TOO BIG TO FAIL: HOW TO LIMIT THE FUTURE FALLOUT

By

Cris de la Torre, PhD, JD* and Rutilio Martinez, PhD **

ABSTRACT

In 2008, the U.S. financial system suffered the most severe financial crisis since the Great Depression. AIG, Fannie, Freddie, Indy Mac, Country Wide, Bear Sterns, Merrill Lynch, Lehman Brothers, and others became casualties of the mortgage related meltdown that required significant intervention by the Federal Reserve. In the following years, Congress grappled with the appropriate response. The legislation that passed in 2010 has produced an even larger concentration of bank assets in the U.S. This paper discusses the principles that caused the problems and why these solutions will not work in long run.

I. INTRODUCTION.

Has the 2010 Dodd-Frank Act diminished the probability of having a future financial crisis? If one of the necessary preventive measures was to minimize the concentration of assets, then Dodd-Frank has not fared-well. The *Wall Street Journal* stated that "In 1970, according to data from the Federal Reserve Bank of Dallas, the five largest U.S. institutions owned 17% of banking industry assets; in 2010 that share was 52%."[1] If this is the case, how then does one limit the contagion and the possible devastating effects from a systemic failure from one of the biggest banks? Since the introduction of the term, "too big to fail," with the Continental Illinois Bank failure in 1983, regulators have struggled with the idea of banks and other financial institutions becoming too important and large to allow for insolvency. One way would be to break up the banks so that no one possible bank could be big enough to bring down the whole system. Thus it would no longer be *too big to fail*. So let us assume that you took JP Morgan Chase and split it into ten equally-sized banks. Our initial thought was that if any one bank was to fail, the whole system would be able to survive. But, then we remembered that if one bank runs into trouble, typically the liquidity dries up because during a financial crisis the correlation between banks approaches 1, meaning that most banks will run into trouble.[2] In other words, creating new legal entities, *i.e*. nine new banks with exactly the same composition of assets, does not diminish the systemic risk and the subsequent contagion. Given our new insight, what next?

*Professor of Finance, Kenneth W. Monfort College of Business, University of Northern Colorado
** Associate Professor of Business Statistics and International Business, Kenneth W. Monfort College of Business, University of Northern Colorado

Forthcoming, International Review of Accounting, Banking and Finance

II. POSSIBLE REMEDIES.

Limiting Notational Value. How about limiting the notational value of the derivatives associated with mortgage backed securities and other instruments to say no more than two or three times or maybe even 10 times the underlying value?[3,4] What this means is that the actual hedging of a transaction will be limited to a certain number of times the exposure.[5] This is what is meant by notational value. Not only was there no practical limit to the speculation, but during the crisis some banks where so heavily levered in some cases to the tune of 36 times that when the hedge instruments moved against them, it was a quick end. To be fair, some banks invested in lending money to hedge funds while other banks actually bought the instruments. Regardless, whether the bank or the hedge fund that the bank lent the money to suffer the loss, the bank had problems.

But what was not fully appreciated nor understood was the fact that markets were becoming more correlated and interconnected. When the same asset is the basis for 30-times the notational value—if that asset goes down then impact is felt much more and especially if the asset's derivatives are sold all over the world. Why did the failure of the U.S. housing market cause so much damage? It was of the fact that the transaction was oversold, and not just in the U.S. but throughout Europe and Asia.

Most of the time people do not care if we enter into a zero-sum bet because there is no net effect on society (*i.e*. a large Super Bowl bet that goes wrong will only affect me and the casino). However, when the bet produces such a wealth transfer from one side to the other, and the losing side happens to be a large financial institution, such as Fannie Mae or Merrill Lynch, then that transfer has to be honored with a government bailout. So perhaps the amount of any one transaction could be limited. But what about splitting the transaction into many? Would this be an easy way around? Probably—which would imply that the notational value limit may have to be imposed but not just by transaction, but across the whole financial system. No set of transactions could have, say no more than thirty-times the cumulative notational value, regardless of the size of the individual transactions. The other worry about limiting the transaction amount and even the notational value is whether this could be imposed internationally. What would stop a large hedge fund or bank from transacting overseas? This would limit U.S. financial institutions from profiting on the transaction business without really limiting the overall problem.

