

IT'S ALL SHADOW BANKING, ACTUALLY

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Introduction

“Shadow banking” is a great term. Although the term fails to impart much meaning, it manages to convey the impression that, whatever it is, it must be nefarious, somewhat clandestine and of dubious legality. To those who have some familiarity with shadow banking, the term seems an apt label for a financial world that, albeit legal, sometimes *is* nefarious and somewhat clandestine.

Since the shadow banking system is, at times, even larger than the regular banking system, it is important to understand what the shadow banking system actually is and does. Determining whether the shadow banking system imposes “negative externalities,” i.e. costs on innocent third parties, like taxpayers, also seems like a worthwhile endeavor.

In this article, I intend to show that shadow banking is no different than regular banking. Although some commentators suggest that shadow banks escape the stringent regulation that regular banks are subject to,¹ I will show that this is often not the case. More importantly, the shadow banking system produces the same economic benefits as those that come from the traditional banking system. In fact, as a matter of economic substance, there is no difference between the shadow banking system and the traditional banking system. That is the good news. The bad news is that, properly understood, we should worry about traditional banking at least as much as we worry about shadow banking—probably even more.

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¹ See, e.g., Bill Gross, *Beware our Shadow Banking System*, CNN MONEY (Nov. 28, 2007, 10:58 AM), http://money.cnn.com/2007/11/27/news/newsmakers/gross_banking.fortune/ (“My . . . colleague Paul McCulley has labeled it the ‘shadow banking system’ because it has lain hidden for years, untouched by regulation, yet free to magically and mystically create and then package subprime loans into a host of three-letter conduits that only Wall Street wizards could explain.”).

I. Shadow Banking: A Concise Description

Despite the fact that its exact contours remain unclear, the sheer size of the shadow banking system is astounding. In June 2008, Timothy Geithner, then the Chief Executive Officer of the Federal Reserve Bank of New York, estimated that in early 2007 the assets held by all institutions in the entire banking system, including holding companies, was “about \$10 trillion,”² while the assets in the shadow banking system were about \$10.5 trillion.³

Given how opaquely the term shadow banking is often defined, it is hardly a wonder that shadow banks are shrouded in mystery. For example, a Federal Reserve Bank of New York report defines shadow banks as:

[F]inancial intermediaries that conduct maturity, credit, and liquidity transformation without access to central bank liquidity or public sector credit guarantees. Examples of shadow banks include finance companies, asset-backed commercial paper (ABCP) conduits, limited-purpose finance companies, structured investment vehicles, credit hedge funds, money market mutual funds, securities lenders, and government-sponsored enterprises.⁴

Simpler definitions are often no more reassuring. According to *Investopedia*, an online resource whose self-stated goal is to “empower the individual investor” through education,⁵ the shadow banking system consists of “the financial intermediaries involved in

² Timothy F. Geithner, President and Chief Exec. Officer, Fed. Reserve Bank of N.Y., Remarks at The Economic Club of New York: Reducing Systemic Risk in a Dynamic Financial System (June 9, 2008).

³ *Id.* Mr. Geithner reached this \$10.5 billion figure by adding the value of asset-backed commercial paper conduits, structured investment vehicles, auction-rate preferred securities, tender option bonds, variable rate demand notes, assets financed through overnight tri-party repurchase agreements, assets in hedge funds and the assets on the balance sheets of the major investment banks.

⁴ ZOLTAN POZSAR ET AL., FED. RESERVE BANK OF N.Y., STAFF REPORT NO. 458, *Abstract to SHADOW BANKING* (2010), available at http://www.newyorkfed.org/research/staff_reports/sr458.pdf.

⁵ *About Investopedia*, INVESTOPEDIA, <http://www.investopedia.com/corp/about.asp#axzz1nOIMu000> (last visited Feb. 25, 2012).

facilitating the creation of credit across the global financial system, but whose members are not subject to regulatory oversight. The shadow banking system also refers to unregulated activities by regulated institutions.”⁶

Yikes. That sounds bad.

A. Repo-Nation

I propose an alternative way to understand shadow banking. Imagine that a financial institution sells \$250 million in securities, on a very short-term basis, to a large investor. The buyer, who only wants to invest on a short-term basis, demands and receives a contractual guarantee from the selling financial institution that obligates that institution to buy those securities back the next day. Imagine further that the financial institution takes the \$250 million that it receives in this one day “sale”, and uses it to fund a long-term project, like the purchase of an illiquid investment that does not mature for eight years or the construction of a power plant. Finally, imagine that the financial institution is counting on selling *another* \$250 million—or more—in securities tomorrow, and using the proceeds of that sale to repurchase the securities it sells today.

A repurchase agreement, or “repo”, like the kind of transaction described above is the paradigmatic example of the sort of transaction that takes place in the shadow banking system. Other transactions in the shadow banking system may take a different form, but the basic idea is the same. For example, if a corporation sells commercial paper, which is simply a short-term promissory note that matures within ninety days or less, and uses the proceeds to fund longer-term projects, that corporation participates in the shadow banking system.

B. Special Purpose Vehicles and Special Purpose Entities

In addition, what is known colloquially as “off-balance financing” also plays a major role in the world of shadow banking. Off-balance sheet financing, as the name implies, allows a regulated entity to ignore certain assets and debts for regulatory and accounting

⁶ *Shadow Banking System*, INVESTOPEDIA, <http://www.investopedia.com/terms/s/shadow-banking-system.asp#axzz1jwYgKow1> (last visited Feb. 25, 2012).

purposes. The term describes lending and borrowing activity that takes place through “remote entities”, or subsidiaries, which treat the assets and debts used in the financing as their own, thereby moving the assets and debts off the balance sheet of the regulated entity. If a financial institution, for example, were to keep an asset on the balance sheet, the financial institution would have to allocate precious, costly capital to cushion itself against the possibility that the asset could decline in value. Likewise, when a financial institution keeps a liability on its balance sheet, the bank’s capital would be reduced by the amount of the debt obligation, thereby reducing the amount of its lending and trading and other profitable activity, and possibly pushing the bank’s capital levels closer to or above regulatory minimums. In extreme cases, allowing a liability to fester on an institution’s balance sheet could even push the institution into bankruptcy.

