Perspectives on the Global Financial Crisis From Emerging Managers and Public Policy Makers

Abridged Version

James L. Grant PhD
Associate Professor of Accounting and Finance
University of Massachusetts Boston
And President, JLG Research

August 25, 2014
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From

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With Special Contribution from:

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August 25, 2014

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Foreword and Contents

This manuscript attempts to capture the perspectives of emerging managers and public policy makers as evinced in the perspectives of graduate students and others who were enrolled in my newly developed course on the global financial crisis—first offered in the 2010 Harvard Summer Economics Program—at a time when students were engaged in the midst and aftermath of the most severe U.S. and worldwide recession since the Great Depression of the early 1930s. The many perspectives gathered on the causes, consequences, remedies, and perhaps more importantly, a glimpse at student thoughts, concerns, and worries at the time--have been collected from the final paper that I assigned in the global crisis course over three cohorts of students including, (1) the Harvard Summer Economics Program of 2010 (Cohort 1), (2) A “Special Topics” course at the University of Massachusetts Boston during Spring semester 2012 (Cohort 2), and (3) the same course offered in the Harvard Summer Economics Program during the summer of 2012.

While we have all heard the many opinions and perspectives on the global economic and financial crisis from academia, government, industry among others, we have yet to hear from emerging managers and public policy makers, as captured in this manuscript by the perceptions, beliefs, and positions of graduate students and others of similar standing who will likely hold the reins to managing the global economy and political and societal developments in the years to come. With this in mind, this manuscript attempts to fill the missing void of opinions and perspectives of the next generation of managers and public policy makers—as their opinions and views will likely influence the lives of all for years to come.
A non-exhaustive (and non-ordered) listing of the “Causes” of the Global Financial Crisis that were cited in contributed papers to the manuscript and/or class discussions includes:

- Giant housing bubble (Case-Schiller Index: 2000-2006)
- Fed’s easy money policies (low interest rate policy)
- Deregulation-lapse in governmental/quasi-governmental oversight
- Irresponsible lending/borrowing (local banks/individuals)
- Community Reinvestment Act-misguided social engineering
- Wall Street securitization-misguided financial engineering (RMBS, CDOs, CDS)
- Wall Street Greed and Excess
- Housing market as Wall Street’s next great trading opportunity (following bursting of the tech-driven, NASDAQ bubble)
- Credit Rating Agencies-misguided rating standards/oversight
- “Irrational exuberance”-all assets & markets
- Prices can only go up mentality
- Unreasonable expectations-real estate, economy, jobs
- Consumerism-“Keeping up with Jones mentality”;
- “Mc-Mansion mentality”
- Contagion conditions everywhere (locally and globally)
- Leverage and more leverage (too much debt)
- A “paradox of deleveraging”
- The “Recourse rule”
- Incentive misalignment--rational market participants but with misaligned incentives
- Non-rational elements in the decision-making process
- A “Tragedy of Commons”
- Black swan event
- Reflexivity
- Minsky moment
- Failure of corporate governance systems
- Interconnectedness-“Too Big to Fail mentality”
- Systemic risk (housing prices as macro factor)
- Misguided application of Modern Portfolio Theory [highly correlated housing markets equals low (not high) diversification benefits]
- “The securitization lie” (again, misguided financial engineering)
- Complexity of instruments (derivatives)
- ‘This time is different’ syndrome
- Moral hazard--“Passing the risk buck”
- Degradation of ethics
- Breach of fiduciary duty
- Behavioral factors-leading to adverse selection, risk-seeking, excessive optimism, overconfidence, among others
- Investor need for alternative investments following Dot-Com bust (VC, private equity, real estate)
- Persistent US trade deficits, weak dollar, and international capital flows
- Excessive local vs. international competition among financial institutions
- China (and other developing countries) as financier of pre-Crash boom and lender of last resort
- A collapse of credit and global trade
- Errors of attribution (misguided view of rising housing prices related to economic fundamentals)
- Social contagion & information cascades
- Neglecting the parallels from past crises-a naive “this time is different mentality”
- Perception that housing price changes are easily forecasted
- A “corrupted system”

Likewise, a non-exhaustive (& non-ordered) listing of “Who is to blame” for the Global Financial Crisis cited in the contributed papers to the manuscript and/or class discussions include:

- Borrowers--individuals
- Lenders--local banks & mortgage companies
- Government Sponsored Enterprises--“Fannie & Freddie”
• Federal government—misguided social engineering
• The Fed--all too accommodative, then restrictive monetary policy
• Wall Street--investment bankers; big insurance; institutional investors
• Credit rating agencies (CRAs)
• Shadow banking system (investment banks, hedge funds, SIVs, SPVs & offshore funds)
• The “Quants”

The remainder of this abridged version of the GFC manuscript includes acknowledgements, about the editor, disclaimer, table of contents (38 chapter titles), editor perspective, economic foundations by Professor Richard T. Selden, and sample chapter contributions from the two Harvard cohorts (Summer 2010 and 2012) and the University of Massachusetts Boston cohort (Spring 2012). The sample papers included herewith on the Global Financial Crisis are meant to be illustrative of the quality of papers that I received from the three Cohorts, and are not meant to be a reflection of the “best” papers.

James L. Grant PhD

August 25, 2014
Acknowledgements

I would like to acknowledge Dr. Richard T. Selden, Carter Glass Professor of Economics Emeritus at the University of Virginia, a distinguished guest lecturer in the global financial crisis course that I offered in the Harvard Summer Economics Program. “Dick” taught two classes on macroeconomic theory and polices—in the context of the “Classical” (pre-Keynesian) and Keynesian persuasions—with application of how competing economic theories would relate to the causes, consequences, and prescriptive remedies of economic and financial crises in general and with specific application to the recent global financial crisis. Dr. Selden’s lectures on macroeconomic policy were highly regarded and appreciated by the students enrolled in the course. Included in this manuscript is Dr. Selden’s paper, “A Classical Perspective on Macro Policy,” which I invite all to read for a more comprehensive and balanced understanding of how competing economic theories—both Classical and Keynesian—apply to financial and economic crisis.

I would also like to acknowledge the Harvard Summer Economics Program and the University of Massachusetts Boston for giving me the opportunity to develop and offer a timely course on the global financial crisis. I wish to thank Eric Pinsoneauilt and other graduate-research assistants at the University of Massachusetts Boston who helped me launch and continually update this manuscript. I also thank Gregory Scott and Joel Grant for comments provided on the papers as they first arrived.
About the Editor

James L. Grant is Associate Professor of Accounting and Finance at the University of Massachusetts Boston and President of JLG Research. Dr. Grant has served as advisory analyst at major Wall Street firms including Credit Suisse Asset Management and GAM. Dr. Grant holds a PhD in Business from the University of Chicago’s Booth School of Business, and he has been a featured speaker at industry conferences on value-based metrics. Dr. Grant has served on editorial advisory boards including the Journal of Portfolio Management and the Journal of Investing (currently). Dr. Grant has published several articles in finance and investment journals and he has contributed chapters to investment books. Dr. Grant is the author of Foundations of Economic Value Added (Second Edition), the co-author of Focus on Value: A Corporate and Investor Guide to Wealth Creation, and co-author and co-editor (with Frank J. Fabozzi) of Equity Portfolio Management and Value-Based Metrics: Foundations and Practice. His writings on the value-based metrics approach to equity securities analysis have been adopted by the CFA® Institute. Dr. Grant is also Independent Director and Chairman of the Board of Directors of Centre Funds.
Disclaimer:

The opinions expressed in this Manuscript on the Global Financial Crisis are based solely on those of the selected contributors. As such, the opinions of the authors along with their purported supporting data and evidence should not be interpreted as a guarantee of accuracy, nor for providing financial or investment advice in times of economic and financial uncertainty such as that which recently occurred during the financial crisis. While additional papers were submitted as part of general course requirements, not all papers are included herewith for several reasons including: formatting issues, incompleteness, lack of contact information, space limitations, and notably, to achieve a measure of balance among the collected papers from the student cohorts over the years 2010 to 2012. Student papers from the summer of 2011 were not included in this manuscript due to lack of contact information to obtain a representative sample of opinion from this cohort.
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Chapter 12: An Integrative Personal Perspective on the Global Financial Crisis, Ali Sheikh

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EDITOR PERSPECTIVE: The Global Financial Crisis:

With numerous, interesting, and valid perspectives on the Global Financial Crisis presented in this manuscript, I would like, as Editor, to be upfront about my own opinion: As expressed here and elsewhere (e.g., “A Perspective on US Regime Change and the Global Financial Crisis,” *Journal of Asset Management*, October 2009), the Crisis was, in my view, caused primarily by misguided social engineering policies pursued by the U.S. government and the quasi-governmental entities (“Fannie,” “Freddie”) that encouraged or allowed individuals as borrowers to qualify for mortgages which they could not afford; this, in conjunction with overly accommodative and restrictive monetary (erratic interest rate) policies pursued by the U.S. Federal Reserve System in the pre-Crisis period. Wall Street’s role in “hatching” the Crisis—via misapplied financial engineering--was in the Editor’s view either complicit with, or secondary to, the role of the U.S. governments’; as the ensuing U.S. housing boom was the Street’s next great trading opportunity following the bursting of the tech bubble at the century turn. Moreover, the lingering economic woes and high unemployment rates that we have witnessed in the aftermath of the Crisis—both in the U.S. and worldwide--can be largely attributed to the naïve view that government stimulus programs *a la* Keynes (or otherwise) can somehow turn a deeply troubled economy around; when--*unlike the private sector*—government has no formal decision-making framework (meaning NPV and EVA analyses) for rationalizing capital in a way that promotes wealth creation, economic growth, and sustainable growth in employment.

James L. Grant, PhD

December, 2013
ECONOMIC FOUNDATIONS:

A Classical Perspective on Macro Policy

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Preface

With publication of The General Theory of Employment, Interest, and Money in 1936, John Maynard Keynes invented modern macroeconomics. Prior to The General Theory, economists studied the causes of business cycles, changes in the value of money, and the determinants of long-run economic growth primarily via a simple framework of analysis, the "equation of exchange," which focused on the relation between the quantity of money in an economy and total spending.

Keynes's most important innovation was his insistence that it is more fruitful to analyze total or "aggregate" spending by separating it into its major components: spending by households ("consumption"), firms ("investment"), governmental units, and the rest of the world ("exports" minus "imports"). Further, he emphasized the irrelevancy of total spending; what matters for a healthy economy is spending on currently produced goods and services, measured by the gross domestic product, rather than the much larger total spending figure that includes trading in previously produced items, and even in financial assets.

Clearly, almost all contemporary economists utilize Keynes's macroeconomic framework. A glance at college macro textbooks shows this to be true: with few if any
exceptions they devote only a chapter or two to pre-Keynesian theory (i.e., "classical" macroeconomics), usually regarding it as an outmoded historical curiosity.

This paper offers a more sympathetic view of pre-Keynesian macro theory. I believe that a "beefed-up" classical model can provide rich insights into recent macro issues--insights not readily revealed by standard Keynesian analysis. But before we tackle the classical model a brief review of Keynesian economics is in order.

**Keynes, in a Nutshell**

The main issue explored by modern macroeconomics is what determines the aggregate level of output (Q)--and by extension, the levels of employment and unemployment. As in microeconomics, modem macro theorists examine this issue in a demand-supply framework. Both the aggregate demand for output (AD) and aggregate supply (AS) depend on prices of goods and services, measured by a broad index (P) of current output prices. AD slopes downward to the right, AS upward to the right. Equilibrium occurs where AD and AS intersect. Figure 1 illustrates hypothetical AD and AS curves. With levels of P shown on the vertical axis and Q on the horizontal axis, in equilibrium Q is Q-zero and P is P-zero.

