Cuiusvis hominis est errare, nullius nisi insipientis in errore perseverare

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CUISISVIS HOMINIS EST ERRARE, NULLIUS NISI INSIPIENTIS IN
ERRORE PERSEVERARE\(^1\)

WOODY R. CLERMONT

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\(^1\) “Cuiusvis hominis est errare, nullius nisi insipientis in errore perseverare” is a Latin expression which means “Anyone can err, but only the fool persists in his fault.” This paper is a summary evaluation of the views expounded by Stephen Mihm and Nouriel Roubini’s book *Crisis Economics: A Crash Course in the Future of Finance.*
The problem is that regulators, and for that matter everyone else, can never get more than a glimpse at the internal workings of the simplest of modern financial systems. Today’s competitive markets, whether we seek to recognise it or not, are driven by an international version of Adam Smith’s “invisible hand” that is unredeemably opaque. With notably rare exceptions (2008, for example), the global “invisible hand” has created relatively stable exchange rates, interest rates, prices, and wage rates.

—Alan Greenspan, former chairman of the Federal Reserve

I. INTRODUCTION

John B. Taylor, Mary and Robert Raymond Professor of Economics at Stanford University, and George P. Shultz Senior Fellow in Economics at Stanford University’s Hoover Institution, though a friend of Alan Greenspan, has criticized his policy of keeping the target interest rate between 2003-2005 in the United States for too low, for too long, against the wisdom of good policy based on prior historical experience. Not only did monetary excesses in the U.S. lead to a housing boom, but corroborative evidence of other countries showed that monetary excesses abroad, led to similar housing booms. Taylor found that delinquency rates and foreclosure rates are inversely related to inflation of housing prices. The availability of subprime and adjustable-rate mortgages were a factor, and the uncertainty built into complicated mortgage-backed securities, led to severe miscalculations of risk involved with a form of finance and creative accounting measures which remained largely unregulated.

Greenspan, a monetarist, had heralded the introduction of subprime loans. Greenspan maintained that Taylor was trying to rewrite history, and that no one employs overnight rates.

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2 Alan Greenspan, Dodd-Frank fails to meet test of our times, FINANCIAL TIMES, Mar. 29, 2011, http://www.ft.com/cms/s/0/14662fd8-5a28-11e0-86d3-00144feab49a.html#axzz1cr5Xy08i.
4 Id.
5 Id.
6 Id.
such as the fed-funds rate, to determine real estate capitalization anymore.\textsuperscript{9} Arguing decoupling, Greenspan points to a disconnect between short-term rates and mortgage rates, which meant that the failure to observe the Taylor Rule was of no importance; he noted a 0.85 correlation between the two from 1971 and 2002, but a correlation of insignificance after that time period meaning that overnight rates had no effect on long-term interest rates on say for example, 30-year mortgages.\textsuperscript{10} He likewise points the finger at the global economy – “the tectonic shift in the early 1990s by much of the developing world from heavy emphasis on central planning to increasingly dynamic, export-led market competition.”\textsuperscript{11} David Henderson argues that Greenspan is right, because the occurrence of world-wide housing bubbles could not have been the fault of U.S. monetary policy.\textsuperscript{12}

Greenspan finds that growth in China, and a large number of developing market economies led to a global savings glut, in excess of capital investment, which led to lower long-term global interest rates between 2000 and 2005.\textsuperscript{13} Pointing to Milton Friedman’s positive performance appraisal of the Federal Reserve from 1987-2005,\textsuperscript{14} while Greenspan acknowledged that “the levels of complexity to which market practitioners at the height of their euphoria tried

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\textsuperscript{8} Overnight rates (sometimes called short-term rates) are a measure of liquidity in the economy. Banks with a surplus of funds, may use an overnight interest rate to lend monies to one another for short-term loans. For example, the London Interbank Offered Rate (LIBOR) rate is the average interest rate that leading banks in London charge to borrow money from other banks. Thomson Reuters on behalf of the British Bankers’ Association (BBA) publishes the daily LIBOR, after 11:00 AM each day, GMT. See British Bankers’ Association, \textit{The Basics: bbalibor\textsuperscript{TM}}, http://www.bbalibor.com/bbalibor-explained/the-basics (last visited Nov. 5, 2011).


\textsuperscript{10} \textit{Id}.

\textsuperscript{11} \textit{Id}.


\textsuperscript{13} \textit{Id}.
to push risk-management techniques and products were too much for even the most sophisticated market players to handle properly and prudently,” he still maintains that his policy approach advancing deregulation is the key, and that regulation is the wrong path as it is global forces that are to blame, not Federal Reserve monetary policy.\(^\text{15}\)

Gerald P. O’Driscoll, Jr. finds that both of Greenspan’s arguments do not withstand scrutiny: one-year adjustable rate mortgages (ARMs) were common rather than 30-year mortgages, with five-year ARMs being long-term lending of the time period.\(^\text{16}\) O’Driscoll indicated that there was no studies or numbers, to support the global savings glut, hypothesized by Greenspan, and that this was conjecture not evidence.\(^\text{17}\) “Global savings and investment as a share of world GDP have been declining since the 1970s.”\(^\text{18}\) O’Driscoll indicated that evidence of the lack of a savings glut is data that can be found in Mr. Taylor’s book just released at the time, “Getting Off Track.”\(^\text{19}\)

Nouriel Roubini is an American Economist who teaches at New York University’s Stern School of Business, and is a member of the Academic Advisory Committee, Fiscal Affairs Department, International Monetary Fund. Stephen Mihm is an American Historian: an Associate Professor, with the History Department, at the University of Georgia, and an elected member of the American Antiquarian Society. Both authored the book, *Crisis Economics: A Crash Course in the Future of Finance.*\(^\text{20}\) In the Introduction, pointing to the fact that former Vice President Dick Cheney claimed that, “Nobody anywhere was smart enough to figure [it]
out,” and that “I don’t think anybody saw it coming,” the authors take the immediate position that quite simply Cheney’s response, much like the responses of many others, simply was not true.\textsuperscript{21} Greenspan had claimed this “credit tsunami” was a once in a century event, that he was shocked and still did not fully understand what happened.\textsuperscript{22}

Yet Greenspan’s thesis for his Ph.D. (which he had sealed from public eyes in 1987), involved a discussion of soaring housing prices and their effect on consumer spending as well; the 180-page document even anticipates a bursting housing bubble.\textsuperscript{23} Greenspan wrote, “There is no perpetual motion machine which generates an ever-rising path for the prices of homes.”\textsuperscript{24} It would stand to reason, that a mortgage-backed securities and credit derivatives market tied into these ever rising housing prices, would inevitably one day run up against the point where the rise in prices would become unsustainable, even with the Fed artificially lowering short-term interest rates.\textsuperscript{25} In fact, it was the lowering of the fed-funds rate, that flooded the U.S. economy with money, which based on the quantity theory of money ($M\times\bar{V} = P\times\bar{Y}$), was sure to drive up the aggregate housing price level.\textsuperscript{26} After all the monetarist Milton Friedman taught us that inflation is a monetary problem caused by too much money chasing too few goods.\textsuperscript{27}

Roubini and Mihm offer that economists who sounded the alarm well before the meltdown, were purposefully ignored because people who occupy the worlds of economics and finance cling to the quaint belief that markets are self-regulating entitles that are stable, solid and

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\textsuperscript{20} NOURIEL ROUBINI, STEPHEN MIHM, CRISIS ECONOMICS: A CRASH COURSE IN THE FUTURE OF FINANCE (Penguin Press 2010).
\textsuperscript{21} Id. at 2.
\textsuperscript{24} Id.
\end{flushright}
dependable.\textsuperscript{28} Their book is an exploration of economics and history, as they contend that the crisis was not a black swan rare event as many have contended, but was in fact, a common white swan that was entirely predictable and avoidable.\textsuperscript{29}

Part II of this Essay will explore the first half of the Roubini and Mihm’s book. Part III of this Essay will explore the remaining half. Finally, this Essay will conclude by summarizing the authors’ main points.

