brothers and First Boston helped Freddie Mac to introduce a new kind of MBS that was based on a pool of mortgages but payment characteristics were different from those of pooled mortgages on which they were based. This was the birth of CMOs (collateralized mortgage obligations), a particular type of CDOs (collateralized debt obligations). While CMOs are based on housing as a collateral, CDOs are based on any type of loans such as auto loans, student loans, and not just mortgages.

Investment banks such as JP Morgan Chase, Citigroup, Bank of America, Bear Stearns, Lehman Brothers, Morgan Stanley and Goldman Sachs, worked closely with rating agencies in the development of CDOs. Since these rating agencies also received a fee for their advising, they ensured that the CDOs receive favorable ratings; and thus rating agencies could not

be as objective as they should be in analyzing the risks these securities carried, as evidenced by the unfolding of later events. High ratings of securities misled believers to think that they are safe. New securities, based on mortgages, are catered to the needs of investors in terms of maturity, payments, risk, etc. In contrast to traditional banking which connects borrowers and depositors through one-stop financial intermediation, shadow banking comprises a chain of intermediaries between investors and borrowers. The original loan undergoes a radical transformation as it passes through very distinct phases of intermediation.

At the deposit end, investors invest in short term money market instruments such as repos or MMMF (money market mutual funds). Since deposit insurance is fixed at $250,000, investors with larger sum want to invest in secure and safe securities. Market intermediation can be described by the following. First, loans are originated by traditional banking system. Second, a warehouse bank buys all the loans from different originators usually with lines of credit; and pools these loans and sells them to an administrator which is a large commercial bank or a subsidiary. The administrator creates a 'Special Purpose Vehicle' (SPV) to hold the loan in the so-called off balance-sheet account. The SPV creates securities of different risk classes known as trances. These securities are then sold to an underwriter who sells them to investors. Investors in the highest trances, rated AAA, were paid first from the mortgage payments. The lowest trances were quite risky as they would be paid after the highest and middle trances were paid. These securities are bought and sold in the financial market. Some of these CDOs were rated high even though some of them were used to finance subprime loans. The process became more complicated as more complex derivatives were developed by combining the CDOs, for example CDO squared, CDO-cubed, etc. Investors in these securities are MMMF, bond funds and other entities who invest in commercial papers, repurchase agreements or similar debt or structured credit instruments.

The problem of the complex securitization process described above is that the quality of the original asset is obscured at each stage as an asset is transformed into a liability through the various chains of intermediaries. Although at the end, buyer buys a small piece of the loan, evaluation of that piece becomes difficult because of a complex layer of collaterals. In traditional banking, run on banks can occur by sudden, massive withdrawals of funds by depositors. In shadow banking, withdrawals by depositors or investors who provide wholesale funding to shadow banking can cause the wholesale market to dry up. However, the chain is vulnerable to crisis at both ends. Default on loan payments can cause the crisis, as it happened in the housing market with an increase in interest rate which caused many sub-prime mortgages to default. Since Shadow banks cannot borrow from Fed, and they are not insured by FDIC or any other organization the probability of run on their liabilities is very high and so they are called runnable deposits.

Some economists also commented on the macroeconomic impact of shadow banking. Shadow banking is highly procyclical, which has adverse real sector consequences. Attempts to create safe, private assets outside the realm of the private sector created aggregate risk (Claessens *et al*., 2012). Investment by financial intermediaries in tradeable securities leads to the relaxation of lending policies during the expansionary phase of business cycle, but they are forced to sell securities at a fire sale during the downturn which accentuates the business cycle, ultimately leading to a breakdown of the collateral intermediation (Claessens *et al*., 2012). Shadow banks are prone to systematic risk because they are not covered by deposit insurance or any other regulations and there are "significant real and financial spillovers" into other sectors of the economy (Claessens *et al*., 2012).