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**Figure 1**
Obviously, the levels of Q and P depend on the shapes ("elasticities" in economists' lingo) of AD and AS. But equally important is the possibility of rightward or leftward shifts in either curve. Indeed, Keynes believed that recessions reflect collapses in AD, primarily due to the periodic unwillingness of businesses to undertake investment projects. The General Theory, in fact, was basically a theory of aggregate demand.

We need to understand the underpinnings of the AD curve. Let's begin with Keynes's basic building block, the "Keynesian cross" diagram, which measures real gross domestic product, Q, on the horizontal axis, and the components of demand for Q on the vertical axis, also stated in real dollars, as functions of Q. These components are total expenditures by
households ("consumption," designated by C), by firms ("investment" I), by units of government (G), and by other countries (F, which is "exports" minus "imports").

Figure 2 shows a hypothetical Keynesian cross diagram which, for simplicity, merges the components other than consumption into a single horizontal line. Keynes's key assumption was that the consumption component of total demand ("the consumption function") rises as Q rises, but at a less than proportional rate. Thus a 1% rise in Q results in a rise in C of less than 1%.

To obtain total demand for current output at various levels of Q we add the horizontal line and the consumption function in Figure 2. The diagram also includes a...
45-degree reference line; in equilibrium, total demand for current output ("aggregate expenditures") must lie along that line.

Returning to Figure 1, in order to have a downward-sloping but non-vertical AD curve there must be some component of total demand that's sensitive to the price level P. That is, a fall in P must stimulate greater demand for at least one of the four components. Keynes considered this possibility in The General Theory but concluded that changes in P have little effect on AD. Critics--most famously his Cambridge colleague and former teacher, Professor A. C. Pigou--quickly took issue with Keynes, pointing out that a fall in P results in a higher real value of cash balances, M/P, which should lead to an upward shift in the total demand curve, hence to an increase in Q. The implication is clear: under Pigou's assumption, AD cannot be vertical (i.e. its elasticity with respect to P must be greater than zero, in absolute terms).

So we have an empirical issue. According to Keynes circa 1936, AD has little if any sensitivity to the level of P, implying that AD is virtually vertical, as shown in panel A of Figure 3. (Pigou’s AD curve is shown in Panel B of Figure 3) Modern Keynesians have backed away from this extreme position, but the issue of AD’s elasticity remains a point of difference between Keynesians and non-Keynesians.
Keynes's views on aggregate supply can be depicted as an inverted L, shown in Figure 4. The vertical part of AS illustrates a classical world of "full employment," a situation in which changes in AD have no impact at all on Q. The horizontal segment, in contrast, shows what happens in a typical recession: P remains essentially unchanged, he argued, due to
downward rigidity of nominal wage rates. Keynes offered several reasons for downward wage rigidity; clearly, he took it as a basic fact of life.

Figure 4

Keynes Aggregate Supply (CA, 1936)

A Simple Classical Model

Keeping this simplified Keynesian macro model in mind, I turn now to macro theory as it existed before publication of The General Theory. Pre-1936 literature on monetary theory is vast and is still worth close study— including important contributions by Keynes himself. Yet I never have found a clearly articulated macro model that captures all of the core elements of classical macroeconomics. In what follows I attempt to fill this gap, and to do so using Keynes's framework of analysis.
I begin with Irving Fisher’s equation of exchange, \( MV = PT \), where \( M \) is the money stock, \( V \) its turnover rate ("velocity of circulation"), \( P \) a broad price index, and \( T \) total transactions during some period, expressed in dollars. While we lack direct measures of \( V \), this isn’t a problem since it is simply equal to \( PT/M \). By 1936, practitioners of the equation of exchange were using a slimmer version, replacing the irrelevant \( T \) by \( Q \), real gross domestic product. In this version, \( V \) is the income velocity of money. Note that \( PQ \), the right side of the equation, is nominal gross domestic product, \( Y \), while \( P \) is the implicit deflator of gross domestic product.

My classical model has three building blocks. There’s an aggregate production function that assumes a given stock of capital \( K \) and a given state of technology \( T \). \( K \) includes not only items such as machinery and factories but also land-in short, all productive inputs other than labor. (See Figure 5) This function relates employment \( E \), on the horizontal axis, and real gross domestic product \( Q \). The function is concave downward, reflecting the most fundamental principle in economics, the hypothesis ("law") of diminishing returns. Note that a change in \( K \) or \( T \) will shift the production function: increases in \( K \) or improvements in \( T \), for example, will cause an upward shift or rotation in the function, implying an increase in labor productivity.
Second, there's a labor market. For simplicity I assume complete homogeneity within the labor force. Labor supply is an increasing function of the real wage rate, defined as the nominal wage rate divided by the price level $P$. Demand for labor depends on employers' estimates of the added value expected from hiring additional workers. These estimates reflect the marginal physical productivity of labor multiplied by the market value of the extra output. Classical analysis, it should be noted, described only long-run tendencies. Hence it is assumed that the labor market tends toward equilibrium at full employment. Full employment exists when labor demand equals labor supply. (Figure 6) In classical analysis, short-run imbalances in the labor market are eliminated by adjustments in the nominal wage rate to restore equality between labor demand and supply.
The third building block is an aggregate demand function relating Q and P. This brings us to a stark difference between Keynes and the classics. In contrast to Keynes’s analysis of AD on a sector-by-sector basis, the classical AD curve reflects the quantity theory of money ("Q.T."), a hypothesis about the cause of inflation which asserts that an x% rise in M will have no lasting impact on either V or Q, thus causing an x% rise in P. Note that the Q.T. does not deny the possibility of changes in P due to changes in V or Q that are unrelated to changes in M. In other words, the Q.T. does not insist that all inflations must be due to growth in M, though a study of history suggests few (if any) exceptions. For example, it’s possible for P to rise in an agricultural economy due to Q being depressed by a severe drought. Further, P could
rise due to a reduced Q associated with destruction of factories and farms during wars or natural disasters.

Accepting the Q.T. implies a curious result: the classical aggregate demand turns out to be a rectangular hyperbola, its level depending on the values of M and V! For given values of M and V, the left side of the equation of exchange is a constant, equal to nominal gross domestic product; so we have PQ = a constant. The elasticity of aggregate demand with respect to P is -1, a result that differs sharply from Keynes, as can be seen in panel B of Figure 3.

**Assembling the Blocks**

I now place the building blocks in a 4-corner diagram showing equilibrium values for P, Q, total employment E, and both real and nominal wage rates. (Figure 7) With a given nominal wage rate W, shown in the northwest quadrant, and labor market equilibrium (i.e. no unemployment), shown in the southwest quadrant, we know how much labor is employed. Turning to the production function in the southeast quadrant, we find the level of Q in a fully employed economy. Finally, in the northeast quadrant we have a vertical long run aggregate supply curve above this level of Q. The intersection of aggregate demand with aggregate supply determines P.

In the classical world, changes in M don't affect the real variables Q, E, V, K, and T; hence an x% change in M results in exactly an x% change in P. This is the famous "classical dichotomy," according to which monetary policy affects only P and other nominal variables
such as nominal interest rates in the long run. Money is said to be "neutral" in this model, a thoroughly "classical" result.

\[ (E) = \text{Employment}; \ (\varphi) \text{ is the production function for a given stock of capital (K) and given technology (T).} \]
\[ \text{The nominal wage rate (W) is always at a level that results in full employment.} \]

**Figure 7**

"Supply-Side Economics"

During the 1970s "supply-side economics" came into vogue. Actually, this was nothing but classical economics, renamed to call attention to Keynes's neglect of aggregate supply. But the emergence of supply-side economics had important policy implications. Compare Keynesians and supply-siders on the effect of a tax cut. Keynesians, focusing on short-run
stabilization policies, argue that tax cuts will boost aggregate demand, resulting in some combination of increases in P and Q. Supply-siders, in contrast, argue that the main impact will be a rightward shift in aggregate supply, for two reasons: (1) employment will rise due to higher after-tax real wage rates and (2) there will be a counterclockwise rotation of the production function due to a rise in the stock of capital triggered by higher expected after-tax returns. So both schools expect a rise in Q and E, but they have different inflation forecasts: Keynesians expect tax cuts to drive up P; for supply-siders, tax cuts are expected to drive P down.

The basic disagreement here is about time: Keynesian analysis focuses explicitly on the short run, classical analysis on the long run. In Marshallian microeconomics, the short run is a period in which capital is fixed. But how can capital be fixed when investment—by definition, an increase in capital—is taking place? This has always puzzled me. Keynes's assumption of a fixed capital stock seems reasonable for, say, a single year, but extending it over the several years of a typical business cycle seems to be a mistake. I believe the supply-siders' focus on long-run aggregate supply is an important correction of Keynesian economics.

Reaganomics

Shortly after his January 1981 inauguration, President Reagan proposed a radical shift in U.S. macro policies, aimed at curbing double-digit inflation and stimulating growth. His plan had four parts, the first three straight out of supply-side economics. Proposal one: deep across-the-board cuts in individual income tax rates to foster more labor market participation. Proposal two: cut the corporate income tax rate and liberalize depreciation rules to boost
investment spending. Proposal three: deregulate the private sector, again to stimulate investment. The expected impacts of his proposals are evident from my classical model. (Figure 7)

As you can imagine, if you weren't alive in those days, Reagan's supply-side plan was angrily denounced by Keynesians, who insisted it would worsen the ongoing rapid inflation while skewing national income and wealth toward the rich. But Reagan had another card up his sleeve, a monetarist card: his fourth proposal was to fight inflation with monetary tightening.

**Monetarism**

When we think of monetarism, we think immediately of Milton Friedman, its godfather. Monetarism extends classical macroeconomics to the short run. Friedman agreed with Keynes that macro theory shouldn't neglect the short run. He also agreed that periodic collapses in aggregate demand cause most short run business fluctuations (i.e. "cycles"). But Friedman was not a Keynesian in any other respect.

Keynes thought that the main source of falling aggregate demand was declines in private investment spending. This wouldn't be a problem if P and nominal wage rates adjusted quickly, but in fact they don't. The result is periodic spells of unemployment and shrinking output. The only sensible remedy, he argued, is more government spending or tax cuts to offset the decline in private demand.
Friedman starts with a classical aggregate demand curve that depends on M and V. For him, the basic cause of a collapse in demand almost always is a monetary or financial shock. He developed this theme at length in extensive empirical studies, most notably the monumental historical study with Anna J. Schwartz published in 1963. Contrary to Keynes's belief that fiscal policy is far more potent than monetary policy, Friedman reached the opposite conclusion. Monetary policy is so powerful, he believed, that trying to use a flexible policy to "iron out business cycles" would usually be counterproductive, likely to increase short-run instability. The problem with a flexible policy is that the effects of changes in monetary growth occur mostly after long lags. Worse still, they vary in length from one occasion to the next, making it virtually impossible for central bankers to time policies correctly. It would be far better, said Friedman, for central bankers to ignore short-run fluctuations, selecting instead a rate of growth in M compatible with long-run stability in P.

Returning to Reagan's 1981 plan, Friedman was sure that monetary tightening would win a tug-of-war with fiscal easing. There was a risk, of course, that tighter money would create a recession, and in fact one began soon after the plan was adopted. But the electorate, as usual, had forgotten about "Reagan's recession" by November 1984. Aside from that unsurprising and probably unavoidable early stumble, I believe that Reaganomics amply achieved its objectives.