II. THE FIRST HALF

A. THE WHITE SWAN

The authors begin the book with commentary about how the public rushed to “flip” real estate deals, where speculators bought and sold, tripling their profits overnight.\textsuperscript{30} Government officials encouraged deregulation and a hands-off approach, and the Federal Reserve did nothing to get in the way of the speculative frenzy. Inexperienced investors were introduced to complex securities, and credit was made available to millions of borrowers. They were led to believe that real estate prices could only go up, never down. Yet when the crash came, stocks plummeted, foreclosures piled up, firms folded, and people stopped spending.\textsuperscript{31} The problem was not just local to the U.S.: it had seemingly travelled across continents, as foreign stock markets, firms, and banks met a similar fate. The authors pointed to events in the past, such as the South Sea Bubble of 1720,\textsuperscript{32} the global financial crisis of 1825,\textsuperscript{33} the boom and bust that foreshadowed

\begin{footnotesize}
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\begin{itemize}
\item[29] Id.
\item[30] Id. at 13.
\item[31] Id. at 14.
\item[32] Id. at 21. The South Sea Company was a large corporation that owned much of the British national debt. Its stock increased by 1,000 percent, and then the stock market crashed, and chaos settled upon the British economy as the losses were staggering.
\end{itemize}
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Japan’s Lost Decade (1991-2000), and other little crises of the past that hammered certain markets during the 1980s and 1990s, as sharing some similarities with the current crisis.

Roubini and Mihm point out that crises are in fact the norm, not the extreme. Crises may be different in scale, the origins may differ, the damage caused may vary, and they may be local or global. Overleveraging may be a factor. Crises can increase unemployment, destroy entire industries, inflict incredible loss, and at the worst, topple governments and bankrupt countries. Crises can lead to global war. Yet there is a tendency to downplay and ignore them; for example, during 2007-2008, Federal Reserve chairman Ben Bernanke thought the problem was contained, and Treasury Secretary Henry Paulson did not think the crisis would lead to a meltdown. When the crisis appeared all too real, then people treated it as a black swan event, indicating that it was impossible to predict.

Yet most crises begin with a bubble, a bubble being the consequence of lax supervision and regulation of the financial system, or the loose monetary policies of a central bank. A bubble occurs when the price of an asset rises far above its fundamental value, to an unsustainable level. It could be the result of technological innovation, changes in the structure of

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33 Id. The Bank of England increased the money supply (easy money), stocks and bonds linked to the emerging market of newly independent Peru were overvalued creating an asset bubble, and fraud even occurred as bonds were sold of a fictitious nation named the Republic of Poyais. English economist Walter Bagehot commented that violence became widespread, credit was suspended, and the country was on the brink of entering a state of barter. Banks and firms failed, and looked to the Government for relief, but the Government refused to act. Bagehot argued for a central bank to act as a lender of last resort for such a situation. It took three decades for the flow of capital to reach its prior levels once more.

34 Id. at 27. In the 1980s Japan fell into a speculative mania rooted in stocks and real estate. Easy money courtesy of the Bank of Japan kept rates low, only to be raised at the end of the boom. Financial innovation accompanied deregulation, residential real estate prices doubled, and commercial real estate prices tripled. Those who were inexperienced with real estate lending, entered the field. When the Bank of Japan raised the rates to end speculation the bubble burst, the economy collapsed, and the Japanese economy suffered a series of recessions. Regulators ignored the efforts of the banks to hide their losses – many banks used fraudulent accounting devices to cover up the extent of the damage. The prices of land and equities never recovered, banks eventually failed, annual growth never returned to previous levels, and the 1990s in Japan became known as the Lost Decade.

35 Id. at 15.

36 Id. at 16. Yet also consider that Ben Bernanke, quite aware of the boom and bust in Japan, argued at a speech in 2004 that Japan was the exception and not the norm. Id. at 28.

37 Id. at 17.
finance – something which leads to a speculative fever. Particularly dangerous, is that wise men and women will assure others that prices will keep on rising indefinitely, when there is no valid justification for this assertion. An added concern: borrowers can use equity based on rising prices to further indebt themselves, which results in leveraging.\textsuperscript{38} Although the consumption from borrowing against collateral fueled economic growth, by the same token, most households were living beyond their means, and was matched equally by the reckless shadow banking system. When deleveraging began, and prices began to fall, borrowers had to sell assets at fire-sale prices, and investors lost their shirts.\textsuperscript{39}

The authors take some time to review similar boom and busts of history.\textsuperscript{40} For example, in the U.S., the real estate bubble burst occurring between 1987-1990 is seldom discussed, despite it having some striking similarities to the current bubble.\textsuperscript{41} The savings and loan (S&L) associations were the actual problem of that day – thrifts that acted like banks but which were deregulated (through regulatory forbearance), and therefore not subject to the same supervision that banks were but they were insured just like banks with deposit insurance, leaving them free to engage in extreme risk, creating a moral hazard.\textsuperscript{42} Wall Street firms took advantage of the S&Ls lack of expertise, as they bought the loans for 60 cents on the dollar, and bundled them with government-backed guarantees (courtesy of Fannie Mae, Freddie Mac, and Ginnie Mae) turning them into collateralized mortgage obligations (CMOs).\textsuperscript{43}

Easy money existed not because of monetary policy, but due to the aforementioned loan sales which S&Ls used to get more money, and deregulation: S&Ls did not have to maintain
reserve levels like other banks did, and thus were free to invest more money in a risky fashion.\textsuperscript{44} Many S&Ls actually bought some of these bonds, but not before being charged hefty transaction fees in the process. With poor lending practices, high-yield bonds (junk bonds), easy money available, no oversight, fraud and insider trading abuses, speculation and overvaluation of real estate prices, 747 S&Ls failed, and a crisis struck, though not at the level of the 2007-2010 meltdown. Economies become unstable when wages do not rise proportionally with prices.\textsuperscript{45} A painful recession followed in 1990-1991, the government bailed out many banks as it appropriated $124 billion to resolve the crisis.\textsuperscript{46}

The authors point to other crises.\textsuperscript{47} The asset bubble of a rare tulip bought from Turkey and introduced to the Dutch in 1593. People sold their possessions, their homes, and everything they had to get the rare tulips as “tulip mania” spun out of control in the 1630s as the overvalued tulips increased in price twenty-fold in one month. In 1873, investors in Britain and continental Europe invested heavily in railroads of the United States and Latin America.\textsuperscript{48} When European investors began to liquidate their overseas investments, a strain was placed on the U.S. which was in the middle of a railroad speculative boom, that caused railroads and banks to collapse, panic on Wall Street, and a brutal economic depression and deflationary spiral. The global economy was hit very hard as well, hurting the Ottoman Empire, Greece, Tunisia, Honduras and Paraguay.

\textsuperscript{43} ROBERT JACKALL, MORAL MAZES: THE WORLD OF CORPORATE MANAGERS 223 (Oxford University Press 2009).
\textsuperscript{44} DANIEL R. LEE, HOUSETRAP: WHO SET IT? AND HOW TO ESCAPE FROM AMERICA’S MORTGAGE AND HOUSING 134 (iUniverse, 2008).
\textsuperscript{45} Id. at 133.
\textsuperscript{46} ROUBINI AND MIHM, supra note 20, at 22.
\textsuperscript{47} Id. at 20.
\textsuperscript{48} Id. at 22.
In 1907, the U.S. collapsed after a speculative boom in stocks and real estate.\textsuperscript{49} As the stock market crashed and things spiraled out of control, J.P. Morgan, the most powerful banker at the time convened a meeting with New York City’s banking establishment to stop the bank run. He locked the bankers in his private library, and would not turn over the key until the bankers agreed to come to the aid of one another. J.P. Morgan’s efforts helped the U.S. stave off a major catastrophe, and many were persuaded as to the need for a central bank to provide a lender-of-last resort role for future crises. The Federal Reserve was created within the next six years.

Yet the Fed did not come to the rescue as would have been expected during the catastrophic crash of 1929; the Fed tightened the money supply, rather than expanding it, making a bad situation worse. The Treasury Secretary Andrew Mellon took a noninterventionist approach as he called for liquidation and purge, rather than solutions. So as the Fed and the government took the direction of doing nothing, the depression became the worst known in U.S. history.\textsuperscript{50} Unemployment soared, the financial system was in shambles, and other countries fared no better globally as they scrambled to devalue their currencies, used inflation to escape debts, and even failed to repay many loans formally, as was the case in Germany. This inevitably led to World War II, which was human history’s worst war.