To facilitate off-balance sheet financing, a bank or other financial institution generally will form a “special purpose vehicle” (“SPV”) or a “special purpose entity” (“SPE”). The SPE issues debt to investors and uses the proceeds of the debt issue to buy assets from the sponsoring financial institution, like home mortgages or, as in the case of Enron, other troubled or worthless products. Large financial institutions regularly use SPEs to remove assets and liabilities from their own balance sheets. Economist Darrell Duffie observed that “in June 2008 Citigroup reported over \$800 billion in off-balance sheet assets held in [what the bank called] ‘qualified special purposes entities.’”⁷

A special kind of SPE known as a “structured investment vehicle” (“SIV”) sells debt, such as short-term commercial paper, to financial institutions and uses the proceeds to buy residential mortgages or other long-term assets. Many SIVs suffered during the 2007 and 2008 financial crisis, as home prices fell sharply and the number of mortgage defaults and foreclosures rose drastically.⁸ Needless to say, the money market funds and other financial companies that had purchased short-term debt from the SIVs also suffered losses.⁹ Although they were not legally required to honor the

⁷ DARRELL DUFFIE, *HOW BIG BANKS FAIL AND WHAT TO DO ABOUT IT* 20 (2011).

⁸ *Id.*

⁹ See Eric Dash, *Investor Safe Haven Becomes a Concern*, N.Y. TIMES, Nov. 14, 2007, at C1 (“In another sign of turmoil in the credit markets, large investment firms, having sought out the high-yields for their money market

debts of these remote juridical entities, financial institutions such as HSBC, Rabobank and, most notably, Citigroup bailed out their SIVs by putting the SIVs' assets and liabilities on their own balance sheets.¹⁰

C. Credit Default Swaps

A credit default swap ("CDS"), an example of a shadow banking transaction utilized by both regular banks and shadow banks and pioneered by J.P. Morgan in 1997, is the most widely used credit derivative.¹¹ An institution that buys a CDS enters into a contractual agreement that gives it the right to receive a cash payment upon the occurrence of a specified event, such as default, downgrade by a credit rating agency or any other "credit event" that would otherwise negatively affect the institution. Some institutions use CDSs to "hedge" against the effect of an event that negatively impacts the credit-worthiness of the issuer of debt that the institution holds as an asset, such as sovereign debt issued by developing countries, corporate debt or mortgage-backed securities. For example, Goldman Sachs prodigiously purchased CDSs on its portfolios of mortgage-backed securities and other real-estate related assets from the insurance company American International Group ("AIG"), likely a source of great solace to Goldman and of great aggravation for AIG¹² Goldman received even more solace when the U.S. Treasury ensured

funds, are being forced to protect the funds from losses brought on by investments that no longer seem safe. . . . Bank of America said yesterday that it would provide as much as \$600 million to prop up several Columbia Management funds, which bought large amounts of debt issued by structured investment vehicles, or SIVs, that is now worth less than it paid.").

¹⁰ Liz Moyer, *Citigroup Goes it Alone to Rescue SIVs*, FORBES.COM (Dec. 13, 2007, 11:24 PM), http://www.forbes.com/2007/12/13/citi-siv-bailout-markets-equity-cx_lm_1213markets47.html.

¹¹ A credit derivative is simply a contract that enables one party to an agreement to manage its exposure to credit risk. Swaps, forward contracts and options are all used as credit derivatives.

¹² See Gretchen Morgenson, *Behind Insurer's Crisis, Blind Eye to a Web of Risk*, N.Y. TIMES, Sep. 28, 2008, at A1 (explaining how A.I.G.'s CDS exposure and "its relationship with firms like Goldman offers important insights into the mystifying, virally connected—and astonishingly fragile—financial world")

a further windfall to Goldman when it awarded Goldman 100% of what it was owed on these CDSs despite AIG's financial collapse.¹³

In essence, CDSs function like insurance contracts. They are called "swaps" because the buyer of these contracts makes both initial and periodic payments to the guarantor, who obligated itself to pay in the event of a credit event, and because the seller, who accepts payment for assuming certain risks on the buyer's behalf, must deliver the value of principal and interest payments that the underlying asset would have paid to the buyer if no credit event occurs. In addition, if and when the person who bought the CDS begins receiving payments from the seller, the agreement usually requires the buyer to deliver to the seller either the current cash value of the underlying security or the security itself.

While CDSs function much like insurance, CDSs are not called insurance for a rather technical reason.¹⁴ Unlike pure insurance contracts in which a policy seller does not pay unless the beneficiary incurs an actual loss, CDS contracts do not require an actual loss as a condition of payment (although an actual loss of principal will result in payment).¹⁵ Nevertheless, while outside this narrow definition, CDS contracts have many characteristics of insurance.

The very controversial implications of the fact that CDSs generally are not considered insurance are two-fold. First, since the mid-eighteenth century, insurance contracts have been subject to the requirement that only someone with an "insurable interest," an interest in the continued existence of the insured property, may purchase protection on that interest.¹⁶ Because CDSs are not considered insurance contracts, they are not subject to the requirement that they can only be purchased by those with an

¹³ See generally Louise Story & Gretchen Morgenson, *Inside the U.S. Bailout of A.I.G.: Extra Forgiveness for Big Banks*, N.Y. TIMES, June 30, 2010, at A1.

¹⁴ For an overview of the difficulty of classifying CDSs, see Stacy-Marie Ishmael, *Repeat After Me: CDS are not Insurance*, FT.COM/ALPHAVILLE (Mar. 9, 2009, 8:59 PM), <http://ftalphaville.ft.com/blog/2010/03/09/169811/repeat-after-me-cds-are-not-insurance/>.

¹⁵ *Id.* (quoting Sec. Indus. & Fin. Mkts. Ass'n, *Frequently Asked Questions About CDS*, SIFMA, <http://www.sifma.org/issues/regulatory-reform/otc-derivatives/resources/> (follow "Frequently Asked Questions About CDS" hyperlink) (last visited Apr. 7, 2012)).