**Rational Expectations**
While monetarism identified weaknesses in Keynesian economics, both schools of thought were criticized by Robert Lucas and others for faulty modeling of inflation expectations. The Lucas critique pointed out that the impact of macro policies depends on whether or not the public has anticipated them. Fully anticipated policies have little or no impact on real variables such as Q and E if economic agents are rational, because rational agents know that the ultimate impact will be solely on P. This implies that aggregate supply is vertical even in the short run. Hence monetary policy is likely to be ineffective as a tool of short-run stabilization.

This conclusion leaves only two options for policy makers. They might try to avoid transparency, keeping the public guessing about future policy actions. However, hardly anybody thinks this is a good idea. The other option is to focus exclusively on P, leaving the private sector to its own devices as far as employment and output are concerned. Most advocates of this view favor adoption--and announcement--of a policy rule aimed at achieving a stated goal for P.

This is paradoxical: Friedman and Lucas recommend the same policy, but for very different reasons. For Friedman, monetary policy is anything but neutral, but it's too dangerous to use; hence it's better to settle for stable noninflationary growth in M. For Lucas, monetary policy (as well as other macro policies) is impotent due to rational expectations; hence again, it's better to aim at a stable (and presumably low) rate of inflation.

**Deflation**
Most central bankers dislike inflation, but many have an even greater dread of deflation. Partly this reflects lingering memories of the Great Depression, when prices fell sharply and unemployment reached catastrophic levels. Japan's experience since the early 1990s, an era of stagnation and deflation ("the Japanese disease"), also weighs heavily on today's central bankers. An obvious indicator of fear of falling prices is the Fed's informal inflation target of 2% per year, a rate well above zero. The fear is that deflation could lead to a trap from which there is no escape. I'll return to this in a moment.

It's obvious from Figure 7 that a downtrend in P can result from either a fall in aggregate demand or an increase in aggregate supply—two very different situations, with different policy implications. We should applaud deflation due to increases in aggregate supply; it's the best of all worlds. Basically, this describes the U.S. economy in the last third of the 19th century.

Deflation due to a fall in aggregate demand is more problematic. To see why, consider another proposition from Irving Fisher. According to Fisher, rational credit market participants look at real rather than nominal rates of interest; real rates take account of expected inflation during the life of a loan. This means that the nominal interest rate should be equal to the real rate plus expected inflation.

While the logic of Fisher's equation is undeniable, there are practical difficulties in measuring both the real interest rate and expected inflation. Still, we can get reasonable
estimates of inflation expectations from surveys and econometric models, and the yields on TIPS (treasury inflation protected securities) provide information on real interest rates.

The problem with deflations due to falls in aggregate demand is that the nominal interest rate, with trivial exceptions, faces an effective floor of zero. This means that a negative expected rate of inflation (i.e. an expected deflation) implies a real rate above zero; and the greater the expected deflation, the higher the real interest rate will be. Most central bankers regard this sort of "liquidity trap" as a real threat—a situation in which they have, so to speak, shot all their bullets and are powerless to help an economy return to full employment.

I disagree. These fears stem from a view of the transmission mechanism of monetary policy that focuses solely on the central bank's ability to manipulate short-term interest rates, plus a belief that the demand for M becomes infinitely elastic as interest rates approach zero. However, empirical evidence contradicts this view, as Robert Hetzel, a Federal Reserve Bank of Richmond economist, found for Japan in a paper published in 2003. According to the model developed earlier, central banks always can restore aggregate demand to a full employment level by expanding M through open market operations. That should be their objective rather than fretting over the level of interest rates and the possibility of deflation.

Supply Shocks: The Case of Oil

Our classical model also throws light on policy options when supply shocks occur. To make the discussion more concrete, I'll focus on the effects of an oil shock such as the one
that took place in 1973-74. In the fall of 1973 there was an abrupt quadrupling of crude oil prices, due to a radical cutback in oil exports from many of the world's major producers. For the U.S. economy and many others that had been relying heavily on oil imports, the spike in crude prices had serious consequences. Oil, of course, is a major input for many industries. As an example, consider the generation of electricity, which can be done with various of technologies. Electric utility companies must decide which of several fuels to use to drive their generators: coal, oil, natural gas, or nuclear materials. The fuel choice decision, of course, is guided strongly by cost, along with other considerations.

The quadrupling of crude prices in 1973 immediately rendered many electricity generating plants obsolete; in many instances, it no longer made sense to use oil-based technologies to produce electricity. The practical effect was a clockwise rotation of the production function. And as we have seen, any change in the production function means a change in the (still vertical) aggregate supply curve. In this instance, aggregate supply shifted to the left.

Assuming for the moment that aggregate demand is unchanged, the clear result must be a rise in P, as well as a decline in Q. (See Figure 7) Note that under these circumstances the central bank would not be able to reverse the decline in Q by adopting an easier monetary policy; the only result of such an attempt would be a further rise in P. Conceivably the central bank might opt for monetary tightening, rather than easing, hoping to keep P at its original level, but this would risk plunging the economy into a demand-induced recession on top of the adverse impact of the spike in oil prices.
The Recent Crisis: What Would Milton Say?

All of us, I suspect, have encountered bumper stickers or media blogs that ask "what would Jesus do?" At the risk of being thought sacrilegious, I close by pondering Milton Friedman's probable reaction to recent events. My credentials for attempting this are as good as anybody's. He was my teacher in the 1940s and my thesis supervisor in the early 1950s, and I remained close to him for the rest of his life.

First, I am sure Friedman would agree with Alan Greenspan that it's unwise for central banks to try to burst speculative bubbles. That certainly was his view about the Fed's efforts to break the back of speculations in stocks and real estate in the 1920s. I'm also pretty sure he took a dim view of the Fed's attempts over the last decade or so to use flexible policies to reduce short-run instabilities.

I believe Friedman would have considered the recession of 2007-09 to be just a typical downturn brought about by monetary/financial shocks, similar to most earlier recessions. The problem this time was not so much a slowdown in monetary growth, although M2 growth did fall in the months right before the December 2007 cycle peak. I believe Friedman would have attached more significance to events in credit markets. Earlier in 2007 U.S. banks had belatedly begun tightening credit standards (see the charts in Federal Reserve Bank of St. Louis, Monetary Trends, March 2011, p. 7), which they had loosened greatly during the housing bubble. Even though interest rates remained stable, there was a growing unease, which became real alarm in July 2007 with the failure of two Bear Steams hedge funds. The
collapse of Bear Steams itself in March 2008, followed by the Lehman Brothers failure and other dramatic signs of financial weakness in the fall, turned what would have been a mild recession into a serious one. This, I believe, is the way Friedman would have seen it.

Perhaps more interesting would be Friedman's assessment of Fed policy during and since the recession. I'm sure he would applaud the Fed's actions to avoid the monetary shrinkage of the 1929-33 disaster. That said, however, I'm also certain he would be highly critical of the degree of monetary ease over the last couple of years— including, of course, the "quantitative easing" programs initiated in November 2010. The problem facing the U.S. and the rest of the world today is not unemployment and slow growth; it is inflation. An interview of Friedman about four months before he died in 2006 (http://www.econlib.org/cgi-bin) leaves no doubt of his views on this.

Chairman Bernanke, implicitly relying on a Philips curve model of inflation, dismisses such fears. What Bernanke neglects is that the effects of monetary policy are usually long delayed, as Friedman showed half a century ago. By the time Bernanke spots clear evidence of an inflation problem, Friedman would say, it will probably be too late.

Richard T. Selden

June 2012
“Keeping up with the Joneses” Mentality: Not a Sound Basis for Public Policy

Jennifer M. Grygiel

Since 2006, I have worked for the Committee on Capital Markets Regulation (n.d) (Committee); which is directed by Professor Hal S. Scott of Harvard Law School. This is an independent and nonpartisan 501(c)(3) research organization dedicated to improving the regulation of U.S. capital markets. In May 2009, the Committee issued a report entitled, “The Global Financial Crisis: A Plan for Regulatory Reform,” that put forth 57 recommendations for effective regulation and reform of the U.S. financial system.

Given my work at the Committee, I have had significant exposure to the research and policy discussions surrounding the global financial crisis. The following is a personal examination of the global financial crisis and its possible causes. I begin by reflecting on my own experience as it relates to the American Dream. This is followed by a discussion of the psychological and political factors that may have contributed to the crisis.

The American Dream

Most Americans are introduced to the idea of the American Dream early in their childhood. Before children even know what they may want later in life, parents often begin to mold their future. Sometimes the dreams are realistic and achievable, and sometimes they are not.
In my own childhood, I was lucky enough to live in the same house that my parents owned, for 18 years, until I went to college. Four years later, I was on my own and landed a job as a teacher in Denver, CO where I rented my first apartment in 2001. A few years later, in 2006, my twin sister married and then promptly bought her first house. Not too long after that I started to have an odd feeling, a feeling that I was starting to fall behind, because I was still unmarried and now renting an apartment in Massachusetts. Sibling rivalry can be very strong amongst twins, and my experience was exacerbated by the fact that my sister traded in her maiden name, Grygiel, for Jones. I had no idea at that time that I had entered into a very dangerous state of mind. I was officially trying to “keep up with the Joneses” and the massive U.S. housing bubble was just about to burst.

If you look up the American dream on Wikipedia (n.d.) it states: “Home ownership is sometimes used as a proxy for achieving the promised prosperity” and “ownership has been a status symbol separating the middle classes from the poor.” I think this statement sums up what I was feeling. It also explains why I started looking to purchase a condo in 2006. After briefly speaking with a loan officer, I was offered a subprime loan and was told that I could finance the entire loan as long as I took out private mortgage insurance (PMI). I really wanted to purchase a home and put a lot of consideration into this purchase. My sister had a house, my brother had one too, and I was used to having a nice home like the one that my parents provided. Thankfully, my parents were the type of people who bought everything in hard earned cash, and I just didn’t have the mentality to take on so much financial risk, even though I was assured at that time that housing prices were sure to go up and that I could refinance later if need be. Just a few years later, I
would realize that 2006 was the peak of the housing bubble, and for the first time in a long while, I was very thankful that I was a renter.

When I read Bruce Yandle’s (2010) article “Lost Trust,” I was introduced to George W. Bush’s law entitled the American Dream Downpayment Act. This law was designed to assist people who could not afford the down payment that often prevented low-income families from purchasing a home. I had no idea this law existed and it makes no sense to me at all how the government thought that this was a feasible undertaking. I can see how popular this Act would be with voters who benefited from this program, and how it could have helped Bush win a second term in office. I will talk more about politics later.

Unraveling of a Dream

In September 2008, institutions began to collapse (e.g., Lehman bankruptcy) and it was soon acknowledged by many that there was a global financial crisis.

Bruner (2009) does a good job of summing up some of the fallout from the 2007-2009 Panic:

- Unemployment rose from 4.5% in June 2007 to 6.7% in November 2008.
- The U.S. Government made financial commitments of around $8.2 trillion dollars, in order to stem the crisis.
- The Treasury purchased $229 billion in preferred stock of 209 financial institutions and put $151 billion into nonbank corporations.
- Creation of the $700 billion dollar Troubled Asset Relief Program (TARP).
- Nationalizing of Fannie Mae and Freddie Mac (estimated $5 trillion dollar cost).
Corporate bankruptcies rose significantly.

Stock market fell 38.5% in 2008.

Globally, equity investors lost $30 trillion in value.

Bruner (2009) claims that during the 2007-2009 Panic “financial support by the government extended farther into the private sector than at any time since the Great Depression.”