Many other events through history, though smaller in scale, served as painful reminders of just how destructive speculative booms, bubbles, excessive risk taking, and deregulation can be.\textsuperscript{51} Yet by the mid-2000s, credit had again been easy come in the United States, with a low yield on junk bonds and low-risk Treasury bonds, that led a handful of economists to call upon

\textsuperscript{49} Id. at 23.  
\textsuperscript{50} Id. at 24.  
\textsuperscript{51} Id. at 29-30.
the government to act, and act fast.\textsuperscript{52} Their pleas were ignored and David A. Lereah, chief economist for the National Association of Realtors advised, “There is no national housing bubble” and that talk of it was “ludicrous.”\textsuperscript{53} The era of free-market fundamentalism would not be stopped.\textsuperscript{54} Liar loans were prevalent, as Greenspan defended the subprime lending practice claiming that lenders were full able to judge the risk and price it appropriately.\textsuperscript{55} This could not be further from the truth precisely because financial innovations had made it possible that lenders could make loans, and realize a return right away, sending them to Wall Street. Wall Street would then turn them into complex and esoteric mortgage-backed securities of all different flavors and varieties and unload them on unsuspecting investors who could not assess the risks of the original liar loan. Ratings agencies (Fitch, Moody’s, Standard & Poor’s) made hefty fees from securitization, and turned a willing blind eye joining Greenspan and the other supporters.

That Greenspan kept the fed-funds rate so low between 2001 to 2003, provided the easy money. But from 2004-2006, Greenspan actually raised the rate, but the damage had already been done: money from overseas, particularly China, stepped in to fill the void.\textsuperscript{56} As defaults grew among borrowers by 2006 and 2007, two highly leveraged hedge funds managed by Bear Stearns failed. As many became aware of the flaws in the subprime market, the reaction of flight triggered global panic, many banks were caught holding toxic assets on their books. The uncertainty of not knowing how much toxicity (like the mortgage-backed securities or the collateralized debt obligations) each major and minor player held, commenced the process of fatal bank runs. Not only banks were at risk: mortgage lenders, conduits, hedge funds, investment banks, monocline insurers, money market funds, structured investment vehicles

\textsuperscript{52} \textit{Id.} at 31.
\textsuperscript{53} \textit{Id.}
\textsuperscript{54} \textit{Id.} at 32.
\textsuperscript{55} \textit{Id.} at 33.
(SIVs), and other entities belonging to the shadow banking system were all exposed. During the bank runs demanded many their money back on short-term loans, or refused to renew loans and the liquidation of these securities at fire-sale prices, caused chaos and collapse.57

Bear Stearns was the first major investment bank to go, followed by the Lehman Brothers. Merrill Lynch survived by being bought by Bank of America. Goldman Sachs and Morgan Stanley survived by changing into bank holding companies, gaining lender-of-last-resort assistance from the Fed.58 The bleeding spread from the shadow banking system to the money-market-fund industry. The government had to provide a blanket guarantee to all existing money market funds to avoid further meltdown. The hedge funds were next.59 A bank run on the hedge funds, drove hundreds to close shop and more fire-sales continued. AIG began to teeter on the brink of collapse, and the Federal Reserve had to step in as the lender-of-last resort to save the day for a new generation of banks, something which it had done for the now gone Lehman Brothers. Global credit and foreign markets began to seize up as well, reaching China, Japan, Ireland, Iceland, and beyond. European, Middle Eastern, Russian and Asian economies began to crumble in 2008. Suddenly where free markets failed, people began to turn back to the ideas of John Maynard Keynes, Joseph Schumpeter, Hyman Minsky, Irving Fisher, and even Karl Marx – economists who had warned of the risks associated with laissez-faire capitalism.60

B. CRISIS ECONOMICS

Economists differ on the causes of booms and busts, but they also differ on the responses that should be taken when a crisis occurs.61 The authors begin with Adam Smith, and the origins

56 Id. at 34.
57 Id. at 35.
58 Id.
59 Id. at 36.
60 Id. at 37.
61 Id. at 38; see also Lydia Warren, Did a Harvard economics class cause the financial crisis? Students walk out of lecture that 'has driven inequalities in society', DAILY MAIL, Nov. 7, 2011, http://www.dailymail.co.uk/news/article-
of economics, and describe that it was the work of David Ricardo, Jean-Baptiste Say, Léon Walras, and Alfred Marshall that refined Smith’s work, taking the language he used and supplanting it with mathematical equivalents to describe his concepts in a more scientific way.\textsuperscript{62} Relying on the work of French mathematician Louis Bachelier, economists sought to give mathematical validity to the idea that the prices of assets bought and sold in the market are accurate and justified because rational actors proceed as if fully apprised of all information available about an asset. Asset prices may change, but this is a proper response to information about the asset. Princeton economist Joseph Lawrence declared, “The consensus of judgment of the millions whose valuations function on that admirable market, the Stock Exchange, is that stocks are not at present overvalued.”\textsuperscript{63} Surprisingly although Greenspan during his time period as chairman was always credited for believing that market forces are self-regulating (and hence that prices are what the markets are willing to bear), even he cautioned against the “irrational exuberance” of prices being bid up beyond their actual value.\textsuperscript{64}

Robert Shiller, Arthur M. Okun Professor of Economics at Yale University and a Fellow at the Yale International Center for Finance, Yale School of Management has stressed that asset prices rarely rests in a state of equilibrium, and from a behavioral finance standpoint points to “biased self-attribution.”\textsuperscript{65} Many biases, distortions, and other irrational inclinations cause speculators to suffer from delusion that a bubble will not occur and would likewise agree that “irrational exuberance” is indeed at play so much that he wrote a book titled after that concept;

\textsuperscript{62} ROUBINI AND MIHM, supra note 20, at 40.

\textsuperscript{63} Id.


\textsuperscript{65} ROUBINI AND MIHM, supra note 20, at 42.
the system is not so self-regulating and there is inherent instability afoot.\textsuperscript{66} Political theorist-turned-economist John Stuart Mill in 1848 in his work \textit{Principles of Political Economy} hypothesized that some occurrence such as a new market, “sets speculation at work”; price gains beget more price gains, and a self-sustaining bubble comes into being.\textsuperscript{67}

Karl Marx took the dark side of the instability to its greatest extreme; he argued that if the real value of goods depends on human labor, then replacement of human labor with machine-driven output, would cause profits to drop with time.\textsuperscript{68} An economy filled with overproduction and underemployment would set in, and with a wave of bankruptcies and consolidations, the working class would eventually revolt and result in a great amount of eventual destruction after several attempts of staving off the inevitable.\textsuperscript{69} On the other side of the coin, was John Maynard Keynes, who similarly accepted the premise that markets are not inherently stable.\textsuperscript{70} Animal spirits could be forces that helped, but they could also be forces that hurt when the spontaneous optimism falters.\textsuperscript{71} To reverse the downward spiral, governments had to take an active role by stepping in and creating demand through fiscal policy. While monetarist Milton Friedman once was responsible for the quotation, “We Are All Keynesians Now”, he would eventually lead the counterrevolution against the Keynesian school of thought.\textsuperscript{72}

The efforts to reconcile Keynes with earlier schools of economic thought resulted in “bastard Keynesianism” which under other name was known as the neoclassical synthesis.\textsuperscript{73} Nonetheless the fine points of Keynes’ work was not ignored by Hyman Minsky, a professor of economics at Washington University, who authored his own interpretation titled \textit{Stabilizing an}}
Unstable Economy. Seeing that the translation process of animal spirits into effective investment demand had the capability to go awry, Minsky focused on the analysis of banks, and other financial institutions that many economists tended to ignore; debt was at the centerpiece of the Keynes’ analysis and Minsky’s Financial Instability Hypothesis categorized borrowers into three groups: hedge borrowers (those who could pay principal and interest), speculative borrowers (those who could pay interest only), and Ponzi borrowers (those who could cover neither, but borrow further hoping for a rise in asset value). Speculative and Ponzi borrowers proliferate during a speculative boom, and when the debts are called after credit dries up, a perpetual cycle of fire sales and falling prices lead to great disaster.