¹⁶ See generally Kyriaki P. Noussia, *Insurable Interest in Marine Insurance Contracts: Modern Commercial Needs Versus Tradition*, 39 J. MAR. L. & COM. 81 (2008) (discussing the concept of insurable interest).

insurable interest in the underlying asset. As a consequence of this “loophole,” institutions use CDSs for hedging occasionally, but, more commonly, for speculation. For example, a hedge fund or other investor who predicts that a default or other credit event, like a ratings downgrade, will occur in the market for a particular asset, like mortgage-backed securities, can buy a CDS and receive payments if and when the credit event occurs. If CDSs were considered insurance, then rules in the United States, Europe and Asia governing the sale of insurance products and requiring that purchasers hold an insurable interest would prohibit purchasing for pure speculation. In late 2011, the European Commission proposed such an application of these rules to the credit default industry by calling for a prohibition against “naked” CDSs, but limited the prohibition to sovereign debt.¹⁷ The goal of these rules, which went into effect in February 2012, was to protect financially troubled sovereign debt issuers like Greece and Italy from speculators such as hedge funds, but their efficacy remains unclear.

The second implication of treating CDSs differently than insurance relates to the pricing of the instruments and the disclosure made by the sellers. Insurance companies price insurance contracts on a statistical or actuarial basis. Insurance companies examine many factors to determine pricing, but primary factors include the frequency and conditions under which insurable events have occurred historically. CDSs relate to financial contracts, and CDS sellers therefore price contracts according to financial algorithms that examine the credit spreads and arbitrage relationships of the underlying asset. Additionally, regulations generally require companies issuing insurance contracts to make myriad disclosures pertaining to the solvency of the issuing company and further require that such companies maintain adequate reserves for future claims. CDSs, on the other hand, are not subject to this same sort of burdensome regulation.

D. The Relationship Between Credit Default Swaps and Letters of Credit

Just as financial institutions participating in shadowing banking can earn fees by issuing credit default swaps and other

¹⁷ Press Release, European Union, Regulation on Short Selling and Credit Default Swaps—Frequently Asked Questions (Oct. 19, 2011), *available at* <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/11/713>.

derivative financial instruments, traditional banks similarly can earn fees by issuing their functional equivalent, letters of credit. The apparent credit risk of the borrower largely drives the market for both traditional letters of credit and for CDSs. The financial institutions that issue these guarantees receive an initial one-time fee followed by periodic “premium” payments. Typically, a bank will issue a letter of credit, a customized financial contract, on behalf of a fee-paying client trying to establish credit with a third-party beneficiary, in which the bank promises to pay the beneficiary pursuant to the terms of the contract. In other words, letters of credit serve as a form of insurance to sellers, typically those who are reluctant to give credit to distant unfamiliar buyers. With a letter of credit, a corporation, for example, can obtain supplies in international markets or issue securities on the basis of their *bank’s* reputation and credit rating, rather than on their own.

In this way, letters of credit provide credit enhancement in precisely the same way as CDSs: a shadow bank that sells a CDS earns a fee from a buyer who wants protection against default on securities, just as a regular bank that sells a letter of credit earns a fee from a buyer who wants protection against default on securities, albeit on behalf of a third party. When a borrower purchases a letter of credit, the issuing bank agrees to make all of the principal and interest payments in the event the borrower defaults. This is just like when an institution purchases a CDS, the shadow bank issuing the CDS agrees to make all of the principal and interest payments on the bond if the borrower defaults. Bondholders and other lenders, whether Goldman Sachs or a small seller of industrial equipment, also use CDSs and letters of credit to improve their own balance sheets: assets backed by these sorts of guarantees will be valued more highly than the same assets if left unprotected.

II. “Traditional” non-Shadow Banking

The above-description of shadow banking has led many to conclude that shadow banking somehow is different than other sorts of banking and that shadow banks become insolvent in their own unique ways.¹⁸ Therefore, in order to determine the extent to which shadow banking is different from regular banking, one must first understand what regular banking is and what regular banks do.

¹⁸ DUFFIE, *supra* note 7, at 3-5.

The classic economic conception of traditional banking begins with the notion that banks are rather unique in three ways. While many sorts of firms extend credit, banks differ from other firms because they are much more highly leveraged and because their balance sheets feature a dramatic asymmetry between the liquidity structure and term structure of their assets and liabilities.¹⁹ In other words, when a traditional bank makes a commercial loan, the money it uses to fund that loan comes from a mixture of sources, but the largest source, by far, is deposits. This is because banks are much more highly levered than non-financial firms—meaning that they have much higher book value leverage than other sorts of companies—and because this debt comes from short-term depositors, not long-term creditors.²⁰ To add to the problem, banks' assets are relatively long-term.²¹ As Maureen O'Hara and I have observed previously in the context of discussing the particular corporate governance needs of banks:

What distinguishes banks from other firms is their capital structure, which is unique in two ways. First, banks tend to have very little equity relative to other firms. Although it is not uncommon for typical manufacturing firms to finance themselves with more equity than debt, banks typically receive 90 percent or more of their funding from debt. Second, banks' liabilities are largely in the form of deposits, which are available to their creditors/depositors on demand, while their assets often take the form of loans that have longer maturities (although increasingly refined secondary markets have mitigated to some extent the mismatch in the term structure of banks' assets and liabilities). Thus, the principal attribute that makes banks as financial intermediaries "special" is their liquidity production function. By holding illiquid assets and issuing

¹⁹ See Jonathan R. Macey & Geoffrey P. Miller, *Deposit Insurance, the Implicit Regulatory Contract, and the Mismatch in the Term Structure of Banks' Assets and Liabilities*, 12 YALE J. ON REG. 1, 2 (1995) (exploring the relationship between deposit insurance and the mismatch in the term structure of commercial banks' assets and short-term liabilities).

²⁰ *Id.* at 3.