Given the information from Bruner, I’d like to take a moment to reflect on Paul Krugman (2009) and his recent book on depression economics as it relates to the global financial crisis. Krugman is frustrated by the speed of government action during the 2007-2009 crisis, and noted that the government was not acting quickly enough and that not enough money was being injected to stem the crisis. It’s hard to believe that with all the funds the government had already injected, it’s possible that the government may not have stimulated the economy enough in order to put us on a track to financial recovery. The book does not delve that deeply into the crisis, but Krugman does have one section on his thoughts about how to deal with it. He states, “the obvious solution is to put in more capital. In fact, that’s a standard response in financial crises.” Regarding the massive $700 billion TARP fund he says, “…even if the full $700 billion is used for recapitalization, it will still be small, relative to GDP….” Krugman’s other top concerns were that sufficient funds were not making it to key places like the shadow banking system. He was also concerned that banks that received bailout funds would hoard the money instead of lending it out.

Before this crisis hit, I felt pretty good about my future and assumed that I would be able to continue to grow professional and personally—life was pretty good. But given the current state
of play and the crisis at hand, I’ve realized that the world has changed, and with it, my dreams have changed, too.

**Psychological Pitfalls**

During the course of my education, I have been exposed to many of the more technical factors that may have contributed to the crisis (e.g., credit default swaps (CDS), deregulation, contagion, the repeal of the Glass-Steagal Act, the Community Reinvestment Act (CRA), subprime loans, the housing bubble, and credit rating agencies to name a few). However, until recently I had not thought much about the higher-minded discussions taking place about psychology and politics and the roles that they may have played in the crisis.

Shefrin’s (2009) paper entitled, “How Psychological Pitfalls Generated the Global Financial Crisis,” makes several impressive observations and some that align with the “keeping up with the Joneses mentality” that I previously discussed. When you think about the size and scope of the crisis and the major players that were affected by it, it’s hard to even begin to try and explain how some of the most intelligent individuals, running some of the most prestigious companies in the world, could have been so reckless. Shefrin blames psychological pitfalls like categorization, overconfidence and groupthink. He specifically calls out AIG as one of the firms that greatly underestimated their risk exposure to subprime mortgages and claims that they failed to assume the worst and were not acting “rationally.” As a result, they unknowingly assumed massive amounts of default risk in the area of subprime mortgages. I read this and I found myself asking: how could everyone have, collectively, got caught in such a dangerous and risky financial vortex?
My (untested) theory is that the “keeping up with the Joneses mentality” is formed by the exposure of an individual to a combination of multiple psychological pitfalls that are generated by a connected population of model individuals (e.g., not mentally ill) that are all individually seeking to fulfill Maslow's hierarchy of needs (Figure 1, hierarchy). I surmise that as one travels up the hierarchy, greater energy (risk) is needed to attain higher goals. The hierarchy essentially grows in intensity, much like a funnel. And “keeping up” in relation to this hierarchy is necessary and becomes a matter of survival, as there is a threat of falling down the hierarchy into lower ranks as you start to ascend it. The threat of falling to lower ranks is high, as the lower ranks could ultimately affect your physical health to the point of death.

Figure 1

Source: http://www.letsstartthinking.org/quickreference/maslow-need-hierarchy.asp

I find it interesting that my inquiry into the global financial crisis has lead me to think so deeply into psychology, to delve into thinking that this crisis may have been caused by humans trying to
ensure their own survival. This theory could explain why people were collectively driven to take excessive risks to attain home ownership and why executives and corporations took on excessive risk to attain higher financial returns. In our culture, owning your home is a key step to climbing up through the hierarchy. Making large amounts of money also ensures that you will be able to keep your house, while allowing you to feel additional self-esteem benefits, as our society values personal wealth because of what it implies.

**Politics**

I’ve come to realize that politics is inherently flawed, because politicians and government officials are essentially professionals that are subject to significant amounts of moral hazard in the sense that holding an elected office or government position is their job (and how they pay the bills). How can a policy maker do what is good for the public if it would mean self-sacrifice? How could they put regulations in place that would prevent them from owning a new home or from making additional money, if they themselves were seeking this?

In my opinion, American presidents, are subject to the most extreme amount of moral hazard, more than other policy makers or elected officials. This is the highest and most powerful position in our society (and arguably the world) and the drive for reelection is incredibly intense. For the first four years of their presidency, they are likely to be biased towards an agenda and policies that would get them elected for a second term (e.g., the American Dream Downpayment Act).

Also, presidents can only serve for eight years at most, which means that the market will experience a leadership change at least every eight years and possibly a major disturbance if power swings to another political party and the incoming president has a different agenda. This
cyclical turnover subjects the financial system and markets to huge sweeping changes in years that political power changes between Democrats and Republicans. Unfortunately, I believe a large part of our economic woes derive from the fact that no party ever gets to see their policies through. As a result, the market is constantly trying to adapt to a volatile political environment that has ever changing regulations, laws and leaders with different visions. James Grant’s (2009) article, “A Perspective on US Regime Change and the Global Financial Crisis” takes a closer look at the effects of regime change and how it affects capital markets. He puts forth the idea of a possible connection between the prospective election of Barack Obama and the 25-38% decline in U.S. and global equity markets from September 2008 to February 2009. I would support this notion, especially after reviewing Figure 2 below.

**Figure 2**

![Graph showing market decline](http://www.palgrave-journals.com/jam/journal/v10/n4/abs/jam200912a.html)

The above figure shows the market declining 5% on the first full day of trading following the 2008 U.S. Presidential Election; while other figures in the Grant study show similar 5% election-related announcement declines. Grant notes that other factors may have contributed to the
downturn, but that it is plausible that the reaction to the election also played a role in the market downturn.

Conclusion

Reflecting back on my earlier comment about private mortgage insurance (PMI), for those that are looking for some fuel for the next housing bubble, this could be a likely suspect. A July 29, 2010 press release by the Mortgage Insurance Companies of America (MICA) stated that they “pledged to play a critical role in the future of housing finance by continuing to enable first-time and lower income families to purchase homes safely and soundly.” Below is a statement by MICA’s President Patrick Sinks regarding the planned expansion of the mortgage insurance industry:

Today the [mortgage insurance] industry is well positioned to help expand affordable housing opportunities in a responsible manner. Under strong capital rules from state insurance regulators, the MI industry has sufficient capital to increase their total insurance exposure by $261 billion a year for the next three calendar years. If this additional volume is realized it would mean that approximately 1.3 million additional mortgages would be insured in each of the years.

Unfortunately, this is heading right back to what I see as the core of the financial crisis—people extending beyond their financial capabilities in order to “keep up with the Joneses.” PMI is just another vehicle that will allow borrowers to take on too much risk. I believe that increased use of PMI could lead to another vicious housing bubble.
Although I would really love to own my own home, I have resigned myself to the fact that I’m going to be a renter for a good long while. After reviewing the now famous Case-Shiller chart on the history of home prices (Figure 3), I believe that it will be several years before the market is able to correct itself to reveal a more accurate housing price, especially since government intervention is interfering with the market in order to keep housing prices afloat. Unfortunately, I believe that the government programs, (e.g., first time and repeat homebuyer tax credits) put into place to prop up the housing sector, will only delay this correction and once again put truly affordable housing out of reach of most Americans.

Figure 3

Somewhere the American Dream turned into a free lunch (free house), and as the saying goes "There's no such thing as a free lunch." We are all currently paying for the housing bubble, and unfortunately, the new American Dream is employment—many people are now wishing for a job.

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Chapter 2

An Irrational Public Exuberance for Housing

Enrico Ferrari

Introduction

We are currently witnessing the so called ‘Subprime Crisis’, the worst financial crisis since the Great Depression of 1930s, and the result of a speculative bubble on the housing market that started to burst in the United States in 2006. After the dotcom bubble, the monetary policy makers kept interest rates low for an excessive length of time, promoting excess risk taking. Also, a low inflation rate discouraged monetary policy makers from increasing interest rates. As a consequence of low interest rates, borrowing money became easier, and the ease with which individuals could access credit lines boosted aggregate consumption. Moreover, the United States’ utopian choice to make home financing accessible to almost everyone in order to give every citizen the possibility of buying their own home, at the time encouraged a growing demand for real estate assets, helping housing prices to increase continuously.

During this time, institutions constructed financial models based on the assumption that housing prices would increase indefinitely. But clearly, if there existed in the economy an asset that persistently grows in value, everyone would buy it at a certain price and then wait and then sell it at a higher price. By doing that in a loop everyone would eventually become infinitely rich; can you imagine a world like that? This misconception led financial institutions to lower their risk management standards. Then, when housing prices collapsed, the value of any securities tied to...
the real estate market plummeted, leaving the financial system irreparably damaged on a global scale. As a consequence of all this 57 banks failed, the unemployment rate increased to 10%, the Dow Jones Industrial Average fell 53.8 percent. Also, in response to the crisis, the Board of Governors of the Federal Reserve decided to increase the money supply by 125% between September 2008 and May 2009, in order to compensate for the shortage of liquidity in the market. To understand how serious the current Financial Crisis is, Exhibit 1 compares the effect of four different crises on the Dow Jones Industrial Average. These include ‘The Great Depression’, ‘The Oil Crisis’, The Dotcom Bubble’ and more recently, ‘The Global Financial Crisis’.

**Exhibit 1. Comparison among different Financial Crises**

![Financial Crises on the Dow Jones Industrial Average](chart)

*Source: Wharton Research Data Services (WRDS)*
The Real Estate Market

Until recently there was no data on the long term performance of housing prices either for the United States or for foreign countries. Nobody seemed interested in what happened more than thirty years ago. Obviously, nobody was evaluating the real estate market and its potential for speculative excess. That being said, the first person who developed a housing market index is Professor Robert Shiller, the author of the book called “The Subprime Solution”.

During the financial crisis many people rationalized the increase in housing prices, arguing that we were running out of land, the population was constantly increasing, construction costs were rising exponentially, and the scarcity of building materials made home prices increase day by day. However, if we look at Exhibit 2 we see that there were no fundamental changes in construction costs, population, or long-term interest rates at the time of the boom, indicating that there was no rational reason for such an increase in home prices. This suggests that most of the factors driving people’s thinking were social.

Exhibit 2. Robert Shiller Index of Housing Market Prices
The Bubble Psychology

In my view, the housing bubble became so big because we, as human beings, don’t really understand bubbles, and we especially don’t know how to deal with them. Even the most intelligent and informed people did not seem to understand that an ‘epidemic of irrational public exuberance’ for housing investments was setting the stage for a financial crisis.

The behavior behind a speculative bubble resembles a person playing with a slot machine. A person who wins money at a slot machine is likely to play again and again until he loses everything. This is exactly what happened during the housing market bubble. Housing prices were constantly increasing, and so-called smart investors couldn’t stop taking advantage of the
situation to make money. They probably knew that this was dangerous but they lived in the illusion that this time was different.

The most important thing to understand about speculative bubbles is that a social contagion of boom thinking lends increasing credibility to stories that appear to justify the belief that the boom will continue. Such a social contagion spreads like an epidemic and it is amplified by the marketplace and by the excessive optimism of people. Even the most intelligent people begin to adopt an overly optimistic view, and start to disregard their own independent and individually collected information just because they believe that everyone else could not be wrong.

While stock prices fluctuated prior to the recession, housing prices rose year after year from 1996 to 2006. The predictability of housing price increases was impressive. People started believing in the ‘real estate myth’, according to which, housing prices will increase forever because the amount of available land in the world is fixed. Bubble thinking caused the trend in prices to continue for a time, and while this trend seemed irrational for the stock market, it looked very rational for the housing market. In fact, it was really easy to make money in real estate during the boom in the 2000s if one knew how to take advantage of the momentum in home prices. However, many people got caught by the bubble because they stopped thinking that the increase in housing prices was only a momentum phenomenon and that they should exit the market before it crashed. They naively believed that the boom in real estate prices would not end.
How Can You Keep Flipping a Coin and Always Get Tails?