Limited Liability. Another suggestion would be to limit the amount of limited liability afforded to banks. In other words make stockholders and directors/managers potentially liable for losses. It is interesting to note that if you go to a bank and ask for a loan for your LLC, or S-Corp, the bank will invariably ask for a personal guarantee. Is it surprising that banks want to get their money back by making you personally liable for the company's debt? Yet, why not have something akin to a limit on limited liability. The argument against limited liability would be that lending would become scarce and more expensive, making future growth more expensive and limited. Furthermore, foreign countries would lend on more favorable terms, placing the domestic financial industry at a cost disadvantage.

More Equity/Convertible Debt. Another variation on this would be to have more capital at risk. If the amount of equity is increased then the amount of potential losses can serve as a deterrent to unwarranted risk-taking. This would be the classic "more skin in the game" approach. A different approach would be to have a class of debt that would automatically convert to equity if certain ratios falter. Most of the time convertible debt is exercised by the

debt holder when the stock goes up in value. In this case, the bonds would be converted by the regulator when the bank is suffering losses with accompanying stock declines. This would make bonds riskier and more expensive but also make the bondholders more aware of the type of investments being made by the bank. In essence bondholders would be recruited to be another overseer of the bank's risk management team.

In a recent *Wall Street Journal* article (Reilly, 2013), a variation of the above theme would require that TBTF banks to hold more debt which would result in a higher cost and would also create a larger pool of bank liabilities that in liquidation could be used to absorb losses before dipping into the deposit insurance. This would be a less radical approach as compared to using convertible debt.

Treasuries equal to Deposits: Holman Jenkins, a *Wall Street Journal* columnist (Jenkins 2013), had another solution to the TBTF problem. One way to protect depositors and limit FDIC exposure would be to require large banks to hold Treasuries equal to the amount of deposits. As Jenkins states,

> Disturbed would be the certainty of uninsured creditors that they would be bailed out to minimize the cost of bailing out insured depositors. Yes, the implications would be profound. Checking-account customers might have to begin paying for the services they consume rather than being a hidden beneficiary of the rents from deposit insurance. This is a feature not a bug.

This would also serve to limit the money supply which in turn would possibly restrain bad behavior by possibly decreasing liquidity and increasing interest rates, all of which would limit bankers' actions.

Establishing Exchanges for More Transparency. If you want to limit the amount of notational value, the only way to do so is to establish an exchange that will provide order and supervision. And yet, markets are moving more and more away from exchanges as evidenced by the growth in dark pools.[6] Hedge funds will especially complain about having to show their cards. Yet, without knowing the amount of money being speculated in certain assets and transaction, it will be impossible to gauge the systemic risk.

Better Regulation and Moral Hazard. Finally for now, there is the idea of better regulation. One of the tenets of regulation is that no rule or regulation is perfect. This was one of Oliver Williamson's insights as to why firms sometimes decide to take over strategic suppliers rather than risk being held for ransom in negotiations.[7] But in this context it is about moral hazard.[8] Anytime you do not fully absorb all the risk, there will be a motivation to take chances, obviously because you are not fully liable. Whenever you tell a bank that they will not be allowed to fail because they are too big to fail, you are literally stroking the fires for the bank to take on more risk. Can you fully regulate moral hazard?

Robert Shiller believes that the market can provide the discipline to restrict risk taking, by allowing the buying public to be fully informed. Shiller's argument finds strong support using rational expectations theory. However, as consumer behavior regarding alcohol and tobacco has shown, full information without penalties for bad behavior (*i.e*. internalizing the negative externalities) tends not to work. So if we know that regulation is always imperfect, and that markets can only work if no risk shifting is allowed, then what is the answer? One of the reasons for the *Glass-Steagall Act* was to disallow financial institutions that received deposit insurance to also have risk-taking ventures such as insurance, investment banking, and the like. Effectively this required banks to shed their insurance and investment banking arms. From an

elementary or first principle basis, the idea was to have banks which are receiving implicit guarantees from the government for the deposit holders, to not have free insurance for their other ventures. This was a classic case of trying to minimize the moral hazard exposure.