²¹ *Id.*

liquid liabilities, banks create liquidity for the economy.²²

In other words, banks have three distinguishing features, all of which make them particularly vulnerable to failure: (1) they fund long-term assets (loans) with short-term liabilities; (2) their assets are highly illiquid (i.e., difficult to transform quickly into cash at a price resembling the real value of those assets in economic terms); and (3) they are highly levered with very little equity cushion, meaning that they are not able to withstand significant fluctuations in the value of their assets without collapsing.

The dominant model of the traditional banking industry from a societal perspective was created by Douglas Diamond and Philip Dybvig.²³ According to the Diamond and Dybvig model, banks satisfy the market's demand for liquidity by providing "transformation" services that provide depositors "with a pattern of returns that is different from (and preferable to) what depositors could obtain by holding the assets directly and trading them in a competitive exchange market. Explicitly, this means the conversion of illiquid loans into liquid deposits or, more generally, the creation of liquidity."²⁴ In this model, banks convert illiquid assets into liquid assets on both the asset and the liability side of the balance sheet.²⁵ On the liability side of their balance sheets, banks convert cash into deposits. Bank deposits in this model are akin to liquidity insurance.²⁶ Depositors do not know when they will need cash, so they benefit by loaning it to banks in the form of demand deposits, savings accounts and certificates of deposit. These deposits are then pooled together by banks and invested in much the same way that

²² Jonathan Macey & Maureen O'Hara, *The Corporate Governance of Banks*, 9 FED. RESERVE BANK N.Y. ECON. POL'Y REV., 91, 97 (2003); see Douglas Diamond & Philip Dybvig, *Bank Runs, Deposit Insurance, and Liquidity*, 91 J. POL. ECON. 401, 405 (1983) ("Banks have issued demand deposits throughout their history, and economists have long had the intuition that demand deposits are a vehicle through which banks fulfill their role of turning illiquid assets into liquid assets.").

²³ See generally Douglas Diamond & Philip Dybvig, *Banking Theory, Deposit Insurance, and Bank Regulation*, 58 J. BUS. 55, 55 (1986).

²⁴ *Id.* at 58.

²⁵ *Id.* at 62.

²⁶ See Diamond & Dybvig, *supra* note 22, at 405 ("In this role, banks can be viewed as providing insurance that allows agents to consume when they need to most.").

insurance companies invest the premiums that they receive from the companies and people that they insure. Those depositors who have unexpected short-term liquidity needs, in effect, “file claims” for insurance payouts by withdrawing their funds.

In traditional insurance markets, those who do not file claims subsidize those who do by paying premiums but not filing claims, or by filing claims long after they began paying premiums whose present value is more than the present value of their claims.²⁷ In traditional banking markets, those who put money in CDs and continuously roll them over or who keep money in savings or demand deposit accounts for long periods of time subsidize their fellow depositors who park their funds in the bank for very short periods of time, quickly find themselves in need of cash, and avail themselves of the bank’s promise to repay the money on or nearly on demand. Banks’ need to hold cash reserves in anticipation of such ‘early redemptions’ makes it necessary and prudent for banks to hold sufficient cash reserves and potentially limits their profitability and ability to offer meaningful rates of return.

III. Banks and Shadow Banks: They Make Money the Same Ugly Way

Banks make money in the process described above by earning “the spread”, or differential, between the relatively high rate of interest earned on the loans they make and the relatively low rate of interest paid on the deposits they receive.²⁸ Shadow banks make money in exactly the same way, except that instead of taking deposits they take the functional equivalent, whether by issuing commercial paper or ‘selling’ securities into the repo market on an overnight basis.

To maximize profits, both shadow banks and regular banks try to reduce their cost of funds and increase the returns on their assets. There are several ways of doing this. The traditional economic model of lending posited that banks’ specialized skills in identifying and monitoring borrowers gave banks a comparative advantage over other lenders by reducing banks’ incidence of loss on loans. The theory was that banks were highly efficient lenders because they tend to be more sophisticated, skillful and alert than the depositors whose

²⁷ Jonathan R. Macey, *The Business of Banking: Before and After Gramm-Leach Bliley*, 25 J. CORP. L. 691, 699 (2000).

²⁸ *Id.* at 695.

funds they were lending. The theory suggests that, for example, a bank making a loan will know its borrowers very well because it will have constant, real-time access to very high-quality information about the borrowers' financial condition due to their role as depositors and their other relationships with banks that generate information.²⁹ Similarly, issuers of credit default swaps are thought to have a highly sophisticated understanding of the underlying securities that they guarantee—in theory.

As I have pointed out elsewhere, however, as technology improves, as markets have better, faster and cheaper access to information, and as the quality of such information improves, the relative informational advantage of banks over markets declines.³⁰ Thick securities markets replace thin lending markets as the primary means for obtaining financing, at least for the largest and best customers. In other words, loans become securitized, and financial instruments, like CDSs, trade in efficient markets.³¹

As banks' informational advantage declines, and as the very best loans and other assets on banks' balance sheets are stripped away, profits decline, forcing banks to make riskier loans at lower prices. Both regular banks and shadow banks must engage in increasingly risky behavior in order to make money. Banks must do this because high-quality borrowers can issue securities rather than taking loans. Shadow banks must do this because as markets become more efficient, spreads narrow, decreasing profits.

As banks' and shadow banks' comparative advantage in the market for information declines, banks must develop other ways to

²⁹ See *id.* at 708 (“When firms who borrow from banks also maintain checking accounts at the banks from whom they have borrowed, banks have access to a wealth of information about their lending clients.”).

³⁰ See Macey & Miller, *supra* note 19, at 5-6 (“[A]dvanced technology has made it possible for firms that compete with banks for commercial loans to obtain virtually the same timely credit and market information that was once available only to banks. . . . Current evidence indicates that banks generally do not have an informational advantage over other lenders.”).