According to the Efficient Market Theory developed by Eugene Fama, market prices should fully reflect the information available in the market. But Exhibit 3 shows that the Dow Jones Industrial Average fell continuously during the recent financial crisis. Indeed, during the crisis the path of the index seemed quite predictable as the value of the Dow Jones Industrial Average decreased almost every day. If the market is in fact efficient, then the market should have just crashed all in one day, but it actually took a long time for the index to reach its lowest value. In my opinion this is due to the fact that the market takes a long time to realize it is in the middle of a crisis and to change from an optimistic mood to a pessimistic one. For example, during a period of economic expansion, people tend to think that nothing bad can happen and they justify every signal of a crisis as a temporary imbalance that the market will fix by itself. This is why the market takes a long time to reflect full information. This is also why many savvy hedge funds were able to make a lot of money by short-selling securities during the global crisis.
Exhibit 3. The Global Financial Crisis Effect on the Dow Jones Industrial Average

Source: WRDS

The Gold Mania

What did people do as soon as they realized we were in the middle of a global financial crisis? They wanted to invest in something tangible, some scarce resource that will increase in price, namely gold. Gold has historically been a natural hedge against a market free fall and inflation. If we look at Exhibit 4, we can see that while the market price of the S&P 500 was decreasing, gold kept increasing. Interestingly though, when the S&P 500 actually crashed, the demand for gold fell, and hence the price of gold fell in tandem with the stock market. People actually started buying gold much later, when they realized that the global financial crisis was real.
A Look Under the Hood

To shed some light on this irrational behavior in the precious metals market, I performed a stock analysis on five companies that operate in this industry: Eldorado Gold Corporation, Red Back Mining, Silver Wheaton Corporation, AngloGold Ashanti Limited, and Randgold Resources. At the time of the analysis, these companies were the best performers of the investment fund ‘USAA Precious Metals and Minerals (USAGX)’. The purpose of the analysis was to investigate whether these precious metals companies were being priced according to fundamentals or whether these companies were being valued instead by their perceived hedging characteristics.
Along the lines of general financial theory\(^1\), I performed a traditional financial statement analysis, an Economic Value Added (EVA) analysis, and a Discounted Cash Flow (DCF) valuation on the stocks. I found interesting results: while almost all of these metals companies had solid performance, as reflected in their stock price growth, none of the selected companies was a wealth creator.

Exhibit 5 shows the price path for the five metals companies. Almost all of these investments more than doubled in value during this time. Conversely, if we look at the performance of the S&P 500, which is the lowest line on the graph, we can see that its final price was even lower than its initial one. But do their fundamentals tell us the same about these stocks?

Exhibit 5. Investment Path for 5 Companies operating in the Precious Metals Industry

Compared to the S&P 500 and to a Gold Oriented Investment Fund (Usagx)

\(^1\) See Fabozzi and Grant (1999); Grant (2003); Abate, Grant and Stewart (2004)
Source: Author

Exhibit 6 shows us how the companies performed in terms of their Fundamental Stock Return versus their expected return implied by the Capital Asset Pricing Model (CAPM), a form of traditional securities analysis [see Fabozzi and Grant, 1999, or Grant 2003]. According to the CAPM, a stock’s expected return should be a linear combination of a variable called $\beta$, a coefficient that represents the sensitivity of the stock to the Market, and thus a measure of non-diversifiable risk. Most of the stocks analyzed fell below the so-called Security Market Line, a line representing the equilibrium relationship between risk and return. This suggests that the stocks presented in the exhibit were largely overpriced, since their expected return was lower than that implied by their risk, as measured by beta (the sensitivity to the market).

Exhibit 6. FSR vs. CAPM
Also, if we look at the Economic Value Added (EVA) Spread, which is a measure of surplus value generated by an investment, vs. Capital Growth, we see in Exhibit 7 that none of the companies shown were growing with a positive EVA-Spread [see Grant 2003, or Abate, Grant, and Stewart 2004]. This could be positive if the companies were pursuing a positive restructuring, but their capital growth condition is mixed, which seems at odds with the great growth in stock price. Finally, a DCF analysis (not shown), which, by discounting future cash flow projections, reveals how attractive an investment is, reveals that all five of the precious metals companies were overvalued, even when making optimistic assumptions on their future revenues, operating margins, and investments. Taken together, it appears that the selected metals firms were being valued off their hedging and/or speculative characteristics rather than their underlying fundamentals, which were poor at the time.
Where Lays the Next Crisis?

After examining the causes and consequences of the recent global financial crisis, I believe we are at risk of yet another bubble, this time in gold. As noted, none of the selected precious metals companies that we analyzed appeared to be a wealth creator. Yet investors did not seem to be looking at fundamentals when buying precious metal companies’ stocks. Rather, they were looking for a hedge against the crisis, or they wanted to speculate. If people start believing that gold prices will always increase and investors continue their speculative behavior based on this
assumption, then we are at risk of another bubble in the market. In conclusion, I strongly believe in Modern Portfolio Theory as the engine of value creation in the economy. Modern Portfolio Theory is not dead as a result of the global financial crises; it was however egregiously misused in the recent global financial crisis by investors looking for abnormal returns at the expense of the whole economy.

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Chapter 3

The Global Financial Crisis: A Political Economy Approach

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Abstract

The current global crisis began as a bubble burst of the mortgage market in the United States that spilled over to the entire financial market of the US, and afterwards onto the integrated World financial market. There hasn’t been sound evidence given in support of the idea that the causes of the crisis lie within the self-regulating free market. The causes lie primarily in the activities of political power, i.e. in the extensive government regulation, which has, under the strong influence of interest groups and lobbing power of financial companies, led to favoritism of macroeconomic policies and inefficient resource allocation. Therefore the solution to the crisis isn’t in strengthening interventionist and regulation power of the state, but in creating the proper market institutions that increase economic freedom without privileging powerful political groups or by discriminating the weak. The paper will provide insights on how the crisis began, followed by an explanation of its regulatory causes. Afterwards it will link it to the Great Depression and finish with the prospects of recovery.
Origins of the crisis

The global financial crisis originated in the United States housing and mortgage market, where people were buying and selling houses in hope of making a profit. People invested mostly borrowed money to buy real estate because they thought it was a safe investment with a constantly increasing price. As an answer to this increased demand in the housing market, financial institutions increased their credit expansion by lowering credit standards and decreasing their interest rates. This resulted in two effects: it increased the debt of the households and it increased the banks demand for credit sources. The lack of capital caused banks to seek financing from other institutions until the amount of debt became unsustainable.

This lethal combination of easy credit and rising debt accumulation, accompanied by large inflows of foreign funds, fueled a housing construction boom which led to the rise of the US housing bubble. Based on these rising prices and financial innovation many investors both from the US and worldwide invested in the housing market. When prices collapsed, investors started reporting losses and the public, due to home values now being worth less than the mortgage loan, entered into foreclosure. The downward spiral seemed unstoppable.

The growing debt accumulation of US households was officially supported by the housing policies of the Clinton and Bush administrations through the idea that every citizen should have a

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2 The trend of lagging growth of real wages compared to the real GDP growth added to this increasing household debt and a decrease of domestic savings.

3 Lehman Brothers has borrowed 30 times more than the amount of its own capital. This was impossible to return in the case of a credit crunch in the housing market. (SEC – Lehman Annual Report, pg. 29)

4 Recognized through the creation of various new financial derivatives such as mortgage-based securities and collateralized debt obligations.
home. The lack of financial strength and the poor credit worthiness of many US households was compensated by the government with its measures such as the Tax Relief Act, Community Reinvestment Act (CRA), or by monetary policy. The government was encouraging commercial and investment banks to issue loans by guaranteeing them through its government entities such as Fannie Mae and Freddie Mac. This increased the scope of investing in real estate, affected the growth of real-estate prices, and led to loosening of the criteria for new subprime mortgages. This, in turn, opened space for financial innovation of securities and derivatives.

**Regulatory, monetary and political causes of the “Great Recession”**

In my view, there is no evidence to provide support for the claim that the systemic risk that drove the economy into a wretched state was created by the banks or Wall Street. The fact that they possess an urge for profits doesn’t provide a plausible explanation of why the system suddenly crashed. In order to understand what forces drove the economy into such a state, one needs to examine motives other than greed and understand the regulatory and political decisions that shaped the incentives of banks and Wall Street.

**The bubble psychology and risk aversion**

Robert Shiller warned about the upcoming boom on the real-estate market that could lead to an unprecedented chain of events causing a nation-wide recession. In his book “The Subprime Solution” (2008) and in some of his earlier pieces he explained the boom by creating an index of US Real Home Prices. He emphasizes that the highest growth in housing prices took place

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between 1998 (right after the official decision of the US government that everyone should have a home, no matter what the price) and 2006. A house that was worth $110,000 by the end of 1998 was worth $200,000 by the middle of 2006, presenting an 85% increase in price. Shiller describes a bubble as an “increase in prices that has no rational economic explanation. The high prices are only temporary as an effect of the enthusiasm of the investors, rather than a consistent evaluation of their asset value” (Shiller, 2008). The prices were increasing up until the point when the demand for housing could not justify these high prices any longer. This led to a downward pressure on the prices which started to fall by the end of 2006. All this led to the previously described downward spiral where the owners found themselves unable to repay the loans they took.

Shiller’s main idea was that the boom in housing prices from 1997-2006 was a “contagion of market psychology” or “boom thinking”. He likes to emphasize, that “we as a society do not understand speculative bubbles”. The government couldn’t cope with this situation, as they “couldn’t establish the new kinds of financial institutions that could have managed the boom” (Shiller, 2008). What Shiller omits in such a conclusion are the factors behind the housing boom. He tends to blame it all on market psychology saying that the market participants were wrong for believing in the sustainability of the bubble. The real question is, however, why did the market participants invest in real estate? Maybe one answer is the bursting of the stock market bubble in

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the 1990s. When investors lost money as the stock market bubble burst, they may have looked to real estate as a safe investment, promising stable returns.

The graph (not shown) showed when stock market prices went down, this was followed by a corresponding increase in real-estate prices. A possible conclusion would be that people found a new asset to invest in. When profits are low on the stock market, why not turn to the real-estate market. This is not irrational, as Shiller would suggest. Money always flows to where it yields the highest return. To suggest that people were irrational when substituting the stock market with the housing market would be wrong. However, this still doesn’t explain the increasing riskiness of the system.