Over many decades the banks convinced the regulators that banks' ability to monitor and minimize risk were so sophisticated that any probability of a large contagion and catastrophic event was so minute, that this was no longer a reason for still having *Glass-Steagall*. Banks effectively argued that even though there was a moral hazard exposure, *i.e*. the ability to take risk without paying the full price of failure, the risk was effectively eliminated. Thus the 1999 *Gramm-Leach-Bliley Act* successfully neutered *Glass-Steagall*. Even Alan Greenspan believed that the markets had the ability to implement the necessary discipline to eliminate future speculative bubbles.[9]

So let us review—moral hazard occurs after the fact and adverse selection occurs before the fact. But the unifying constant is that someone does not pay the full price for what they want. Assume that you have an all-you-can-eat buffet; naturally big eaters will be attracted to the offering. This is the classic adverse selection example. Now assume that you have a bank that gets a guarantee that it will be salvaged regardless of its actions. This is the classic moral hazard example given that banks will pursue a riskier course of action knowing that they will not have to pay for their mistakes. The question that needs to be answered is—how to eliminate the perverse incentive to pursue a path that is motivated by self-interest. If we have an all-you-can-eat buffet, the only way to change the incentive to eat too much is to charge according to what a person eats. If a bank makes bad loan, then you allow the bank to suffer the consequences. In the case of the restaurant, if the losses pursuant to the buffet become too great, then the only recourse is to end the buffet and charge *a la carte*. In the case of the bank should suffer for its mistakes but only if it has the resources to cover the losses. And this is the key. How do you make banks willing and able to cover their losses?

III. THE STATE OF BANK REGULATION

Glass-Steagall. So should we go back to *Glass-Steagall* and separate the risk taking functions from the deposit/loan making functions of a conventional bank? As a young engineer one of us worked for El Paso Electric Company (EPEC), which had the dubious distinction of being the second publicly-held utility to declare for bankruptcy in the modern era. In the five-years working there, senior management increased their attention upon non-traditional business ventures, including renovating downtown real estate. The question always remained, who would responsible if these business ventures failed? Should the rate payers be asked to contribute more if the solvency of the company was at risk? On the other hand, if the ventures were successful, would that result in lower electric rates? The understanding was that losses, if any, should be compartmentalized if possible. But what if the losses are so great that stockholder equity is wiped out and the very essence of the electric company is threatened? Would the Public Utility Commission be forced to raise rates?

The reason that we bring up the utility example is to illustrate that the moral hazard problem is not unique to banking. EPEC was trying to use its cash flow machine in the form of a regulated utility monopoly to fund and increase its leverage in investment properties that supposedly would provide increased revenues. But our understanding was that any increased revenues were to be distributed solely to equity holders with no benefit accruing to the ratepayers. Yet, when EPEC was reorganized in bankruptcy, energy rates were increased to

make up for the real estate losses. This was an example of the famous, "heads I win, tails you lose."

So how does one allow a regulated entity, albeit a utility or bank, to take risk and pay the full cost for any losses? Let us review the first principles of regulating risk: ❶ Make the risk-taker pay for losses. ❷ Make sure the risk-taker has adequate resources to pay for the losses. ❸ Make sure that the risk-taker has the right incentives to continue to take risks. Right now, we have some ideas, but nothing earth-shattering. Our skepticism comes from the fact that big banks will always have the implicit guarantee that "too big to fail," will never go away.

Part of the problem is that if we assume that *Glass-Steagall* was reinstituted, effectively minimizing a bank's direct ownership of investment subsidiaries, what is to stop banks from making loans to hedge funds that in turn invest in a future speculative bubble? If the bubble bursts, the loans go bad and the banks become insolvent. So now, the banks are one link removed from the bad assets, but are still engulfed by the bad loans. So, somehow *Glass-Steagall* does not seem to be the right answer. Instead, the answer has to be comprehensive which includes supervision of a bank's direct investment, as well as the close supervision of loan portfolios. But doesn't this describe the situation that existed prior to the housing crisis? In fact, we do have weighted risk-adjusted capital requirements, as per *Basel I, II and III*. Yet this did not appear to prevent the banking crisis that ensued after the housing bubble burst. This is why we are skeptical of new regulation.