³¹ Cf. Nicole Jenkins et al., *The Extent of Informational Efficiency in the Credit Default Swap Market: Evidence from Post-Earnings Announcement Returns* 30 (July 2011) (unpublished manuscript), *available at* <http://www.nd.edu/~carecob/Workshops/11-12Workshops/Jenkins%20Paper.pdf> (“Our results suggest that the CDS market is generally efficient with respect to accounting information during periods of relative economic stability but call into question its resilience during less stable periods.”).

profit. In an enduring, albeit risky, maneuver to secure profit, banks and shadow banks creep farther out on the yield curve. The “yield curve” describes graphically the relationship between the interest rate on an asset, like a bond or other fixed-income security, and the maturity of that security.³² Typically, yield curves exhibit positive slopes, which show that the rate of return on financial assets increases as the maturity of that instrument increases.³³ The steeper the slope of a yield curve, the greater the gap between short-term rates of interest and long-term rates of interest.

In addition to acquiring and utilizing information about borrowers to reduce the incidence of losses on their investments, a second way that bankers of all types respond to the pressure to improve their reported financial results is simply to increase the distance on the yield curve between their low-return short liabilities and their high-return long assets. This mismatch creates risk for two reasons. First, interest rates change. Holding the slope of the yield curve constant, if short-term interest rates go up, as they inevitably do during times of financial stress or crisis, then the financial institution will have to pay more for its short-term funds. The rates it receives, however, on long-term projects that were financed at the old, lower rates remain the same because these borrowers will not want to refinance at higher rates.³⁴

Second, borrowing short-term and lending long-term creates risk because the slope of the yield curve is not constant. It is not unusual for yield curves to become inverted, i.e., for long-term rates to dip below short-term rates. When this occurs, financial institutions both shadow and otherwise, earn negative spreads.³⁵

³² See Macey, *supra* note 27, at 696 n.28 (“A yield curve is the general term for a graph that measures yield to maturity of a particular issuer’s securities on the vertical (Y) axis and length of time to maturity of those securities on the horizontal (X) axis.”).

³³ *Id.* at 696.

³⁴ See Macey & Miller, *supra* note 19, at 3 (“Banks become unprofitable whenever short-term interest rates rise above the rates they receive on the long-term loans they hold in inventory.”).

³⁵ Yield curves typically become inverted in times of economic stress. Arturo Estrella & Mary R. Trubin, *The Yield Curve as a Leading Indicator: Some Practical Issues*, 12 CURRENT ISSUES ECON. & FIN. 1, 3 (2006). For example, the yield curve for U.S. Treasury securities recently became inverted because of low expectations about future growth and future inflation. Furthermore, significant concerns about the future effects of the

Third, banks and shadow banks also create profit by borrowing short and investing long through the provision of liquidity. Holding all else equal, liquid assets are more valuable than illiquid assets. In addition to moving out further on the yield curve, banks make money by obtaining cash for investment by issuing highly liquid liabilities, such as deposits, swaps and commercial paper, and then investing that money in assets that are not only longer in maturity, but also far less liquid.

Fourth, banks generate profit by acquiring high-return risky assets with cheap, low-return liabilities that have received some form of credit enhancement. That is, if banks and shadow banks can persuade depositors or repo market lenders that providing them with credit is not very risky, then they will be able to obtain credit more cheaply because depositors will not demand much, if any, return on their deposits, and purchasers of securities from shadow banks in the repo market will not charge very high rates. Here, regulation plays an important role for both shadow banks and other banks.

For traditional banks, the federal government guarantees the repayment of banks' borrowed funds through the sale of deposit insurance by the Federal Deposit Insurance Corporation ("FDIC"), which helps enable banks to borrow money at low rates to make risky loans and acquire risky, high return assets. Financial institutions doing business in the shadow banking system do not qualify for FDIC insurance on their short-term debts, both because such debt is not in the form of insurable deposits and because the companies doing business as shadow banks are not officially chartered as banks. This keeps many institutions out of the shadow banking market entirely. Other institutions, however, have the functional equivalent of deposit insurance because they are deemed to be "too-big-to-fail" as a result of their size or, as it is called, their purported "systemic importance."

The Financial Stability Board ("FSB") was established in 1999 to "coordinate at the international level the work of national financial authorities and international standard setting bodies and to develop and promote the implementation of effective regulatory, supervisory and other financial sector policies."³⁶ The FSB "brings together national authorities responsible for financial stability in

U.S. budget deficit have a much stronger negative pull on long-term interest rates than on short-term rates.

³⁶ *Overview*, FIN. STABILITY BOARD, <http://www.financialstabilityboard.org/about/overview.htm> (last visited Apr. 7, 2012).

significant international financial centres, international financial institutions, sector-specific international groupings of regulators and supervisors and committees of central bank experts.”³⁷ It is an organization whose membership is comprised of the central bankers of every major economy, together with every major international financial regulatory organization, including the Bank for International Settlements, the European Central Bank, the European Commission, the International Monetary Fund, the Organisation for Economic Co-operation and Development, the World Bank, the Basel Committee on Banking Supervision, the Committee on Payment and Settlement Systems, the International Accounting Standards Board and the International Organization of Securities Commissions.³⁸

In late 2011, the FSB embraced the view that risk to the global financial system was posed by what are known as “global systemically important financial institutions,” or G-SIFIs. G-SIFIs are defined as those financial institutions “whose distress or disorderly failure, because of their size, complexity and systemic interconnectedness, would cause significant disruption to the wider financial system and economic activity. To avoid this outcome, authorities have all too frequently had no choice but to forestall the failure of such institutions through public solvency support.”³⁹ Twenty-nine banks are designated as G-SIFIs.⁴⁰ Of these twenty-nine, eight are U.S. banks.⁴¹ The G-SIFIs are subject to “[m]ore intensive and effective supervision.”⁴² Banks that are not lucky enough to be designated as G-SIFIs will experience not only less supervision, but less “effective” supervision. The more intensive and effective regulation enjoyed by G-SIFIs includes higher capital requirements, requirements for resolvability assessments, recovery and resolution plans, institution-specific cross-border cooperation

³⁷ *Id.*

³⁸ *Links to FSB Members*, FIN. STABILITY BOARD, <http://www.financialstabilityboard.org/members/links.htm> (last visited Apr. 7, 2012) (providing links to all current member central banks and international institutions).

³⁹ FIN. STABILITY BOARD, POLICY MEASURES TO ADDRESS SYSTEMICALLY IMPORTANT FINANCIAL INSTITUTIONS 1(2011), *available at* http://www.financialstabilityboard.org/publications/r_111104bb.pdf.