This is when debt deflation creeps in, a term coined by Great Depression economist Irving Fisher. A mortgage on a house whose price has declined, suddenly seems like a bigger burden than it was previously, as the equity reaches nonexistent levels. Increased debt leads to a higher probability of default and bankruptcy. Inevitably Fisher, Friedman and Minsky all counseled that a central bank such as the Federal Reserve should step in as the lender of last resort to use “reflation” to flood the economy with easy money. During the 2007-2010 Crisis, the Fed did exactly that, opening up unprecedented lines of credit, must to the scorn of the modern day “leave-it-alone liquidationists”. The response during the Great Depression had been to pursue balanced budgets, which prompted cuts in government spending at the worst possible time. This is similar in thinking to the Austrian School of Economics and the ideas of Joseph Schumpeter’s creative destruction – that these painful time periods are inevitable, and

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73 Id. at 50.  
74 Id. at 51.  
75 Id. at 52.  
76 Id. at 53.  
77 Id.
that governments should not meddle because socializing losses only prolongs the inevitable, and creates unsustainable increases in public debt.\footnote{Id. at 54-55.}

The Austrians argued against moral hazard, because if we use the “Greenspan put” to step in with easy money to rescue incompetent risk taking, then what is the disincentive against such bad behavior?\footnote{Id. at 56.} Nonetheless the Austrian extreme is heartless; although the Austrians point to the Japanese Lost Decade as a sign of the failure of Keynesian, the alternative is what occurred during the Great Depression – a self-fulfilling collapse of private aggregate demand.\footnote{Id. at 57.} Therefore some form of intervention is called for in the short-term, to prevent a disorderly collapse, but in the long term, even the Austrians have some merit to their ideas – by using a sort of controlled “creative destruction” through a pragmatic approach that contains each inevitable financial crisis, engages in reckoning and accountability of dealing with toxic assets, and minimizing the impact.\footnote{Id. at 58.} The authors suggest that the study of crises should not be limited to one school of thought, and that followers of Keynes and Schumpeter could each have a lot to teach one another.\footnote{Id. at 59.} To this end, a study of history is a necessary and indispensable part of the approach to be taken.\footnote{Id. at 60.}

C. PLATE TECTONICS

In the third chapter, the authors caution against blaming subprime borrowers for the catastrophe.\footnote{Id. at 61.} Lack of corporate governance, Greenspan’s poor monetary policy approach, a lack of government regulation, and the complicated system of leverage built upon subprime

\footnote{Id. at 54-55.}
\footnote{Id. at 56.}
\footnote{Id. at 57.}
\footnote{Id. at 58.}
\footnote{Id. at 59.}
\footnote{Id. at 60.}
\footnote{Id. at 61.}
mortgages were all culprits.\textsuperscript{85} It was financial and not technological innovation which created debt securitization, which allowed illiquid assets like mortgages to be pooled, bundled and transformed into liquid assets sold on the open market.\textsuperscript{86} Investment banks would set up special purpose vehicles (SPVs) that would issue bonds, or mortgage-backed securities to investors, who were all too eager to snap them up. “Originate and hold” was transformed into “originate and distribute.”\textsuperscript{87} “NINJA loans” became prevalent – No Income, No Job and Assets.\textsuperscript{88}

Moody’s, Fitch, S&P’s never sounded the alarm because it made no financial sense to do so: the fees they received and the promise of future business were dependent on giving good ratings not realistic assessments.\textsuperscript{89} Of course the complexities of the securities made evaluating the original mortgages they were based on difficult, as collateralized mortgage obligations (CMOs), collateralized debt obligations (CDOs), and collateralized loan obligations (CLOs) had been engineered with a bit of sleight of hand and a lack of transparency.\textsuperscript{90} The simplest CDOs had three tranches: equity (highest return, highest risk), mezzanine (less return, somewhat significant risk) and senior (least return, paid first, least risk, suffered losses last). A CDO of a CDO was a CDO\textsuperscript{2} and a CDO of a CDO\textsuperscript{2} was a CDO\textsuperscript{3} which could sometimes even have more than fifty or a hundred tranches.\textsuperscript{91}

Moral hazard was a concern because these financial innovations resulted in risk transference, as a mortgage broker was readily rewarded for bringing in a liar loan, and then the loan was moved down the line, and the broker had no responsibility for what happened next as it

\textsuperscript{85} Id. at 62.  
\textsuperscript{86} Id. at 64.  
\textsuperscript{87} Id. at 65.  
\textsuperscript{88} Id.  
\textsuperscript{89} Id. at 66.  
\textsuperscript{90} Id. at 67.  
\textsuperscript{91} Id.
was out of his hands.\textsuperscript{92} The nature of that reward came in bonuses which accounted for 60 percent of the total compensation at the five biggest investment banks – some bonuses were ten to even twelve times the size of base salaries, and the bonuses were even still being paid after the meltdown began.\textsuperscript{93} Shareholders though the ultimate owners of financial firms, rarely have incentive to prevent the risks based on the greed built into this system; they also want to take risks because if the investments pay off, they stand to win big.\textsuperscript{94} The last line of defense ought to be the banks, but the banks are insured by deposit insurance, which allows them to take the risks, with the assurance that they can be rewarded even for bad decisions.\textsuperscript{95} Moreover, the Fed also provides an extra sense of security: banks do not hold large reserves of liquid assets as buffers against bank runs, because they know that the lender-of-last-resort will be there to save the day with loans and credit for the needy.

Greenspan, an acolyte of the hard-core libertarian Ayn Rand, did very little to prevent the oncoming crisis despite his awareness of irrational exuberance, as he made easy money available after the dot-com bubble burst, even though signs of a recovery were present.\textsuperscript{96} Even in 2004, when he began to raise the fed-funds rate, he did so at a slow pace (25 basis points every six weeks), which kept rates low for too long and normalized them too late and too slowly.\textsuperscript{97} Greenspan’s response inflated an entirely new bubble, and he failed to use regulator powers from the 1994 Home Ownership and Equity Protection Act to bring unscrupulous and predatory lending practices to a halt.\textsuperscript{98} Of course Greenspan was not alone in his thinking of allowing free reign in the markets, as the repeal of the Glass-Steagall Act of 1933, via the Financial Services

\textsuperscript{92} Id. at 68.  
\textsuperscript{93} Id. at 69.  
\textsuperscript{94} Id. at 70.  
\textsuperscript{95} Id. at 71.  
\textsuperscript{96} Id. at 72.  
\textsuperscript{97} Id. at 73.  
\textsuperscript{98} Id.
Modernization Act of 1999, allowed for mergers between investment banks, commercial banks and insurers, and that took down the firewall regulations that had been put in place previously during the time of the Great Depression.\textsuperscript{99}

Also consider the act of Republican economist-turned-senator Phil Gramm who slipped the Commodity Futures Modernization Act of 2000 into a budget bill.\textsuperscript{100} The act was never debated on the House or Senate floor, and effectively deregulated huge portions of the derivatives market, including credit default swaps. Credit default swaps (which permitted purchasers to buy “insurance” on defaults on bonds) reached a value of over $60 trillion by 2008, and were one of the most critical sources of “systemic risk” which threatened the whole financial system.\textsuperscript{101} In 2004, the five biggest investment banks approached the Securities and Exchange Commission (SEC), about loosening rules about amounts of debt held by brokerage units. The SEC complied with the request and granted the exemption, but with a huge caution, that any problems resulting from the increased overleveraging could cause “an awfully big mess.”\textsuperscript{102}

Beyond regulating exotic derivatives, and beyond cracking down on firm bonuses, the government also failed to stop the rise of the shadow banking system.\textsuperscript{103} Banks regularly engaged in “regulatory arbitrage” which was the purposeful evasion of regulations to obtain higher profits.\textsuperscript{104} Shadow banks had funny acronyms which were a “whole alphabet soup of levered up non-bank investment conduits, vehicles, and structures,” which borrowed in short-term liquid markets, and invested in long-term illiquid assets, and that rose to a level greater than the banks themselves – yet they had none of the accountability or fear of regulations that banks

\textsuperscript{99} Id. at 74.
\textsuperscript{100} Id. at 75.
\textsuperscript{101} Id.
\textsuperscript{102} Id.
\textsuperscript{103} Id. at 77.
\textsuperscript{104} Id. at 80.
did. With the world awash in cash, particularly with foreign firms joining in the mix, even when Greenspan attempted to raise the federal-funds rate from 1 percent to 5.25 percent from 2004 to 2006, the policy of tightening had no effect.\textsuperscript{105} Many global markets such as Japan, Germany, and China, had a surplus of savings which went to purchasing U.S. debt, which had the implicit guarantee of the U.S. Treasury.\textsuperscript{106} With global money sustaining the boom, the disaster grew and refused to abate.\textsuperscript{107}