The chairman of the Federal Reserve Bank of Dallas, Richard W. Fisher, stated his proposal for solving TBTF:

> In a nutshell, we recommend that TBTF financial institutions be restructured into multiple business entities. Only the resulting downsized *commercial* banking operations—and not shadow banking affiliates or the parent company—would benefit from the safety net of federal deposit insurance and access to the Federal Reserve's discount window (Fisher, 2013).

The proposal is simple and easy to understand. But the mere legal separation of functional areas will not eliminate the systemic risk unless the lending to these separate units is curbed. This can only happen with the coordinated efforts not only in the U.S. but around the world.

In another recent *WSJ* article, Fisher and Harvey Rosenblum (2013) posit another three-point plan. First they would limit the FDIC deposit insurance to only banks. Second, customers, creditors and counterparties would be required to sign an acknowledgement that the government would not backstop their investments. Third, that bankruptcy laws be amended to provide swift and definitive disposal of assets once liquidation. Yet, this assumes that these TBTF banks would be allowed to declare bankruptcy and that customers/clients would really believe that government would not in fact bail them out. I am not convinces that the Federal Reserve would really allow a TBTF bank to fail.

A recent paper by Charles S. Morris (2011), stated that banks typically provide the following broad functions:

- Commercial banking—deposit taking and lending to individuals and businesses.
- Investment banking—underwriting securities (stocks and bonds) and providing advisory services.
- Asset and wealth management—managing assets for individuals and institutions.
- Dealing and market making—intermediating securities, money market instruments, and over-the-counter derivatives transactions for customers.

- Brokerage services
- Proprietary trading—trading for bank's own account and owning hedge funds and private equity funds.

Mr. Morris believes that banks should only provide the first three functions which would lead to more transparency on the part of the banks and subsequently more effective regulation. The problem is that the systemic risk is not reduced—only shifted to the hedge funds and other institutions that make the market. Again, while the banks may not be directly involved, if the banks if fact lend to the hedge funds then the risk is only once removed but still in the system. In many ways the problems is similar to the house with a leaky roof. While patching the most obvious leaks will lead to a drier inside, water will always seek an entry point to the dismay of the homeowner.

A few other comments. *Dodd-Frank* also gave us the *Volker Rule* that prohibits banks from investing or sponsoring hedge funds or private equity funds or from engaging in proprietary trading. The *Volker Rule* can be considered an updated version of the Glass-Steagall Act. Furthermore, even if the *Glass Steagall Act* had never been repealed, the Act never applied to the securities activities of U.S. banks outside the U.S. Given the fact that much of financial transactions occur or would occur outside the U.S. borders, the efficacy of such a regulation would be questionable.

Better Regulation Redux. So is Shiller right? Can regulation and the market provide enough "tough love" to provide sufficient friction to stop another global financial meltdown? We are pessimistic. Greed is such a powerful inducer. Finance guys are always motivated by making more money which attracts talent. This talent typically outguns the regulator in motivation and brain power, and of course computing power. The regulator is always playing catch up so is should not be surprising that a new scheme is hatched before the regulator has time to react.

Dodd-Frank. So is *Dodd-Frank* the solution? One aspect of *Dodd-Frank* is to establish a systemic council that supposedly has the authority to shut banks down, coupled with enforcing a "living will" that banks supposedly have prepared in the case of their financial death. Does anyone really believe that a regulator/council will have the guts to "pull the trigger" and shut the bank down especially if this is the first time? We do not. It sounds great but remember—what is to stop lobbyists from going to Congress and asking for more time? Call us skeptical. We guess that the best way to curb excessive moral hazard exposure would be to minimize the risk that remains unpaid. That means bank officers and stockholders must feel more the pain of the losses. Debt-holders have to feel the pain as well. Yet, how to do it remains the question. We are not the first to write on this subject, so we may be plowing already furrowed ground when we suggest higher risk capital be required, along with convertible debt. Will this put American banks at a disadvantage? Perhaps, until banks spin off their investment subsidiaries. Once these are gone, then these newly formed hedge-funds can be regulated by more strict lending standards.