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² *Id.*

agreements and better supervision in the specific areas of risk management control functions, risk data aggregation capabilities, risk governance and internal controls.⁴³

Interestingly and not coincidentally, of the eight U.S. banks on the list, two, Bank of NY-Mellon and State Street, made the list because of the roles they play in the global system of clearing, settlements and payments. The remaining six, Bank of America, Citigroup, Goldman Sachs & Co., J.P. Morgan Chase, Morgan Stanley and Wells Fargo, are major dealer banks.⁴⁴ More significantly, these U.S. banks are responsible for virtually all of the over-the-counter derivatives business in the U.S.⁴⁵ Professor Duffie described this group as the financial institutions “that, in addition to their securities and derivatives businesses, may operate traditional commercial banks or have significant activities in investment banking, asset management or prime brokerage.”⁴⁶

The perfect overlap between the list of banks that are too-big-to-fail and the banks that are involved in shadow banking is significant. If I am correct in my view that shadow banking is no different as a functional matter than ordinary banking because both shadow banks and regular banks make money in the same very risky ways, then in order to explain the existence of this market we must understand why lenders and other counter-parties would be willing to lend, even on a short-term basis, to any financial institution that has such a structurally flawed, highly precarious balance sheet. The answer is that counter-parties will not extend credit to financial institutions unless they have actual *de jure* or *de facto* backing from the government. In other words, these banks are in the shadow banking sector because they are too-big-to-fail. This status gives the financial institutions the credit enhancement needed to attract cheap short-term funds from swaps and other derivatives that they then invest in illiquid, long-term, high-yield assets.

Unfortunately, the existence of this government-sponsored deposit insurance generates three costly by-products. The first is moral hazard. Unlike other banks, banks that enjoy government guarantees because they are too-big-to-fail will not be pressured or constrained to refrain from taking risks. At a minimum, their creditors will not constrain them from taking risks, and creditors are

⁴³ *Id.*

⁴⁴ DUFFIE, *supra* note 7, at 10.

⁴⁵ *Id.* at 9.

⁴⁶ *Id.*

typically the parties that monitor borrowers and engage in costly, complex contracts with borrowers aimed at limiting excessive, unanticipated risk-taking by such borrowers.

A second costly by-product of our too-big-to-fail-culture is competitive inequality. Banks that are too-big-to-fail can enter into highly profitable lines of business, particularly shadow banking. Other institutions are excluded from entering these lines of business precisely because these banks cannot find counter-parties, as counter-parties only want to deal with the biggest institutions that are too-big-to-fail. In other words, our too-big-to-fail banking policies are the *sine qua non* for shadow banking. Without a too-big-to-fail policy firmly in place there would be no shadow banking industry, or at least no such industry of a size remotely approaching the size of the U.S. shadow banking sector prior to the financial crisis.

Finally, in addition to generating moral hazard and competitive inequality, the too-big-to-fail policy generates regulatory distortions, particularly capture. Regulators of the big banks that are too-big-to-fail inevitably generate a close—indeed, a symbiotic—relationship with the bankers who run such institutions.⁴⁷ Both groups – the regulated and the regulators – have the same interests: to insure the continued health and viability, or at least the apparent health and viability, of these institutions. For the regulators this means, for example, protecting those that are considered too-big-to-fail from the vagaries of competition from small institutions whose survival is not deemed critical. It also means acquiescing to the requests by the too-big-to-fail shadow banks for accounting rules that allow such banks to portray themselves as healthier than they actually are and by entering into new, risky but profitable lines of business, such as shadow banking, that require a “too-big-to-fail” status.

IV. Solving the Problems of Shadow Banks and Solving the Problems of Traditional Banks

Both banks and shadow banks have the same limited array of options when they find themselves in financial distress. This point is

⁴⁷ See Lawrence G. Baxter, *Capture in Financial Regulation: Can We Channel It Toward the Common Good*, 21 CORNELL J.L. & PUB. POL'Y 175, 181 (2011) (“There is ample evidence from various regulatory actions that the industry, particularly large financial organizations, have enjoyed surprising favor at the hands of the financial regulators.”).

important because, if true, it reinforces the basic proposition put forward in this paper that shadow banking and traditional banking are functionally equivalent.

As I have observed elsewhere, the difference between big banks and small banks is similar to the difference between rich people and poor people as articulated by Mary Colum to Ernest Hemingway: “I think you’ll find the only difference between the rich and other people is that the rich have more money.”⁴⁸ There are more zeros on the balance sheets of big banks, but their basic issues are the same. Problems like banks’ lack of liquidity, the asymmetry between their long-term assets and short-term liabilities and their extreme leverage, all contribute to instability and vulnerability to bank runs.

For traditional banks, a bank run occurs when depositors collectively and simultaneously withdraw their money, draining the institution of cash and forcing it to liquidate long-term, illiquid assets at fire sale prices in order to meet their depositors’ demand on their deposits. For shadow banks, runs manifest themselves in the form of short-term creditors, e.g. purchasers of commercial paper or swap counterparties that refuse to roll over their investments, thereby depriving the shadow bank of liquidity and forcing them to liquidate their illiquid, highly volatile asset portfolio in a fire sale fashion. For both shadow banks and traditional banks, there often are no willing buyers for these assets at anything remotely resembling either the values at which such assets are recorded on the banks’ balance sheets, the real economic values that these assets actually have or the values that the banks hope – or fantastically believe – that they have.

Thus, not only do the biggest banks fail for the same reason that other banks fail, but the strategies for rescuing the biggest banks turn out to be the same not only for big banks and for small banks, but also for banks and other sorts of businesses. As Professor Duffie cogently observes, the same issues that prevent traditional banks from finding their own solutions to their problems also prevent shadow banks from availing themselves of “self-help” remedies when they are in trouble.⁴⁹ These issues are: (1) “debt overhang”⁵⁰ and the related problem of transaction and information cost obstacles

⁴⁸ Eddy Dow, *The Rich Are Different*, N.Y. TIMES (Nov. 13, 1988), <http://www.nytimes.com/1988/11/13/books/l-the-rich-are-different-907188.html?src=pm>.