The lure of increasing leverage made it all too easy. From 1960 to 1974, leverage ratios of banks increased by 50 percent. By 1981, the U.S. sector debt was 123 percent of GDP, and by 2008, the debt ratio soared to 290 percent.\textsuperscript{108} In 1981 household debt was 48 percent to GDP, but by 2007, it was 100 percent as homeowners bought homes way beyond their means with no money down, piggyback loans and other contrivances. The debt of the financial sectors from 1981 to 2007, rose from 22 percent of GDP to 117 percent. If an investment bank wanted to buy an asset worth $25 million, it would take $2.5 million of its own capital, and borrow the other $22.5 million, which is leveraged at the rate of ten to one.\textsuperscript{109} Should the value of the asset drop from $25 million to $22.5 million, then not only has the asset reduction caused some loss, but the owner’s entire equity has been lost, resulting in an effective negative 100 percent return on investment – although the possibility remains the value may rise in the future.\textsuperscript{110} Now if a margin call occurs, and the asset is sold at the current value of $22.5 million, the equity is permanently lost; if this occurs with thousands of transactions of CDOs with various firms in the

\textsuperscript{105} Id. at 81.
\textsuperscript{106} Id.
\textsuperscript{107} Id. at 82.
\textsuperscript{108} Id. at 83.
\textsuperscript{109} Id.
\textsuperscript{110} Id. at 84.
financial system at the same time, a spiraling cycle of decreasing prices will occur due to the
dynamic of market uncertainty, causing a crisis.\textsuperscript{111}

D. THINGS FALL APART

Walter Bagehot might well have recognized the 2007-2010 Financial Crisis if he saw it,
because Citigroup for example, a financial institution with a great balance sheet was suffering
due to its dealings with dealings with SIVs, conduits, and an assortment of structured financial
products.\textsuperscript{112} As Bagehot would have anticipated, confidence was eroded and trust disappeared as
the first failures of 2007, left everyone vulnerable and unsure of where all the toxic assets were
buried.\textsuperscript{113} Bagehot came up with the lender of last resort idea, but he was very discriminating as
to deciding which institutions would be worthy of rescue loans – only solvent not illiquid
institutions should gain access to such emergency lending. As it would seem, the idea of
worthiness fell by the wayside, and banks of all varieties received assistance indiscriminately.

Financing by the mid-2000s, regularly involved all the rogues’ gallery of assorted
characters that Minsky described: speculative borrowers and Ponzi borrowers.\textsuperscript{114} The supply of
homes had exceeded the demand, and the rising interest rates made variable-rate mortgages more
expensive, such that prices leveled off.\textsuperscript{115} Delinquencies and defaults started to accumulate, and
larger banks refused to renew or continue to extend lines of credit to the subprime mortgage
originators who relied heavily on short-term financing. Nonbank lenders like Merit Financial,
New Century Financial and Countrywide Financial began to fail as bank runs commenced.\textsuperscript{116}
Markit Group in London introduced something called an ABX Index, which measured market

\begin{itemize}
\item \textsuperscript{111} Id. at 85.
\item \textsuperscript{112} Id. at 86.
\item \textsuperscript{113} Id. at 87.
\item \textsuperscript{114} Id. at 88.
\item \textsuperscript{115} Id. at 89.
\item \textsuperscript{116} Id. at 90.
\end{itemize}
stress of subprime securities. As the ABX Index fell, CDOs were taking massive hits, including those of the high grade AAA tranches, which began to lose 10 percent by 2007.\textsuperscript{117}

Hedge funds operate much like banks, getting short-term investments from individual and institutional investors, and investing these borrowings in the long term but are not regulated by banks.\textsuperscript{118} Two hedge funds run by Bear Stearns invested billions into illiquid subprime CDO tranches, and their leverage was as high as twenty to one by the time they collapsed in 2007. As the ABX Index predicted the same fate for many other subprime CDOs, confidence evaporated and lenders made margin calls. Another hedge fund run by UBS likewise collapsed, unable to stave off bankruptcy.\textsuperscript{119} In the two years following the failures of these three hedge funds, five hundred hedge funds perished, victims to the inevitable bank runs.

Conduits and SIVs were suspecting of serving as the storage grounds for toxic assets: conduits on the front end as a holding pens, and SIVs on the back end as dumping grounds. Conduits were shadowy legal entities that had reserves one-tenth the size of a bank, and were used to initially store the mortgages. As they were transformed into mortgage-backed securities, CDOs, and other securities, the conduits, which depended on short-term financing, received loans via asset-backed commercial paper (ABCP).\textsuperscript{120} Because the investment banks could not unload these securities on investors right away, the banks used the SIV to buy up all of the securities using money siphoned from the ABCP market – a move which took the assets off the balance-sheets of the banks to avoid capital charges. Citigroup had seven different such SIVs holding assets of $100 billion.

\textsuperscript{117} Id.
\textsuperscript{118} Id. at 91.
\textsuperscript{119} Id. at 92.
\textsuperscript{120} Id. at 93.
As had happened with the hedge funds, trouble with one SIV, led to investor panic about other SIVs, and investors then moved $200 billion out of the ABCP market, leaving conduits and SIVs high and dry. The banks were left with little choice as to what to do next, as they had guaranteed the interest rate and value of the instruments. Being forced to bring the SIV exposure back onto their balance sheets, the banks sustained massive losses, as a liquidity trap and credit crunch crippled the financial market. As many institutions were forced to “exhume” the “bodies” of toxic assets that had been hidden via the hedge funds, conduits and SIVs, uncertainty spread like wildfire to New York, London, Tokyo and other financial centers. Ratings agencies downgraded mortgage lenders and structured products, the ABX index revealed a decrease in confidence of CDO tranches, and the interbank market tightened as the LIBOR rate changes led to the drying up of liquidity in overnight money markets. Even though the central banks tried to assist, banks who took money did so at the peril of being exposed for being troubled, which would further erode confidence.

Moreover, one reason that the central banks had not distinguished between providing assistance to the worthy banks and those who were not, was because it was near impossible to determine which were illiquid (worthy), and which were insolvent (unworthy). A bank like Countrywide Bank, the savings arm of Countrywide Financial had depositors at its doors clamoring for their money – moves that had not been seen in decades. After all what of depositors who had money in excess of $100,000? Deposit insurance did not cover amounts in excess of this limit. As a result 40 percent of deposits in the United States were uninsured in

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121 Id. at 94.
122 Id. at 95.
123 Id. at 96.
124 Id. at 97.
125 Id. at 98.
126 Id. at 99.
127 Id. at 100.
2007. Depositors had good reasons to want to withdraw their monies as quickly as possible, but this threatened to take banks to the brink of insolvency as panic ensued.

E. GLOBAL PANDEMICS

Likening the crisis to a pandemic, which is an epidemic that spreads across a broad group of people, and even across multiple continents, the authors begin the fifth chapter, with an indication that a countrywide panic in the United States can easily turn into a devastating global disaster.\(^\text{128}\) Using a theory of decoupling, pundits surmised that since the United States practiced capitalism to the extreme, that it alone would suffer the consequences of its risk-taking practices, and that the rest of the world would escape unscathed.\(^\text{129}\) Looking back to the panic of 1837, the authors noted that when the Bank of England refused to roll over three loans for three major financial firms, that the effects were felt throughout New York, Liverpool, Glasgow, New Orleans, Montreal, Hamburg, Paris, Antwerp, Buenos Aires, Mexico City, Calcutta, and other international locations felt the sting of the credit crunch.\(^\text{130}\) Rivaling the reach of the Great Depression, when the 2007-2010 Crisis occurred, the “Lehman Shock” curtailed global trade, and the global banking system was crippled.\(^\text{131}\)

When global investors tend to hold the same asset, and this asset undergoes a bubble, then the effects of holding these troubled assets will be felt all around the world.\(^\text{132}\) The American stock markets fell, shortly followed by exchanges in London, Paris, Frankfurt, Shanghai and Tokyo, as well as other international exchanges.\(^\text{133}\) In the nineteenth century, the British Empire was the leading economic superpower, and the United States became its