3. DODD-FRANK REGULATIONS

There are three polar views on regulating shadow banking as described in Claessens *et al*. (2012): 1) shadow banking should become part of or merge with traditional banking and be brought under the same regulatory framework, 2) shadow banking activities should be separated from traditional banking, and 3) monetary authorities should impose limit on the supply of private assets. Each approach has some disadvantages which are described in detail in Claessens *et al*. (2012). The Dodd-Frank Wall Street Reform and Consumer Protection Act, which is known by "Dodd-Frank" (D-F) Act, was introduced by the Obama administration in 2010 to promote a safe environment for depositors and investors. D-F Act was dubbed as the most significant financial legislation in the USA since the Great Depression era of the 1930s. The financial crisis of 2007/08, which precipitated a full blown recession and had the potential of sliding into a great depression, provided the raison detre for the Dodd-Frank regulation.

D-F regulation tried to address the problems in the banking sector that led to the last financial crisis in the following ways (Barr, 2012):

First, banks used the so-called 'regulatory arbitrage', to minimize the impact of regulations by redesigning products or taking shelter in different corporate forms. One of the important goals of the D-F Act was to regulate banks by actual tasks they perform regardless of their corporate forms, commercial banks or investment banks.

Second, D-F Act also provided tools to the government to deal with banks which are either in trouble or are on the verge of bankruptcy to prevent the repetition of the saga of Lehman brothers or AIG. These tools will allow banks for an orderly exit without causing major disruptions in other financial markets.

Third, in order to deal with the moral hazard problem of “too big to fail”, D-F regulation 1) raised the minimum capital requirements for all banks, 2) incentivized banks to hold more liquid assets and 3) provided authorities more powers to shut down large, complex banks and other financial institutions, making bailouts unnecessary (Litan, 2016). Higher capital requirements were imposed on very large banks called ‘Systematically Important Financial Institutions’ (SIFIs). The SIFIs are those financial institutions which possess assets in excess of $50 billion. During the last financial crisis, some large banks which were considered to be “too big to fail”, were bailed out by the government at a high taxpayer’s costs. Better oversights and regulations were deemed to be necessary to prevent the moral hazard problems emanating from Central banks’ eventual rescue of such banks. In addition to imposition of higher capital requirements, tougher regulations in the form of internal controls and stiffer stress tests were imposed upon financial institutions.

Fourth, one of the legislation’s major achievements was the creation of ‘Financial Stability Oversight Council’ to detect early threats to financial stability. In addition, the ‘Office of Financial Research’ was created to provide research and data support to the oversight council. Another major landmark of D-F regulation was the creation of ‘Consumer Protection Bureau’ to protect consumers against abuses and unscrupulous practices of financial institutions.

Fifth, a comprehensive regulation of the shadow banking sector was put into place. Derivatives traded in the shadow banking sector played a critical role in the last financial crisis.

4. CRITICISMS OF DODD-FRANK REGULATION

Although D-F Act is a most comprehensive set of regulations yet to be made to curb excessive risk taking using micro-prudential measures, critics pointed out that the Act has imposed very onerous burden on banks, particularly, the smaller ones. Instead of facing multiple regulators required by the regulation, banks are staying close to their familiar turf, providing traditional loans such as mortgages to familiar customers. The downside of these practices is that these kinds of practices lead to concentrated lending, which is in conflict with the stated objective of Dodd-Frank regulation.

Litan (2016) noted that D-F was not able to control runnable liabilities as financial institutions still hold billions of liabilities in uninsured, government debt. Raising the threshold of SIFIs from $50 billion to $250 billion will reduce compliance cost of many banks. According to Timothy Geithner, the Secretary of Treasury under the Obama administration, D-F Act was able to put a lid on runnable liabilities (Geithner, 2017). Insurable deposits, as percentage of total bank liabilities, increased from 72% in 2008 to 86% in 2015. Before crisis, leverage limit was imposed only upon banks and affiliates which account for 40% credit to households. Now the limit applies to money market funds, investment banks and government sponsored financial institutions such as Freddie Mac and Fannie Mae. Geithner (2017) warned that financial transactions will move to less regulated financial sector if market agents deem capital requirement is higher than what they think as a prudent ratio.

Critics of the D-F Act contend that the act severely limited Fed’s hands to provide emergency aid to non-bank financial institutions by requiring them to get congressional approval, before providing such help. Most runnable deposits are still concentrated in other financial institutions. Because of the short term debt that financial institutions hold, the financial sector still suffers from the asymmetry between the liability side which remains unprotected and the asset side which takes on increased risk (Geithner, 2017; Claessens *et al*., 2012).