⁴⁹ See DUFFIE, *supra* note 7, at 45 (describing why it is difficult for a failing dealer bank to raise cash).

⁵⁰ *Id.* at 43.

to low-cost, contractual, private ordering solutions;⁵¹ (2) the asymmetric information – “lemon” – problems and signaling problems that impede firms from raising money;⁵² and (3) the various market and regulatory impediments to asset sales.⁵³

Debt overhang refers to the problem, first identified by Stewart Myers,⁵⁴ that sometimes arises when over-leveraged companies find themselves in financial distress. In such situations, recapitalizing the firm by issuing new equity may serve the interests of both equity holders and debt holders. When the distressed firm has so much debt that nobody will consider making an equity investment in it because the proceeds of such investment simply will go to repay creditors, the company has “debt overhang.” Also, earnings generated by new projects funded with new equity will go to creditors if debt overhang exists. Shareholders also may not want to issue new equity in cases of extreme debt overhang because doing so would dilute their existing equity claims. Debt overhang can be removed as an obstacle to a pareto-superior restructuring (i.e. a restructuring that makes shareholders, creditors and other corporate constituencies, such as local communities and workers, better off) if low transaction cost (Coasean) bargaining exists. Sadly, this generally is not the case. Transaction costs are high, particularly in large, complex financial institutions for two reasons: (a) there often are many claimants, like repo counterparties and depositors, who must agree to any proposed restructuring; and (b) such institutions have highly complex capital structures with many sorts of financial claims and financial contracts that must be evaluated and re-negotiated. The only solution to the lack of a Coasean bargaining environment is bankruptcy, which of course is notoriously costly and inefficient.

Another barrier to raising capital that companies (including, but not limited to banks and shadow banks) have when they are in financial distress (or even if it merely is perceived that they might be in financial distress) is the lemons problem identified by George Akerlof.⁵⁵ Lemons markets emerge because of the acute asymmetry

⁵¹ For an in-depth discussion of these social costs, see generally Ronald Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960).

⁵² Duffie, *supra* note 7, at 45.

⁵³ See *id.* at 44-45 (describing the difficulties with asset sales).

⁵⁴ See generally Stewart Myers, *The Capital Structure Puzzle*, 39 J. FIN. 575 (1977).

⁵⁵ See generally George Akerlof, *The Market for Lemons: Quality,*

of information that exists between potential new investors in a company and the incumbent managers and investor who are trying to access the capital markets.⁵⁶ The incumbents, who are aspiring to sell equity to raise capital, have more information about the current status and the future prospects of the company. The incumbents know this, and, unfortunately, the universe of potential investors also is acutely aware of its informational disadvantage. Investors are reluctant to invest in the face of this information problem, known in finance and banking as the adverse selection problem. If they can be persuaded to invest, it may well be at a price that is so discounted to offset this risk that the company is unwilling to sell because equity sales at discounted prices dilute the value of the current investors' holdings.

Regulatory failure also impedes the prompt, efficient identification of distressed financial institutions and leads to the reluctance to confront, or even to acknowledge, their financial problems. In particular, bank regulators, including the Federal Reserve, the FDIC and the Comptroller of the Currency, generally are evaluated by their Congressional overseers on the basis of the number of institutional failures that occur during a particular period. Frequent questions asked of bank regulators in congressional hearings are "how many bank failures did we experience in this quarter?," "how many bank failures did we experience in my congressional district or state this quarter?" and "how much money do we have in the FDIC insurance fund this year as opposed to last year?" These are not merely questions. More significantly, these questions reflect the criteria used by Congress and the media to evaluate the health of the financial system in general and the adequacy of the performance of financial regulators in particular.

The inappropriate but politically salient criteria just described lead directly to the severe regulatory failures that we have observed in recent years in the field of financial regulation. This is because regulators have strong incentives to show that they are performing effectively. These incentives motivate regulators to refrain from recognizing the financial distress of financial institutions, to diminish the severity of such distress when it occurs, and to delay addressing the problems of distressed financial institutions. When regulators fail to recognize or to respond to distressed financial companies, the problems in such companies tend to metastasize quickly and widely because bank managers, in order

Uncertainty and the Market Mechanism, 84 Q. J. ECON.488 (1970).

⁵⁶ *Id.*, at 490.

to dig themselves out of the holes in which they find themselves, face powerful incentives to engage in higher and higher levels of risk taking to stave off financial ruin. In particular, as the assets of a distressed firm decline in value, equity owners have less and less at stake because the value of their equity claims declines in lock-step with the decline in the value of their companies' assets. And, as the so-called equity cushion (the difference between the value of a companies' assets and the value of its liabilities) declines, shareholders have less "money on the table" (colloquially referred to as "skin in the game") and their incentives to engage in excessive risk-taking worsens.

V. *Solutions*

From the point of view of the "equivalency" theory propounded in this paper (that shadow banking and traditional banking are functional equivalents), the various solutions to the problems just described are no different than the solutions that have been propounded for years for conventional banks.

These solutions tend to include the introduction of distress-contingent convertible debt and mandatory rights offerings.⁵⁷ These are well-known contractual alternatives, available to any firm, which have come in and out of fashion over time. The idea is that companies will be required to issue debt that automatically converts to equity if the institution's financial condition deteriorates. In my view, this sort of proposal does not comport with practical realities. While financial institutions or any other firm may issue such securities, in practice, they do not, which suggests something about the cost of issuing these sorts of securities. Issuing such securities should count as equity for purposes of satisfying regulatory capital requirements, and any regulations inhibiting such treatment should be changed. Ultimately, however, companies should not be forced to issue this sort of security instead of equity.