\(^\text{128}\) Id. at 115.
\(^\text{129}\) Id. at 116.
\(^\text{130}\) Id. at 117.
\(^\text{131}\) Id. at 118.
\(^\text{132}\) Id. at 119.
\(^\text{133}\) Id. at 120.
successor in the twentieth-century, with a quarter of the world’s gross domestic product.\textsuperscript{134} The failure of America was felt in Mexico, China, Canada, Japan, South Korea, Singapore, Malaysia, Thailand and the Philippines; when a major exporter like China who exported computer chips felt the slowdown, all of the other countries that provided needed computer parts that were in the supply chain, likewise were strapped due to their interdependency.\textsuperscript{135}

Fluctuations in the prices of commodities and currencies also had far reaching global effects.\textsuperscript{136} Reductions in interest rates in the U.S. devaluated the dollar, and the effect was felt globally.\textsuperscript{137} Nonetheless interdependency was not the only culprit; many nations engaged in conduct which created their own independent bubbles.\textsuperscript{138} Dubai, Australia, Ireland, New Zealand, Spain, Iceland, Vietnam, Estonia, Lithuania, Thailand, China, Latvia, South Africa and Singapore had its own housing bubbles.\textsuperscript{139} Between 1997 and 2005, housing prices in Spain rose 145 percent, while between 2003 and 2007, prices in Dubai rose a whopping 226 percent.\textsuperscript{140} Many European banks made high risk loans in countries such as Latvia, Hungary, Ukraine and Bulgaria.\textsuperscript{141}

Nonetheless, India for example, did not catch the disease; it had resisted efforts at deregulation in the banking system, and its banks kept hefty reserves on hand.\textsuperscript{142} On the other hand, emerging countries in Europe took extreme risks, and borrowed heavily between 2002 and 2006, taking on huge deficits.\textsuperscript{143} When many countries abroad realized that the notion of decoupling had been debunked and that the problem was on a global scale, there was the

\textsuperscript{134} Id. at 121.
\textsuperscript{135} Id.
\textsuperscript{136} Id. at 123.
\textsuperscript{137} Id. at 124.
\textsuperscript{138} Id. at 125.
\textsuperscript{139} Id. at 126.
\textsuperscript{140} Id.
\textsuperscript{141} Id. at 128.
\textsuperscript{142} Id. at 129.
problem of a proper response. Some European policymakers refused to adopt a stimulus package or other sort of fiscal policy; countries that needed one most such as Spain, Greece, Portugal and Italy could not afford one if they wanted to. China and much of Asia had invested heavily abroad and were in too deep – depending too heavily on exports, even their prudent approaches failed to stave off the inevitable.

III. THE SECOND HALF

A. THE LAST RESORT

Bernanke had relied heavily on the work of monetarists Milton Friedman and Anna Jacobson Schwartz, in his approach to handling the crisis. Seeing the failing of not adopting a monetary policy response to the Great Depression, Bernanke was determined not to take a non-hands on approach again, and to tackle deflation, he slashed interest rates to zero, rescued many banks at the risk of moral hazard, and pushed the envelope of the Fed’s powers, coming to rival the spending powers of the government. Irving Fisher though erroneous in his initial assessment of a “permanently high plateau” of stock prices, redeemed himself with the later conclusion that depressions are great when there is too much debt prior to a crisis, and too much deflation in the wake of the crisis.

Deflation lowers the prices of goods, increases the worth of the dollar, but in so doing, increases the burden and real value of nominal debts, which causes debtors to fall further behind on their debts. By contrast, inflation is the debtor’s friend, because inflation devalues the

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143 Id. at 131.
144 Id. at 133.
145 Id.
146 Id. at 134.
147 Id. at 135.
148 Id. at 136.
149 Id. at 139.
150 Id. at 140.
worth of the dollar, making the debts less in comparison.\textsuperscript{151} The liquidity trap is when the Fed has reduced the target funds rate to zero, and but that the banks are so distrustful and fears of illiquidity, that they hoard funds, and thus this monetary policy is not enough.\textsuperscript{152} To look at the spread between short-term rates on U.S. government debt, and the LIBOR rate, we have the “TED” spread.\textsuperscript{153} In normal times, this spread is 30 basis points, but during the crisis the spread rose to as high as 465 basis points.\textsuperscript{154}

The Fed used many liquidity facilities such as the Term Auction Facility (TAF), the Primary Dealer Credit Facility (PDCF), the Term Securities Lending Facility (TSLF), the Commercial Paper Funding Facility (CPFF), the Money Market Investor Funding Facility (MMIFF), and the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Fund (simply known as AMLF).\textsuperscript{155} However, the Fed cannot assist when the liabilities are held in a foreign currency; to this end, the International Monetary Fund (IMF) steps in, and becomes the lender of last resort to a host of economies on a global scale.\textsuperscript{156} Yet the Fed can still provide some limited support: by using “swap lines” the Fed is able to stockpile foreign currency which will allow it to lend currency in an indirect way to foreign institutions outside of the U.S by injecting American dollars into the European Central Bank, Swiss National Bank, Bank of England, as well as the central banks of Sweden, Denmark, and Norway.\textsuperscript{157}

The Fed also has quantitative easing at its disposal as another weapon in its arsenal: this allows the central bank to intervene in markets for long-term debt.\textsuperscript{158} The problem is that the banks instead of loaning the money to the firms and businesses in need, elected to go ahead and

\begin{itemize}
\item \textsuperscript{151} \textit{Id.} at 141.
\item \textsuperscript{152} \textit{Id.} at 142.
\item \textsuperscript{153} \textit{Id.} at 145.
\item \textsuperscript{154} \textit{Id.}
\item \textsuperscript{155} \textit{Id.} at 147.
\item \textsuperscript{156} \textit{Id.} at 149.
\item \textsuperscript{157} \textit{Id.} at 150.
\end{itemize}
plow the money into government debt, Treasury bonds, and other safe forms of long-term debt.\textsuperscript{159} The Bank of England and the European Central Bank employed similar measures – quantitative easing as central banks around the world began to follow suit.\textsuperscript{160} The problem that results however is similar to the war of intervention in Iraq; how and when does the intervention end, and the involvement disentangled from the complicated expensive conditions of dependency.\textsuperscript{161} An “exit” strategy is needed, but the authors caution that the heavy use of monetary policy at the expense of fiscal policy comes at a great price as the Fed will have to sell the toxic assets at some point, at a heavy loss.\textsuperscript{162}

B. **Spend more, Tax less?**

President Herbert Hoover became known in history as the do-nothing president; he typified the leader of an administration that was apathetic to the crisis that became the Great Depression.\textsuperscript{163} Hoover stood for a balanced budget and refused to engage in deficit spending, but this became his downfall.\textsuperscript{164} At the other end was John Maynard Keynes and his expensive bag of tricks, which involved fiscal spending of all sorts: after World War II, he became the preeminent economist of his time.\textsuperscript{165} In the recent 2007-2010 Crisis, the U.S. government tried the Economic Stimulus Act of 2008 as well as the American Recovery and Reinvestment Act of 2009, as two measures totaling $787 billion in order to use three fiscal strategies to target the ailing parts of the economy.\textsuperscript{166} Nonetheless spending is no free lunch, and increasing

\textsuperscript{158} \textit{Id.} at 151.

\textsuperscript{159} \textit{Id.}

\textsuperscript{160} \textit{Id.} at 153-154.

\textsuperscript{161} \textit{Id.} at 156.

\textsuperscript{162} \textit{Id.} at 157.

\textsuperscript{163} \textit{Id.} at 158-159.

\textsuperscript{164} \textit{Id.} at 160.

\textsuperscript{165} \textit{Id.} at 161.