IV. CONCLUSIONS.

We believe that regulated imperfect markets with asymmetric information invariably lead to a high level of moral hazard that will ultimately lead to large levels of systemic risk. There is no regulation or set of rules that can eliminate this problem because, as the fable of *scorpion and frog* tells us, "it is in our nature," to take something for free. The fundamental problem that still

remains is how to get banks to pay for their risk-taking. Our belief would pursue a bifurcated approach: first, limit the systemic risk potential by limiting the notational value. This will also require an exchange to monitor the total exposure. Second, have banks more liable for losses by requiring more capital, having convertible debt and having senior management partially liable for losses.

Do we think the U.S. financial system will pursue these changes? No. That is why there will be another financial crisis. Banks will vigorously fight any attempt to provide transparency that could ultimately expose trading strategies. That is why a public exchange will not likely occur. During the summer of 2012, the state of Colorado suffered many major forest fires. Some of these were called "super fires," given the major damage that ensued. Analysts attributed these events to a strategy that attacks smaller fires but does not eliminate the dead wood in the forest which inevitably will become the fuel for a future fire. In many ways *Dodd-Frank* will suppress small financial crises but will not be able to suppress the major financial catastrophe because the necessary propellant/ingredient is still there—systemic risk.

---

[1] (Frost 2012). In addition the following statement further supports the notion of asset concentration. "The top five U.S. commercial and investment banks — Bank of America, J.P. Morgan Chase, Citigroup, Wells Fargo and Goldman Sachs — have emerged from the financial crisis larger than ever. As of the third quarter of 2010, they had a total of $8.6 trillion in assets, according to data provider Capital IQ. That's 13.3% of all U.S. financial firms' assets as calculated using Federal Reserve data, up from 11.8% three years earlier, when the financial crisis hit (Anonymous, January 11, 2011)." Furthermore, "And the biggest banks have only grown. The four biggest firms—J.P. Morgan Chase, Bank of America, Citigroup and Wells Fargo—have assets equal to 62% of total commercial-bank assets. That is up from 54% five years ago (Anonymous, December 7, 2011)."

[2] Chances are that banks will invest in many of the same assets and make many of the same loans. If the assets lose value and the loans are not serviced then the probability increases that all banks will have liquidity and solvency problems. *See also* (Sharpe, 1963), for a more mathematical explanation.

[3] Let us assume that the amount of the risk exposure is only say $100M. This is the notational value. But, let's also assume that you allow for other interested parties to take sides on the bet. This is no longer hedging but pure speculation. Normally, again no one will care if the losses are localized and no institution is jeopardized. But if the exposure becomes so large given the side bets, then this provides the destabilizing effect. In Las Vegas the house makes sure that its exposure is kept to a minimum by adjusting for example, the point spread. The casino ideally wants both sides of the wager to be covered equally so that it minimizes its naked exposure. This does not happen on Wall Street. There is no casino monitoring the lopsidedness of a bet.

[4] As an further aside, insurance companies require an insurable interest before insurance will be issued, meaning that there has to be real risk exposure and not a means to speculate on a bad event occurring.

[5] Synthetic CDOs have most commonly been linked to unlimited notational value. Whereas with real assets, there is a limit to the amount of contracts that can be written given the finite amount of revenue, with synthetics no limit exists. Literally the sky is the limit. And couple this with the fact that this is leverage to the fourth degree, you have for some very volatile situations. Small movements generate large gains. Large movements wipe firms out.

[6] Dark pools refer to large institutional-type investors trading off the organized exchanges by directly contacting each other. Regulatory oversight requires that the volume and settlement prices be disclosed at the end of the day.

[7] In 2009 Oliver Williamson won the Nobel Prize in Economics. A part of his work dealt with Transaction Cost Economics which tries to better understand the famous Ronald Coase's "black box" characterization of the firm.

[8] Moral hazard can be defined in a number of ways. Granted, moral hazard occurs after the fact while adverse selection occurs before the fact. In both cases there is an imperfect pricing of risk. Both adverse selection and moral hazard attempt to take advantage of something given to you for free. If I know that my actions will not result

in the full consequences of a possible loss, then I am being subsidized in my risk behavior and logically I will try to take full advantage of the "freebie."

[9] "Bubbles generally are perceptible only after the fact. To spot a bubble in advance requires a judgment that hundreds of thousands of informed investors have it all wrong. Betting against markets is usually precarious at best." (Greenspan, 1999)