The reasons why banks acted the way they did does not lie in the deregulation of the banking sector. Rather the excessive leading practices originated from overregulation and the artificial demand for housing created by politicians who now seek answers of why and how the system got so corrupt and overcome with risk. The free and efficient market was prevented from discriminating against those who were making inefficient and risky decisions. The central government regulators enacted policies to increase affordable housing and mortgage investments. Extensive indebtedness and risk-taking, combined with an increase in housing prices upon which the growth of the financial sector was fueled, were all a consequence of government-instituted policies. The banks were only following the decisions that the government institutions were guiding them into.
Laurence Siegel (2009) offers an interesting analysis of how governments have used their macro policies throughout modern history to annihilate risk and achieve a “riskless society”\(^8\). Their intentions may have been good, however the outcomes of these intentions proved to be disastrous in many cases. Siegel stresses how we cannot be sure that it was Keynesian policy that drove the US economy out of the Great Depression. He is also suspicious of whether the government actually insured the era of the Great Moderation\(^9\), making a strong case that the Great Moderation didn’t in fact take place at all. The only time that government actually “fixed the problem was when it caused it” – the Great Inflation. All of this proves a point that fiscal and monetary policies fail in their main goal – to eliminate risk. A fiscal stimulus will have only the effect of driving up the public debt, which must later be paid off by either inflation or taxation. “The increasing size of the government and the increasing size of the government debt can only create more risk in a society than ever before.” \(^{10}\)

Siegel develops an explanation of an artificially created cycle that describes what happens when people start believing in the almighty power of the state. The cycle begins when a crisis occurs and the government intervenes in the economy by increased spending in order to boost the economy and starts the road to recovery. As the crisis resolves there is no way of knowing what results would have occurred if the government had not intervened. Maybe the effect on the economy would have been far better, maybe not. After the crisis an era of strong growth implies easy money, the rise in equity prices and accumulating debt which all lead to the next crisis. This

\(^8\) Laurence B. Siegel, “A Riskless is “Unattainable and Infinitely Expensive””, in L.B. Siegel (ed.), \textit{Insights into the Global Financial Crisis} (The Research Foundation of CFA Institute, 2009), pp. 1-19.

\(^9\) The Great Moderation is an era of low business cycle fluctuations and market shocks started in the 1980s, believed to be caused by structural and institutional changes in the Western world.

\(^{10}\) Laurence B. Siegel, “A Riskless is “Unattainable and Infinitely Expensive””, in L.B. Siegel (ed.), \textit{Insights into the Global Financial Crisis} (The Research Foundation of CFA Institute, 2009), pp. 1-19.
time expectations are formed upon the same response as before, leading to the final effect that
governments only tend to grow over time. Siegel emphasizes that “It is certainly imaginable that,
having grown to a size where the people are just barely willing to pay the taxes needed to support
the government, a crisis can occur that is so severe that the government is simply out of
ammunition.” Hence, his starting and ending conclusion is – “a riskless society cannot exist.”11
Siegel’s article proves a strong point on why various government-led solutions cannot persist
over time. The argument presented in this paper revolves around that particular point. The desire
of regulators to eliminate risk from the system by determining what kind of decisions businesses
should make, or by guiding their investment incentives, leads to the creation of a high level of
systemic risk that becomes inherent to society.

The GSEs; Fannie Mae and Freddie Mac

The Government Sponsored Enterprises (GSEs) were buying mortgage loans from banks on the
subprime mortgage market. They could then either keep these loans as a monthly source of
revenue or decide to sell them as mortgage backed securities (MBSs). The banks used the money
from selling their loans to acquire new mortgage loans. This made it easier for consumers to
obtain a mortgage which increased demand for housing. As the demand for housing increased so
did housing prices.

11 Laurence B. Siegel, “A Riskless is “Unattainable and Infinitely Expensive””, in L.B. Siegel (ed.),
Insights into the Global Financial Crisis (The Research Foundation of CFA Institute, 2009), pp. 1-19.
Peter Wallison\textsuperscript{12} (2009) offers excellent insight into the functioning of the GSEs. He discards the notion that Wall Street led to the boom on the subprime mortgage market. Mr. Wallison believes the true culprits were Fannie Mae and Freddie Mac, two prominent GSE’s who continuously purchased mortgages from banks in the run-up to the crisis. These GSEs had acquired more subprime mortgages than rest of the market altogether. Their advantage was funding at a very low cost which meant that they had “no competition for any asset they were willing to buy.” Once they entered the subprime mortgage market it was only a matter of time before they would take it over. And the only way they would make profits is if the market kept on growing. Wallison’s conclusion is that “Fannie and Freddie were, by and large, the creators of the subprime and Alt-A\textsuperscript{13} boom, and that they did this for political reasons and not for the economic reasons that would motivate a Wall Street firm.”\textsuperscript{14} In addition, Wallison finds an interesting study done by the Fed. The study showed that “the GSEs were not even successful in reducing interest rates for middle-class home buyers—the central justification they always claimed for their existence.”\textsuperscript{15}

In addition to this, Alan Greenspan had been warning Congress of the potential hazardous effects that Fannie and Freddie could bestow upon the system. Congress neglected many warnings and

\textsuperscript{12} Peter J. Wallison, “Not a Failure of Capitalism—A Failure of Government”, in L. B. Siegel (ed.) \textit{Insights into the Global Financial Crisis} (The Research Foundation of CFA Institute, 2009), pp. 189-204.

\textsuperscript{13} Alt-A mortgages were designed for risky borrowers with lower credit scores.

\textsuperscript{14} Peter J. Wallison, “Not a Failure of Capitalism—A Failure of Government”, in L. B. Siegel (ed.) \textit{Insights into the Global Financial Crisis} (The Research Foundation of CFA Institute, 2009), pp. 189-204.

\textsuperscript{15} Peter J. Wallison, “Not a Failure of Capitalism—A Failure of Government”, in L. B. Siegel (ed.) \textit{Insights into the Global Financial Crisis} (The Research Foundation of CFA Institute, 2009), pp. 189-204.
did nothing. Even now it is interesting to note that for some reason the need to reform Fannie and Freddie has been neglected by the new regulatory bill in Congress. Maybe the GSE’s influence among Congress members, especially those who wrote the bill (Senator Dodd for example) is still intact as the funds are ‘flowing’ from the GSEs to the Congress members\(^{16}\).

**Community Reinvestment Act; political encouragement of affordable housing**

One of the pressures created on Fannie and Freddie to enter the subprime mortgage market was the Community Reinvestment Act (CRA). Although the CRA was legislated back in 1977 it was revised several times since. The most important revision arrived in 1995 when the government changed the Act so as to “force the banks who issue mortgage loans to prove a more active contribution to lending towards unprivileged social groups within their communities such as minorities”\(^{17}\) (Niskanen, 1995). The regulator was even threatening law suits on those banks that did not lend to minorities in the legally prescribed amounts.

\(^{16}\) Both of the companies were strategically giving large donations to those politicians who were sitting in the boards regulating their industry. Fifteen of the 25 listed members of the House and the Senate that gained the most campaign funds were either members of the House Financial Services Committee, the Senate Banking, Housing & Urban Affairs Committee or the Senate Finance Committee. Senator Dodd, the one with the most granted champagne funds, is the chairmen of the Senate Banking Committee. (Center for Responsive Politics)

The banks, along with the GSEs, were in this case following the government’s policies. They weren’t deliberately lowering interest rates or their credit standards. The reasons banks were giving loans to people who, 20 years ago couldn’t even dream of becoming homeowners, lies primary in politically governed decisions. These decisions only increased the risk of the banking sector. This way the government, through encouraging homeownership, created artificial demand on the real-estate market. Due to rising social injustice, and due to their policies of resource redistribution, the government regulation led to even riskier loans and poor investment decisions resulting in an even bigger misallocation of those very resources. Loan requirements were softened due to the short-run interests of politicians thinking only of how to win the next election and remain in power. The affordable housing idea proved to be nothing more than a cheap political trick.

**Rating agency oligopoly**

In 1975 a government regulating agency, the SEC, gave oligopoly status to three rating agencies in the US. S&Ps, Moody’s and Fitch became the only agencies that had the right to give out official ratings to various market securities. They were set as NRSROs (*Nationally Recognized Statistical Rating Organizations*) and they were the only ones good enough to comply with SECs regulatory requirements in order to evaluate the riskiness of a security.

The effect of this policy was that three rating agencies, although private, could use any techniques they wished for evaluating the riskiness of a company or an asset, even though “their financial success didn’t depend on the outcomes of these techniques to produce a certain
something that someone is willing to buy”\textsuperscript{18}(Friedman, 2009). If the rating agencies are making bad decisions, and therefore sending the wrong signals to investors, they don’t account for their decisions because they are being protected by their oligopoly status. Their imprecision and bad evaluations couldn’t have hurt them in terms of making a profit because they didn’t have any competition to punish them for doing a poor job. For example, according to Friedman (2009) “Moody’s hasn’t updated its main statistical assumptions on the American mortgage-backed securities market since 2002. This means that the dynamics of an unprecedented growth on the real-estate and the mortgage market wasn’t taken into account at all”. \textsuperscript{19} Such behavior could have been prevented in an open competition credit ratings market in which imprecision and neglect in estimates would have been punished by the loss of reputation, clients and money.

\textbf{The Recourse Rule}

Rating agencies errors are important because existing banking regulation standards demand that banks fill up their assets with AAA rated securities. The reason why investment and commercial banks engaged in buying mortgage backed securities lies in another regulatory decision – the “recourse rule” enforced by the Fed in 2001 as an American form of the Basel regulations.

According to this rule, American banks’ official reserve requirements were raised on commercial, corporate and mortgage loans, and lowered for investing into asset-backed


securities, such as MBSs, as long as these bonds were rated AAA or were issued by the GSEs. The recourse rule implies that for every $100 investment into mortgage-based securities a $2 capital requirement was required, compared to $5 for the same amount in mortgage loans and $10 for the same amount in commercial loans (Friedman, Kraus 2010). The rule was designed to guide the banks funds into allegedly less risky assets, such as AAA MBSs issued by Fannie or Freddie. “The fact that 93 percent of the banks’ mortgage-backed securities were either AAA rated, or they were issued by a GSE, shows that this is exactly what the rule accomplished” (Friedman, 2009). It filled the banks’ assets with what later proved to be toxic and high-risk assets. It would be wrong to accuse the banks of taking too much risk or being too greedy. They were simply exploiting the given profit opportunity. Their investments were guided into the wrong assets by the policies set by the regulators in order to avoid risk taking.

Increased demand for MBSs saw banks issuing more and more mortgages in order for the GSEs to repackage them into MBSs and sell them back to banks to fill out their capital requirement. This artificially created demand for MBSs led to an artificially created demand for housing and led the banks to lower lending standards in order to issue more and more mortgage loans. It was a cycle of artificial demand spurred by a regulatory desire to make banks safer.

By acknowledging a regulatory decision such as the recourse rule, greed is demystified as the main culprit since banks and investors were investing into low risk, low yield, AAA securities

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20 Meaning that by investing into mortgage-based securities they could use more money for further credit and deposit creation.
that turned out to be poorly rated. The regulators always have the best intentions, but in having a
desire to plan and create a stable system they paradoxically do exactly the opposite and become
the drivers of instability and increasing systemic risk. An obvious conclusion from Siegel’s\textsuperscript{22} article arises - risk averting leads to creating even more risk in the end.

\textbf{Monetary policy of the Fed}

During the beginning of the decade the American Federal Reserve Board was leading a highly
expansionary monetary policy in order to alleviate the shocks that had hit the US economy at the
beginning of the decade and the series of corporate scandals throughout (2002). By increasing
the money supply and lowering the Federal Open Market Committee (FOMC) interest rate to
historically low levels, the Fed prevented the possible recession threatening the economy at the
time. However, the easy money policy had a contra effect as it created a favorable environment
for further mortgage expansion. The regulatory system only strengthened the pro-cyclical
tendencies of the financial system. The reason behind a sharp decrease in the FOMC’s rate (from
6.5 to 1\% in 2 years) was on one hand a slow recovery, with rising unemployment and a slow
growth rate of the GDP, and on the other hand there was a fear of deflation.\textsuperscript{23} (Bernanke, 2010).