\textsuperscript{166} \textit{Id.} at 162-163.
government debt will inevitably handcuff the government, and make things inevitably worse in the long run.\textsuperscript{167}

While moral hazard may be a concern, the FDIC still only insures up to $250,000, and thus 40\% of deposits remained uninsured and vulnerable during the crisis.\textsuperscript{168} The government may have to potentially cover trillions from the rescue of Fannie Mae and Freddie Mac however, but time will tell.\textsuperscript{169} Capitalism without bankruptcy is like Christianity without hell, but nonetheless the Federal government bought toxic debt at unprecedented levels, and even agreed to guarantee the toxic debts as well.\textsuperscript{170} All the while, the debt of the U.S. will double as a share of GDP, as the next decade’s deficits are expected to hit $9 trillion.\textsuperscript{171} Yet even at the risk of moral hazard, while the recklessness of traders and banks were of their own doing, the damage that would have been wrought on “innocent bystanders” had fiscal and monetary intervention not been employed, provides some justification for staving off what would have been another Great Depression.\textsuperscript{172}

C. \textbf{First Steps}

The irony appears to be that in using the tools that policymakers did to arrest the crisis, the nation is not clamoring for the regulatory reforms that should have followed such a watershed event.\textsuperscript{173} Had we been thrust into the land of unemployment rates of 25\%, then legislators would have done whatever was necessary to quell the public mood.\textsuperscript{174} However, because of the effectiveness of the measures taken that ended up staving off true disaster, the public is not calling for the necessary reforms needed to target the fundamental weaknesses and

\begin{flushleft}
\textsuperscript{167} \textit{Id.} at 163-164.  \\
\textsuperscript{168} \textit{Id.} at 166.  \\
\textsuperscript{169} \textit{Id.} at 168.  \\
\textsuperscript{170} \textit{Id.} at 176.  \\
\textsuperscript{171} \textit{Id.} at 178.  \\
\textsuperscript{172} \textit{Id.} at 181.  \\
\textsuperscript{173} \textit{Id.} at 183.  \\
\end{flushleft}
distortions that plague our current financial system.\textsuperscript{175} One reality is that it is entirely possible that the interests of shareholders and traders align to a destructive effect.\textsuperscript{176}

To help combat this, the authors suggest that where employees of firms hold upwards of 30\% of the firms’ shares particularly in the form of restricted stock, that those employees should be forced to hold their shares for a longer period of time, perhaps over a decade or to their retirement.\textsuperscript{177} In this sense, this discourages employees hedging bets that may bring good short-term gains, at the expense of stable long-term planning and consideration of consequences down the line.\textsuperscript{178} Likewise, where traders are compensated with bonuses in the short-term that are not reduced by the effect of long-term losses, a “bonus-malus” system ought to be used to hold the funds in escrow that could be reduced by long-term losses, forcing the trader to be mindful of long-term rather than short-term performance.\textsuperscript{179} Additionally, pay ought to be with the very same esoteric securities they have had a hand in making, forcing them to be careful in what they create, since they too, will have a long-term stake in these CDOs that they put together and unload on others.\textsuperscript{180} Moreover, the reforms in compensation schemes must be across the board: if only one firm adopts say, the bonus-malus system, then their employees will flee to firms that do not use such a system.\textsuperscript{181}

Finance has grown at a startling rate, now accounting for 7.7\% of GDP as of 2005, versus say less than 2.5\% back in 1947.\textsuperscript{182} A warped compensation structure is to blame, as the U.S.
has far more “financial engineers” and too few mechanical or computer engineers.\textsuperscript{183} Responsibility needs to be used to make banking “boring” once more, as heavy securitization reform is necessary to scrutinize the creditworthiness of the loans that were originally made, rather than the originate-and-distribute pattern that obscures the risky and toxic nature of the ingredients that went into many CDOs.\textsuperscript{184} Additionally the ratings agency system is in need of reform: no longer should the SEC create barriers for new entrants, and current agencies should be forbidden from offering any consulting or modeling services.\textsuperscript{185} Issuers of debt should not pay ratings agencies directly, but rather institutional investors should pay the monies into a pool that would be administered by regulators to avoid a conflict of interest.\textsuperscript{186}

Moreover it is not wise to ban derivatives, despite their havoc wreaking roles; instead the proper step is to control the excesses that certain derivatives can cause.\textsuperscript{187} Many credit derivatives could and should be standardized, and bought and sold in a simple straightforward fashion that is easy to monitor to ensure through transparency, that the transactions are over the counter rather than under the table.\textsuperscript{188} The more esoteric derivatives that could not be standardized, should be registered in a central clearinghouse instead (like the Options Clearing Corporation), where sufficient collateral is required, and the burden of counterparty risk is reduced.\textsuperscript{189} The riskiest of certain derivatives altogether may be banned, or at least sold only in hedge funds and other high-risk settings, where there are rigorous margin and collateral requirements via a clearinghouse.\textsuperscript{190}

\textsuperscript{183 Id. at 191.}
\textsuperscript{184 Id. at 194.}
\textsuperscript{185 Id. at 197.}
\textsuperscript{186 Id. at 198.}
\textsuperscript{187 Id. at 200.}
\textsuperscript{188 Id. at 201.}
\textsuperscript{189 Id.}
\textsuperscript{190 Id. at 202.}
The Basel Committee on Banking Supervision, responsible for guidelines such as the Basel Capital Accord (Basel I and inevitably Basel II in 2006) also needs to reform Basel II because it made too many assumptions about the stability of the world’s financial system.191 More importantly Basel II exaggerated the amount of capital needed on hand during crisis times, yet understated the amount needed during boom times, which led to “procyclicality” that amplifies fluctuations in the economy during a boom-and-bust cycle.192 A more dynamic system is needed to avoid the imposition of a flat static amount (say like 8%), which adjusts the rate during good and bad times.193 Additionally risk managers should not be marginalized within the scope of many financial institutions because they need the ability to control the traders with whom they work.194 Many reforms are necessary, in order to increase accountability, transparency, regulate securitization, and keep the ratings agencies honest.195

D. RADICAL REMEDIES

Better regulation, opined Ben Bernanke could have avoided the recent financial crisis.196 Self-regulation was the form of regulation used for years, putting principles into place, which firms would then conform with.197 Moreover, the way that commercial banks incorporate themselves also affect which agency will ultimately regulate them: they could charter themselves under state law, or federal law, and so forth.198 Nonetheless, because firms will select the jurisdictions where there are less rules and restrictions, “jurisdictional arbitrage” in order to

191 Id. at 205.
192 Id. at 206-207.
193 Id.
194 Id. at 209.
195 Id.
196 Id. at 211.
197 Id. at 214.
198 Id. at 216.
maximize their opportunities to engage in activities subject to the least amount of possible regulation.\textsuperscript{199}

The next issue is who will regulate the regulators.\textsuperscript{200} Many high-level firm executives have served in the government, and many government regulators have transitioned over to the private sector.\textsuperscript{201} The authors highlight the SEC’s choice of a managing executive for its newly created Division of Enforcement, a twenty-nine year old with limited experience other than previously serving as an executive at Goldman Sachs.\textsuperscript{202} The issue becomes a conflict of interest particularly where former regulators serve as lobbyists for many firms.\textsuperscript{203}

Additionally acute is the issue of moral hazard, where Too Big to Fail (TBTF) firms have been previously bailed out and continue to expect to be bailed out.\textsuperscript{204} These firms grow too large, and reduce competitiveness, and in so doing, reduce the possibility of efficient supervision where these firms are too large and complex to be effectively managed.\textsuperscript{205} Moreover, not only do the authors call for a return to the firewalls brought by the Glass-Steagall Act of 1933 which separated commercial banking from investment banking, but further reforms that would separate the many different types of current firms in existence.\textsuperscript{206} Banks, including investment banks should be kept out of the business of hedge funds, and should not be engaging in proprietary trading.\textsuperscript{207}

Moreover the Fed and many central banks should follow the old adage that an ounce of prevention is worth a pound of cure: it is wrongheaded to allow the Fed to watch bubbles form

\textsuperscript{199} Id. at 218.
\textsuperscript{200} Id. at 219.
\textsuperscript{201} Id. at 221.
\textsuperscript{202} Id. at 221.
\textsuperscript{203} Id.
\textsuperscript{204} Id. at 225.
\textsuperscript{205} Id. at 227.
\textsuperscript{206} Id. at 231.
\textsuperscript{207} Id. at 232.
and burst, and then only intervene thereafter.\textsuperscript{208} Nor should economists recommend that asset bubbles are natural and health for the economy and that central banks should not interfere with them.\textsuperscript{209} Moreover Asset-Based Reserve Requirements (ABRR) ought to be at the disposal of disposal of central banks – central banks like the Fed ought to be able to insist on higher reserve requirements for certain assets, for example, real estate.\textsuperscript{210} The Fed must also be willing to be a true regulator, rather than a cheerleader: its prior laissez-faire approach must come to an end, and it must be willing to take away the “punchbowl” so that the days of easy money and lack of oversight come to an end.\textsuperscript{211}