The traditional ‘open market operations’ involves Fed buying only a specific type of asset, which is government securities or securities of government sponsored entities. Fed is also a lender of the last resort of its member banks, so discount privileges are only limited to member banks. In the last crisis, Fed purchased all kinds of assets using nonconventional monetary policy. Since Fed discount privileges do not extend to nonbank financial institutions and given the large share OFI in USA financial industry, a great portion of financial activities remain outside the reach of central bank actions. The Fed can still bail out a “general class of financial institutions” instead of a specific bank (Bear Stearns, AIG, for example) as it did in the last crisis. The reform measures undertaken in the aftermath of the great recession tightened Fed hands too much, by limiting risk it can take. For example, Fed is allowed to lend to solvent ones, not insolvent ones.

5. PROPOSALS FOR BANKING SECTOR REFORM

Several proposals have been put forward by economists for the reformation of the banking sector. Morgan Ricks, a former official in the US treasury department, in his book titled, ‘The Money Problem’, proposed explicit federal guarantee of all short term debt of banks in return for a fee (Ricks, 2016). Ricks argued that extending public insurance to all deposits, removing the ceiling of $250k, will eliminate run on deposits in excess of $250k (Ricks, 2016). This measure will help small banks in attracting funds, because in the absence of deposit insurance, public will prefer to keep large deposits in big banks, believing that the government will protect banks who are “too large to fail”. The argument against insuring all deposits is that it creates moral hazard problems because banks are more likely to take risk if all deposits are insured. Ricks suggested that high capital requirement will reduce moral hazard and prevent bank run. Ricks (2016) proposes a radical solution by suggesting banning of any non-bank financial institution from issuing short term, runnable deposits. Under this proposal, government needs to outlaw money market mutual

funds, repos, commercial papers and other short term debt (Litan, 2016). Hall Scott, a Harvard Professor, in his book "connectedness and contagion", government should expand its authorities of Fed as lender of the last resort (Scott, 2016). He proposed setting "ground rules for emergency lending in advance". These rules will be designed to let banks know when they will receive emergency liquidity support and will give regulatory authorities time to reorganize and close troubled banks. Shareholders will lose, but allowing time to reorganize will prevent any run and stability of financial system will not be affected.

Greenwood *et al*. (2010) proposed that government should expand the supply of short term, government debt to fulfill needs for short-term investments by the public. This measure does not require congressional approval. Mervin King, then Governor of Bank of England advocated higher capital and liquidity standards for traditional and shadow banks (King, 2010). King suggested central bank should extend credit to all those who have adequate collateral, not just to banks.

6. CONCLUSION

Since the 1960s, bank regulations led financial institutions to develop innovative banking methods. In the sixties and seventies, Eurodollar and offshore banking activities were developed by banking institutions to circumvent regulation Q and high reserve requirements. Depository Institutions Deregulation and Monetary Control Act of 1980 puts banks and nonbanks on the same playing field. However, new capital requirements and regulations incentivized banks to seek new banking activities and move risky banking businesses with higher returns to less regulated institutions and make the banking system more fragile.

Shadow banking performs important functions of financial markets by intermediating funds between ultimate borrowers and savers. During the last financial crisis, Fed used various quantitative easing policies to make emergency funds available to shore up liquidity and capital of many of shadow banks. By engaging in the complex securitization process, shadow banking system pushed the envelope of financial engineering to a new level. However, the great recession of 2007/08 exposed some serious problems stemming from the complex securitization process. The regulatory pillars for the oversight and supervision were found to be too weak to support an increasingly complex layers of derivatives and at the end of the day, the house of finance fell like a house of cards.

The Dodd-Frank Act was intended to rein in aggressive banking imposing practices of banking by higher capital requirements, aggressive stress testing, restrictions of speculative activities and other regulations. The health of financial institutions improved, but banks, particularly, the smaller ones, found D-F regulation too burdensome. President Trump, upon taking the office, made an executive order asking the treasurer to conduct a review of the D-F legislation to examine whether these regulations met a set of "core" principles. There is still an ongoing debate on how best to deal with shadow banking.

CONFLICT OF INTEREST

None.

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