Between the first quarter of 2002 and the first quarter of 2006 the Fed implemented a restrictive
monetary policy and the interest rate was too low in comparison with the real economic

\textsuperscript{22} Laurence B. Siegel, “A Riskless is “Unattainable and Infinitely Expensive””, in L.B. Siegel (ed.),
\textit{Insights into the Global Financial Crisis} (The Research Foundation of CFA Institute, 2009), pp. 1-19.
\textsuperscript{23} Benjamin S. Bernanke, “Monetary Policy and the Housing Bubble” [online]. Presented at the Annual
\textit{Meeting of the American Economic Association}. Atlanta, Georgia (2010) Available at:
[\texttt{www.federalreserve.gov/newsevents/speech/bernanke20100103a.htm}].
conditions at the time\textsuperscript{24} (Taylor, 2008). The market was sending signals of increasing economic activity at a time in which the Fed should have replied by increasing its interest rate. The Fed disregarded the market signals and continued with an expansionary monetary policy giving an additional boost to the growth of the housing bubble.

The reminiscence of the Great Depression and a quest to future recovery

After the initial effects on the real economy in 2008, public opinion began to imply that the current crash is starting to resemble the Great Depression and that soon enough the world will be experiencing it once again. However such troublesome scenarios didn’t prove to be correct. Unlike the Great Depression, when the stock market crashed by almost 90\% in a period of two years, where the growth rate dropped by 26\%, and unemployment surged up to 25\%\textsuperscript{25}, (Eichengreen. 2008), the current “Great Recession” proved to be less harmful to the economy. Although unemployment did rise, ending at 10\%, and the stock market experienced a significant 54\% downturn, the economic decline was only -3.3\% in GDP growth. Such a decline in economic activity proves that this was in fact a crisis, but the argument that a new depression was on the way was faulty, at least at this time. However, there is a lesson to be learned by examining the Great Depression and the regulatory response to it. The response of the


government authorities to the Great Depression was to increase taxes and spending so as to restore the confidence of the people \(^{26}\) (Shlaes, 2010). The tax burden set on businesses by the Roosevelt administration, as well as the numerous anti-business regulations, prompted businesses to stop spending their cash as dividends or wages. “Horrified by what they perceived as an existential threat, businesses stopped buying equipment and postponed expansion. They hired lawyers to find ways around the undistributed-profits tax”. (Shlaes, 2010). Such policies were aimed at constraining private businesses and relying on the government and the public sector to foster growth that would lead the economy out of Depression. In 1935 the economy started to recover. America was off the gold standard and the money supply was again growing\(^{27}\). However, unemployment was still high and through the decade it remained that way, not falling below double digits. The New Deal remedies didn’t prove to be much help in the end as the economy once again found itself in a recession in 1938 setting the unemployment level at


\(^{27}\) The decreasing money supply and the gold standard were detected as the central causes of the Great Depression. In 1928 the Fed made a decision to tighten the monetary policy, after a decade of easy money policies, which continued until the stock market crash. The Fed was worried about financial speculation and inflated stock prices and therefore began raising interest rates. As a result of this reluctance of the Fed to cease with a restrictive monetary policy, the money supply fell by a third by the end of 1933. Also, by the beginning of the crash in 1929 most of the world was on the gold standard. The gold standard implied that when US demand slows down, its imports fell, its current account moves into surplus and gold should flow into the country, expanding the money supply and boosting the economy. The Fed, however, was still worried about the effect of easier credit that would increase speculation, so it deliberately put a stop to this gold standard mechanism. The inflow was sterilized by the sale of government debt and money grew even tighter. This in turn led the foreign governments to try and reduce imports through tariffs what wasn’t greeted well back in the US. Such efforts proved to be unsuccessful as they failed to ease the monetary pressures. Combined with a collapse of trade this only led to a further downfall (Einchengreen, 2008).
17%. It was the war that followed shortly thereafter, not the conventional wisdom of New Deal policies, which restored full employment in America and pulled the US out of the depression.

There is a pattern with the policies enforced then and the regulatory overhaul being proposed and legislated now. The ineffectiveness of the policies then can prove to have the same impact if they were to be enforced now – the threat of a double-dip recession. The current regulatory response does not offer any incentives to stop the rising unemployment, as businesses are still constrained with various employment regulation. An increasing budget deficit as a necessary outcome of high stimuli packages can result in an even higher, possibly unsustainable, public debt - exactly the lethal combination that can lead the economy into an even greater recession and put it on a brink of sovereign default. Quantitative easing policies won’t do any good either as the problem isn’t lack of liquidity in banks, it’s the lack of confidence among consumers and investors. Only an increase in confidence and reducing uncertainty will work towards releasing the vastly created money into the system. Once banks and high profile investors feel safe enough to start investing again, and supporting more and more projects, the money will start flowing back to the businesses. This will incentivize businesses to invest into new production which will finally increase their earnings and eventually the businesses will start hiring again. Decreasing unemployment rates will work towards increasing consumer confidence, and as more jobs are created more people will be bringing home higher incomes. At first the consumers, still careful, will start paying off their mortgage and other debts piled up during the crisis. After a while they will feel confident again to start buying consumer goods. The recovery, like everything in economics (except panics), is a slow process and one needs to be patient in order to see its full effects. The US should stop being dependent on fiscal stimuli to pull itself out of recessions. It is
time to put the Keynesian practice behind us and set a new policy goal – a policy goal that
doesn’t include a rising budget deficit, or an increasing spending package. The US needs a policy
that is going to boost growth; it needs a policy that can restore the people’s confidence, not by
increasing spending, but by decreasing taxes.

The Keynesian theory implies that a fiscal stimulus will be effective because of a government
spending multiplier, as it would always be bigger than the tax multiplier. However, the thorough
research done by Cristina and David Romer (2009) yields a somewhat different result. The
Romers measured the effect of taxation on the GDP growth and indicated that the tax multiplier
was around 3. This means that for every dollar spent less on taxes generates a 3 dollar increase of
the GDP (Romer C., Romer D, 2009). If we were to stick to the theoretical viewpoint that a
government spending multiplier is always higher, this would imply a multiplier of 4 or more.
However, such conclusions weren’t backed by any research so far. The Obama administration
calculated a 1.57 government multiplier, while research done by Valerie Ramey calculated a 1.4
multiplier (Mankiw, 2010). There was also a study conducted by Alesina, Ardagna, Perotti and
Schiantarelli of the National Bureau of Economic Research that focused on fiscal stimulus
policies in various OECD countries. They’ve separated successful (those which resulted in
growth) from unsuccessful stimulus policies and concluded that the successful stimulus policies
were those that decreased business and income taxes while the unsuccessful ones proved to be
those that raised government spending along with transfer payments. (Alesina et al, 1999)

So if this is the case, what is the motivation of governments to raise spending? A tax decrease
(corporate or income) provides an incentive for both businesses and the people to spend more.
But a tax decrease will only be effective if it is deemed credible and people anticipate it will
remain low in the long run. If public spending, and consequently the deficit, are high then consumers and businesses will anticipate tax increases in the future and will refrain from hiring, investing or buying consumer goods. Small and medium sized businesses would profit mostly from credible tax cuts, as they are the ones that find the least use for large government stimuli. The stimulus package is given to large, over-sized, too-big-to-fail private enterprises, while a spending increase to fund social security or infrastructural programs benefits either the public sector or the large companies who lobby their way into getting the job for a certain government funded project. The small and medium businesses are left with nothing. They prove to be the biggest losers in recessions, being left out of highly biased government stimulus. The result of a bailout or any kind of government favoritism towards certain private companies (that is always a result of that company’s high lobbying activity and/or political campaign financing) is shattered competition. If one company gets money from the government while its competition doesn’t, this company has a clear advantage over the others. Why should the government or any bureaucrat for that matter get to decide which companies are good enough to sustain and which ones are to be left to bail themselves out?

James Grant (2009) emphasizes an important point considering stimulus plans. He focuses on real wealth creation that comes out of the private sector comparing this to the public sector. Through a stimulus plan “a large portion of the allocated funds will go to state governments, local governments and non-profit organizations: entities that have no market-driven test of whether they are creating or destroying value via the rationalization of invested capital.” A stimulus, the same as bailouts for the fallen financial companies, doesn’t generate wealth creation and therefore isn’t likely to have a positive impact on fostering economic growth.
This is especially unfair considering the small businesses. Small and medium-sized businesses have always been recognized as the drivers of growth. Even when the data indicates that there are a lot of small businesses that go bust every year, an even bigger amount of businesses sustain and grow on a yearly basis. Entrepreneurs will continue to invest into various business projects until they find a project that will result in success. This process of constant dynamics in entrepreneurship eventually yields the best possible solution for the entrepreneurs themselves, as well as for the economy as a whole. This process is known as creative destruction. Siegel (2009) concludes on a point that creative destruction is the force that “drives uncompetitive firms out of business and removes capacity from the system, so that there is room for new firms”. Wallison (2009) also points to the dangers of repeating the competition crushing New Deal policies. “The benefit of competition comes from the fact that it is ruinous to the less-effective competitors, forcing resources to flow to the more effective ones.” Shattering this process with by favoring certain companies isn’t a way out of a crisis. When the amount of failing businesses overcomes the amount of successful businesses per year, then the problem is only to get bigger. Unemployment is rising precisely because of the fact that a large amount of small businesses were collapsing.

The Great Regulatory Reform

The response of the politicians to the crisis via bailouts and stimulus acts was immediate. One piece of legislation has aroused particular interest among economists – the ‘Great Reform’, or the Dodd-Frank Wall Street Reform and Consumer Protection Act (2010). The Act will provide the government regulators with much more power, as they will now be able to force failing financial companies who threaten the system into defaults by selling their assets and imposing
losses on shareholders and creditors instead of taxpayers. This would mean there will no longer be space for a too-big-to-fail remedy. An over-encompassing systemic risk council will be formed and led by the Treasury whose goal is to detect potential threats to the system. It is however not known how this council is supposed to detect systemic risk; even less how is it suppose to measure it. One source of the systemic risk creation is the government itself so maybe the Council can start there, although this scenario isn’t likely to happen. All of the main regulatory agencies will be given even bigger jobs and responsibilities; the Fed is supposed to control all other financial institutions besides banks, while the SEC is supposed to gain oversight over hedge funds and rating agencies and in addition be responsible for a new consumer financial protection bureau. Even the former chairman of the SEC, Harvey Pitt (2010) calls this “The Lawyers’ and Lobbyists’ Full Employment Act”, clearly pointing to the fact that the Act provides a complex set of rules and rests too much responsibility on the shoulders of the regulators which would, in the end, create even more uncertainty in the system than before. There will also be new rules for derivatives trading and a restriction of the ability of banks to invest into hedge and private equity funds. Two possible consequences can come as a result of such an Act; one is that the lobbyists convince the regulators to interpret the Act in a way least harmful for them and their companies (leaving the situation the same as it is now) and the other is that the regulators enforce the Act too ‘hard’ and this way constrain further competition, innovation and economic growth.

Even from its very name it is clear that the governing politicians and the Congress are unwilling to blame themselves and their poor decisions in the past for the current crisis and have instead blamed Wall Street. Banks did take risks that were excessive from an overall social standpoint,
but businesses will always take the risks that government permits them to take, especially if the
brunt of any harm falls on others. They couldn’t have done so without the help of politics.
Through strong lobbying activities and through financing political campaigns they could get
anything they wanted from politicians. However by enforcing a Law of over 2300 pages filled
with complexity the lobbyists got exactly what they wanted. The more complex these bills are,
the more likely it is for the lobbyists to outsmart their legislators.

The regulators and the government are trying to change the fundamentals of the corporate world
hoping that by regulatory contractions they could constrain the profit maximizing ‘lust’ of the
big banks and financial institutions. But aren’t profits the drivers of growth? How are we
supposed to get rid of the rising budget deficit if we are on one hand spending extensively and
levying taxes and on the other hand constraining growth? The threat of a double-dip recession is
getting more and more serious. With no future growth the increasing budget deficit would lead to
an even higher public debt leading the country into another recession. And still there is a desire
to constrain banks behavior and make them control how much profits they can acquire.