E. Fault Lines

The authors condemn the foolish tax cuts that have prevailed while the country was bailing out banks and auto manufacturers at an exorbitant cost.\textsuperscript{212} Additionally they are concerned with the balance of trade (\(BOT(EP^*fP, Y_d) = EX(EP^*/P) - IM(EP^*/P, Y_d)\), and give Japan as an example of a country with a lot of debt, but with a positive account surplus because government debt is owned by Japanese citizens (not outsiders), and because they export more than they import.\textsuperscript{213} The situation differs with the U.S. that allowed its government debt to be bought by foreign investors, and whose consumers buy a ton of imported goods – this helps contribute to what is the greatest current account deficit in the world.\textsuperscript{214}

China on the other hand, owns the debt of many foreign countries, including the U.S., has little debt of its own, and makes a ton of money from imports, making it possess the greatest

\textsuperscript{208} Id. at 234.  
\textsuperscript{209} Id. at 235.  
\textsuperscript{210} Id. at 237.  
\textsuperscript{211} Id.  
\textsuperscript{212} Id. at 239.  
\textsuperscript{213} Id. at 241.  
\textsuperscript{214} Id.
current account surplus in the world.\textsuperscript{215} The current account balance also represents the difference between “national savings” and “national investment” \((Y - T - C) + (T - G) - I = NX\).\textsuperscript{216} Inevitably what can lead to an imbalance, is government spending out of control followed by the issuance of too much debt.\textsuperscript{217} More prudent government policymakers, fearful of this situation, avoided current account deficits at all costs, and stocked up on war chests of foreign currency to prevent situations where money from abroad stops flowing into the country, to ensure future liquidity.\textsuperscript{218} Yet in doing so, surpluses drive up the value of a country’s currency; however, the dual strategy that avoids this problem, is to buy even more foreign currency so as to drive up the value of foreign currency and devalue one country’s own currency.\textsuperscript{219} The authors point to China as having honed this dual strategy to perfection.\textsuperscript{220}

Ricardo Hausmann and Federico Stuzenegger deny that the current account deficit exists altogether, as they claim that “dark matter” is not being captured detected that could show that the superior “know-how deployed abroad by U.S. corporations” is not being properly captured in statistics and accounting methods.\textsuperscript{221} Ben Bernanke blames the problem not on Americans not saving enough, but on foreign countries like China and other Asian nations that are saving too much – a global savings glut.\textsuperscript{222} The authors refuse to indulge such explanations, insisting that the blame remains squarely with the U.S., and reckless fiscal policies, deficit spending, deregulation and improper supervision of the housing boom and real estate bubble, followed by equally unconscionable tax cuts, created the mess.\textsuperscript{223}

\begin{itemize}
\item \textsuperscript{215} Id.
\item \textsuperscript{216} Id. at 242-243.
\item \textsuperscript{217} Id. at 244.
\item \textsuperscript{218} Id. at 246.
\item \textsuperscript{219} Id. at 246-247.
\item \textsuperscript{220} Id.
\item \textsuperscript{221} Id. at 248.
\item \textsuperscript{222} Id. at 249.
\item \textsuperscript{223} Id. at 250.
\end{itemize}
The authors also warn of China’s path to global hegemony, and thus its power over the U.S., but also warn of China’s limitations: China’s consumption is far too low, and it depends on cheap exports to the U.S. that are financed by the sale of debt to China.\textsuperscript{224} The authors also warn that banks in China are loaning monies to state-owned enterprises in a global economy that is already drowning in overcapacity, and that a bubble may occur in the future as a result of the inability of many factories to repay these loans.\textsuperscript{225} Yet even the strategies of China and many other countries that hope for the status quo of maintaining soaring surpluses in the face of the deficits of countries like the U.S., cannot hold in the long-term, nor are such courses sustainable.\textsuperscript{226}

As the holder of the currency used for the international standard, the U.S. was bound to suffer a deficit since making it the international reserve currency implicitly meant that other countries would clamor for the dollar.\textsuperscript{227} What would replace it, should the U.S. wane in importance as Great Britain did? The authors suggest the Chinese yuan or renminbi.\textsuperscript{228} Yet China seems reluctant to do so, as Zhou Xiaochan, governor of the People’s Bank of China, suggested instead that the IMF use a special quasi-currency called the Special Drawing Rights (SDR).\textsuperscript{229} Zhou cited to Triffin’s Dilemma, a theory which predicted that establishing the dollar as the reserve currency would ultimately undermine the dollar and the U.S. down the line, and thus showed an aversion to having China suffer the same fate.\textsuperscript{230} Whether the SDR can be implemented this way remains to be seen, but clearly that it remains a viable suggestion,

\textsuperscript{224} Id. at 253.
\textsuperscript{225} Id.
\textsuperscript{226} Id. at 254.
\textsuperscript{227} Id. at 258.
\textsuperscript{228} Id. at 259.
\textsuperscript{229} Id. at 260.
\textsuperscript{230} Id.
highlights the degree to which many emerging markets want to replace the dollar with something more stable.\textsuperscript{231}

The G-7 (U.S., Japan, Germany, France, U.K., Canada and Italy) cannot speak for the world in the face of many emerging economies.\textsuperscript{232} Nonetheless while the G-20 is more inclusive, its framework does not provide for effective global governance, and the IMF does not appear to be much better.\textsuperscript{233} The IMF is reluctant to use a bully pulpit, and seems powerless to force China, Europe, the U.S., and others to change their ways.\textsuperscript{234} Nonetheless the power to issue more SDRs is promising, because by having central banks purchase them, the IMF can have these banks also reduce the amount of foreign currencies they stockpile, reducing instability and imbalance.\textsuperscript{235} Still inevitably, greater cooperation between foreign nations is necessary to keep the focus away from short-term national interests.\textsuperscript{236} The status quo can no longer be maintained, and if the U.S. chooses to monetize its debts, then the high inflation will surely accelerate the decline of the U.S. dollar that can have destabilizing effects globally.\textsuperscript{237}

IV. CONCLUSION

Highlighting the farce of Goldman Sachs CEO Lloyd Blankfein and his efforts to resist calls for regulation, the authors caution that it is time to jettison the bankrupt ideas of inherent stability, efficiency, and resilience of unregulated markets.\textsuperscript{238} Pointing to the efforts of regulators to scale back the regulations established in the Great Depression, decades of free market fundamentalism, compensation schemes that encouraged high-risk, short-term betting, moral hazard through the “Greenspan put”, the move towards “originate and distribute” with a

\textsuperscript{231} Id. at 261.
\textsuperscript{232} Id.
\textsuperscript{233} Id. at 261-262.
\textsuperscript{234} Id. at 262.
\textsuperscript{235} Id. at 263.
\textsuperscript{236} Id. at 264.
\textsuperscript{237} Id. at 265.
variety of complex structured financial products, contributed heavily to the storm. Regulators allowed the bubble to grow, allowed for loose credit rules, easy money, greed, and the silly notion that “this time is different.”

The financial system filled with subprime mortgages, warped compensation structures, corrupt ratings agencies and so forth, was rotten within. A good start at reform would include measures to change compensation structures, to align the interests of bankers with shareholders, rather than shifting risk away. Securitization will need to be centralized and made transparent, with heavy regulations and restrictions. Ratings agencies will be forced to change their business model away from one where investors and not institutions are responsible for paying the bill to avoid a conflict of interest. Institutions and firms that are TBTF must be broken up, and the Glass-Steagall legislation must be reinstated, along with additional regulations to draw proper lines between different services provided. Additionally the IMF should be strengthened and supply a new international reserve currency. G-20 nations deserve a rightful place at the table of global governance. Crises should not be treated as black swan events, but as ones that are expected to recur, and their effects minimized and mitigated. Just as with hurricanes, disaster preparedness, recognizing and addressing the known effects rather than ignoring them, and strengthening the levees, are how we should brace and prepare for future

238 Id. at 266-267.
239 Id. at 268.
240 Id. at 269.
241 Id. at 272.
242 Id.
243 Id. at 273.
244 Id.
245 Id.
246 Id. at 274.
247 Id.
248 Id. at 275.
financial crises – inevitably, we must learn from past mistakes, and use history as a guide to prevent against future recurrences.\textsuperscript{249}

\textsuperscript{249} Id.