It sometimes is argued that distress-contingent convertible debt is superior to equity because it creates a class of claimants (i.e., the holders of the distress-contingent convertible debt), who have strong incentives to monitor against excessive risk-taking and other

⁵⁷ See, e.g., Squam Lake Working Grp. on Fin. Regulation, Improving Resolution Options for Systemically Relevant Financial Institutions 6 (Oct. 2009) (unpublished manuscript), available at http://icfr.org/content/publications/attachments/Squam_lake_Working_Paper7.pdf.

sorts of moral hazard on the part of the companies from whom they purchased contingent convertible debt. Old-fashioned convertible bonds, however, are an even more powerful tool for the mitigation of moral hazard. Perhaps this is why straight convertible debt is used in the real world and distress-contingent convertible debt is not.

Convertible bonds mitigate moral hazard by exerting two constraints on current equity claimants. First, if equity claimants take big risks and those risks pay off, then, by hypothesis, the value of the company's equity will rise. When this happens, the holders of the convertible debt can profit by converting their shares to preferred stock and selling those shares at a premium generated by the shareholders' previous gambles. Such conversions will dilute the claims of the current equity holders, thereby reducing the expected returns from risk-taking. On the other hand, if the equity claimants take risks and those risks do not pay off, and the value of the equity declines or the company finds itself in financial distress, then the holders of the convertible bonds will not exercise their option to convert their claims. By remaining creditors with fixed claims rather than shareholders with residual claims, these creditors protect themselves against post-investment opportunism in the form of excessive risk-taking because they retain their bankruptcy priority over the residual claimants.

Other time-tested solutions for improving the current situation, such as "stronger liquidity standards" for the financial institutions involved in shadow banking and improving the clearing process for over-the-counter derivatives, are modest and reasonable.⁵⁸ But these approaches merely reinforce the point that, as a matter of economic substance, shadow banks have no problems that are unique to them because they themselves are not unique. They are no different in substance from traditional banks. This is why the solutions imagined for dealing with the problem of shadow bank failure are identical to the solutions identified for ordinary bank failures.

In particular, those who write about the major participants in the shadow banking industry, just like those who write about traditional banking, assert that "improved failure resolution" could be an effective mechanism for mitigating the negative externalities associated with the potential failure of shadow banks.⁵⁹ The ultimate

⁵⁸ See DUFFIE, *supra* note 7, at 53-59 (discussing stronger liquidity standards for dealer banks).

⁵⁹ See, e.g., *id.* at 59-61 (discussing an "improved failure resolution").

way to improve the resolution of distressed financial institutions is through early closure. This is true for two reasons. First, the moral hazard problem gets worse as banks get deeper into trouble because their balance sheets deteriorate as their financial condition weakens. Thus, the value of their equity declines, creating an incentive to engage in increased risk-taking. This is a core attribute of moral hazard in the context of corporate finance. At the limit of the analysis, if a company's equity declines to zero, then the shareholders have nothing to lose by taking huge risks because they have already lost their entire investments. But if they take big risks and, improbably, realize large enough returns, then the value of the firm's equity will be restored.

The second reason why early closure reduces moral hazard is that the general quality of the asset side of the balance sheets of financially distressed companies experience significant deterioration. This is so because the assets purchased during times of distress are riskier and far more likely to deteriorate over time than the assets acquired by financial institutions that are well-capitalized.

In theory at least, the ideal bank failure resolution policy would be to close distressed financial institutions before they are actually insolvent, even before the market value of their assets declines to a value that is less than the market value of their liabilities. Specifically, if financial companies can be merged or liquidated at or prior to the time when the value of their assets equals the value of their liabilities plus the administrative costs of the merger or liquidation, then no creditor will suffer. And this includes entities like the government who are creditors by virtue of their implicit or explicit guarantees of all or part of the liability side of the financial company's balance sheet.

Unfortunately, while the public's interests are best served by assiduously closing distressed financial institutions very promptly at or prior to the moment when they become insolvent, elected officials and regulators have the opposite incentive structure. Politicians and regulators have strong incentives to delay closure rather than to practice a closure policy because they can maximize their political support by delaying closure and by failing to recognize insolvency. This is because the success of the financial oversight system appears to be evaluated by the public and the government on the basis of metrics such as the size of the balance in the FDIC's insurance fund and the number of bank "failures" during a particular period.

Conclusion

In the end, there is only one strategy that meaningfully addresses the problems of systemic risk and excessive risk taking by federally insured banks and the large financial institutions that participate in the shadow banking industry. This strategy is to require that the equity claimants who benefit so handsomely from the financial institution's risk-taking absorb the losses associated with such risk-taking. This could be done by forcing equity holders to put up additional capital to satisfy the claims of creditors when their institutions become insolvent, as was done prior to the introduction of government-sponsored insurance.⁶⁰ Alternatively, this result could be achieved by dismantling any financial institution, shadow or traditional, that has grown to the point at which it is too-big-to-fail.⁶¹ In other words, since the government cannot seem to make a credible commitment to let creditors of systemically important financial institutions suffer 100% of the losses when such an institution fails, the second best alternative is to break these institutions into pieces small enough for the economy to digest in the case of failure.⁶²

Banking is banking, whether such banking is in the shadows or out in the open. The financial architecture of banking has long featured illiquid, long-term assets that are financed with short-term liabilities. In the case of traditional banks, the short-term assets are deposits. In the case of the megabanks active in shadow banking, the short-term assets are repurchase agreements, commercial paper and other money market instruments.⁶³ The characteristics of these assets make the old-fashioned banks that finance their assets with traditional demand deposits look downright stodgy. We know that the basic business of shadow banking, including OTC derivatives, repurchase agreements, prime brokerage and clearing, are all

⁶⁰ Jonathan Macey & Geoffrey Miller, *Double Liability of Bank Shareholders: History and Implications*, 27 WAKE FOREST L. REV. 31, 31 (1992).

⁶¹ Jonathan Macey & James P. Holdcroft, *Failure Is an Option: An Ersatz-Antitrust Approach to Financial Regulation*, 120 YALE L.J. 1368, 1371 (2011).

⁶² *Id.*

⁶³ See DUFFIE, *supra* note 7, at 29 ("Large dealers tend to finance significant fractions of their assets with short-term repurchase agreements.").

susceptible to runs.⁶⁴ But let's stop pretending that this makes shadow banking special.

⁶⁴ *See generally id.*