The reaction in the markets to this kind of legislation came even before it took place as the
markets tend to react to a change in the political regime. James Grant (2009) offers intriguing
empirical evidence on how the stock markets reacted to the notion that Barrack Obama would
become president while supported by a Democratic-led Congress. There were several market
declines in 2008 that revolved around the fact that Obama would win the 2008 election. But why
would markets react negatively to Obama, who promoted change and hope for the people,
leading some of the political analysts to compare his influence to the ones of Franklin D.
Roosevelt and John F. Kennedy? Maybe the reason is precisely because of the comparison with
FDR whose economic rationale was described earlier. There was fear in the market that new policies that Obama would push for would not lead the economy out of a recession, but would bring it into an even worse one. “Massive increases in federal spending, resulting in concomitantly large budget deficits, expanded governmental regulation, and oversight of business and markets” are examples of what the market was expecting. Obama was seen as “unfriendly to Corporate America, and overly friendly to labor unions and special interest groups”. Grant further points out that the “stock market serves as a prism to distinguish between wealth-creating and wealth-destroying companies”. The prices of these stocks represent this distinction. Falling prices would indicate a company that destroys shareholder value while an increasing price would indicate a company that creates economic value (Grant, 2009). This is important for the current situation in which the politicians directly interfere in the management of the private banks. The same situation was seen with Fannie Mae and Freddie Mac. The members of Congress fail to realize the impact of Fannie and Freddie’s interference in the subprime mortgage market. They probably believe it was a good thing to have regulatory oversight of Fannie and Freddie, and want to extend this even further to seek control over the rest of the banking system. However, what they don’t realize was well put by Grant; “the reality of private sector management with quasi-governmental-run banks – managed directly or indirectly by politicians – seems hardly a recipe for creating shareholder value.”

The huge financial overhaul Act can in the end prove to be all but stabilizing for the economy. The Act fails to reform one of the main sources of the problem – Fannie and Freddie. They are free to continue in doing what they did before – follow what the government orders them to do. Perhaps the legislators realized this and will work on reforming the government instead of the
entities it was using to create the bubble. However, other parts of the Act say the opposite. Another interesting part of this regulatory overhaul Act is the fact that it was legislated and signed into a law before the Financial Crisis Inquiry Commission finished its work. The Commission was created for the pure purpose of figuring out the real causes of the crisis so as to be able to prevent a future crisis similar to this one. However, an incomplete Act was passed through by Congress, making it hard to believe that this was due to any other reason than political. As senator Tom Coburn (2010) put it “instead of passing a bill that could have created stability in the financial sector for a generation, Congress has passed a bill for an election.” The stock market already reacted negatively, anticipating that sort of a competition-shattering, free-market-abusing, government-interventionist bill. We can only wait and see how the economy will react. The politicians in power have certainly proven that they hope only for the short run satisfaction of various interest groups rather than obtaining a long run effective economic policy.

Conclusion

The very existence of a recession does not justify the enormous subsidies to various financial institutions, nor does it justify the increasing spread of government intervention throughout the financial markets. Although some of the biggest financial institutions were on the verge of bankruptcy, the broader data at the time wasn’t pointing to a general crisis but rather to a process of creative destruction – the driving force of capitalism. These financial giants, who failed mostly thanks to their own fault, don’t leave a black hole in the credit market; rather they are being quickly replaced by other, smaller and healthier companies who offer a more conservative form of financing. What is the justification for hundreds of billions of dollars given away by
American and European governments to certain financial institutions for the purpose of easing the current and preventing the future crisis?

The current crisis doesn’t represent a failure of capitalism because the success of capitalism wasn’t based on non-regulated markets but on free ones. Economic growth and welfare are highly correlated with market freedom. This crisis wasn’t a consequence of the failure of capitalism and free markets. Rather this crisis was a consequence of overregulated markets, and markets regulated by the interests of small groups with highly concentrated political power. Propagating of the notion that the free market was to blame for the current crisis will result in diminishing economic growth and jeopardize both personal and economic freedoms.

References


Chapter 12

**An Integrative Personal Perspective of the Global Financial Crisis**

Ali Sheikh

In 2008, a series of massive bank, financial services firms, and insurance company failures triggered a financial crisis of epic proportions, unseen since the Great Depression of the 1930s. The Global Financial Crisis (GFC) effectively halted global credit markets and required unprecedented governmental intervention. Around the world stock markets fell, large financial institutions started collapsing, or were acquired at depressed prices, and governments in much of the developed world had to abandon free market principles and come up with rescue packages to bail out their financial systems. Financial giants such as Bear Stearns, Lehman Brothers, Merrill Lynch, AIG, Fannie Mae, Freddie Mac, Countrywide Financial, Washington Mutual and
Citigroup, once iconic symbols of American capitalistic free enterprise have either disappeared, or been rescued through large government bailouts. Investment banks, such as Goldman Sachs and Morgan Stanley, converted to bank holding companies in late September of 2008, marking the end of an era for investment banking in the United States. The Global Financial Crisis of 2007-2010 is commonly believed to have begun in the summer of 2007 with the credit crunch, when a loss of investor confidence in the value of subprime mortgage-backed securities caused a liquidity crisis. By September of 2008, the crisis had worsened as stock markets around the globe crashed and became highly volatile. Consumer confidence was at an all-time low, unemployment was rising, and the world economy started to contract.

So what was the root cause of the Global Financial Crisis? What are the consequences and implications that have resulted? Most importantly, what are some of the remedies that can be undertaken, and are there any lessons to be learned?

I will make an earnest attempt to address these points in this paper, first by providing my initial view of the crisis – causes, consequences, implications, and remedies, and, thereafter, by providing a more complete overall integrative view of the crisis. Furthermore, in an effort to demonstrate a deeper conceptual and theoretical understanding of the crisis, why it happened, whether or not it could have been avoided, I will attempt to explore and draw upon the various perspectives of classical, neoclassical, Keynesian, post-Keynesian, Monetarist and modern economic theorists. These theorists include John Maynard Keynes, Milton Friedman, Frank Knight, Eugene Fama, Paul Krugman, Harry Markowitz, George Soros, Joseph Stiglitz, and Hyman Minsky. My overall integrated perspective will be drawn from two books, one working paper, and several articles.
Review of Global Financial Crisis

The global financial crisis of 2007-2010 was triggered by a liquidity shortfall in the U.S. banking system that was caused by the overvaluation of assets. The crisis had its roots in the real estate and subprime lending crisis. Commercial and residential properties saw their values increase dramatically beginning in the 1990s, after the S&L crisis, and they increased uninterrupted for nearly a decade. Increases in housing prices coincided with a period of governmental deregulation. Accordingly, in 1999, the Gramm-Leach-Bliley Act repealed the Glass-Steagall Act of 1933, which had previously enforced the separation of investment banking and commercial banking activities. Former FED Chairman Alan Greenspan, former Secretary of Treasury Lawrence Summers, as well as others spearheaded this legislation. With the repeal of the Glass-Steagall Act, banks could work with mortgage loan origination companies to write loans to people without proper collateral or adequate credit and then sell the loans further down to investors within the capital markets. The loans were pooled together in tranches to create mortgage-backed securities and collateralized debt obligations (CDO’s). These CDO’s and other types of similar complex financial instruments were then packaged, insured, and sold off by shadow banking.

At the start of the crisis, when U.S. home values started to come down, U.S. homeowners failed to keep up with their monthly payments and banks were forced to acknowledge huge write-downs on these mortgage-backed securities based on subprime loans. Overtime, these repeated losses put many of the most prominent financial institutions on the brink of insolvency, with many being forced to raise capital or go bankrupt. The panic, which started because of the shadow banking industry, also spilled over to the commercial banking industry as well. The
crisis that began on Wall Street then migrated over to Main Street, and a credit crunch ensued thereafter. After incurring enormous losses, banks would not lend to other banks, and business and consumers alike couldn’t obtain credit as they had before. As the lack of credit in the financial system constrained business, employment was also affected. “By April 2009, the unemployment rate had risen to 8.9%, up from its low of 4.4% before the recession.” By 2010, the unemployment rate had reached 10%. Many other causes have been suggested, with varying weight and importance assigned by different experts. Both market-based and regulatory solutions have been implemented, or are currently under consideration, while significant risks still remain for the U.S. and world economy over the near and long term.

Some of the major events that unfolded during the peak of the crisis include the large investment bank Bear Stearns being acquired by JPMorgan Chase at a depressed $2/per share price in order for Bear Stearns to avoid bankruptcy. Fannie Mae and Freddie Mac, both government sponsored entities (GSE’s) were taken over by the federal government. Lehman Brothers declared bankruptcy on September 14th after failing to find a buyer. Bank of America agreed to purchase Merrill Lynch, as well as Countrywide Financial. American International Group (AIG) was saved by an $85 billion capital injection by the federal government, and then more capital injections thereafter to stay afloat. Shortly afterwards, on September 25th, JPMorgan Chase agreed to purchase the assets of Washington Mutual in what ultimately became the biggest bank failure in U.S. history. By September 17, 2008, more public corporations had filed for bankruptcy in the U.S. than in all of 2007. These corporate failures caused a crisis of confidence, causing reluctance in banks and financial services firms to lend money or extend credit. The crisis that initially began on Wall Street soon spilled over onto Main Street. The crisis raised
fears that the financial system might experience a complete and utter collapse. For the first time since the 1930s, the world economy experienced a systemic financial crisis, which many of today’s leading economists have compared to be functionally similar to that of the Great Depression.

Some of the remedies that I would prescribe, based upon my initial view of the crisis, are more regulation, especially for the shadow banking industry, which has escaped regulation for much of its existence. There also needs to be increased scrutiny for all banks, shadow banks, insurance companies, and credit rating agencies alike to provide more transparency to investors. I think the legislation which is currently under review (at that time) is a good place to start. I believe that the ideas being suggested by Paul Volker, and the Keynesian approach of having the government and the public sector play a greater role is the way forward out of this recession. The implications of the 2008 financial system meltdown stem from a decade of deregulation, lax monetary, fiscal, and regulatory policies; unscrupulous, reckless and predatory lending practices, easy credit, and an overtly laissez-faire approach to economic policy.

**Some Economic Perspectives**

I would like to now explore some different economic perspectives ranging from classical, neoclassical, Keynesian, post-Keynesian, Monetarist and modern economic thought.

Adam Smith, author of *The Wealth of Nations* and considered by many to be the father of modern economics, argued against regulation or government intervention of any kind, since he believed it would interfere with the natural forces of the market.
Keynesian economics, credited to John Maynard Keynes, and contrary to Adam Smith’s view, advocates a mixed economy. According to Keynes, the ideal economy would have a robust private sector, but governments and the public sector would have important roles as well. Keynes argues that private sector decisions sometimes lead to inefficient macroeconomic outcomes and, therefore, he advocated active policy responses by the public sector. These policy actions include monetary policy actions by the central bank and fiscal policy actions by the government to stabilize output over the business cycle. Keynesians argue that during the Great Depression of the 1930s, the solution and the way forward was to stimulate the economy with an "inducement to invest" through some combination of two approaches: a reduction in interest rates and a government investment in infrastructure.

The Keynesian perspective is that government investment injects income, which then results in more spending in the general economy, which in turn stimulates more production and investment involving still more income and spending. The initial stimulation starts a cascade of events, whose total increase in economic activity is a multiple of the original investment. Keynesian economics prevailed during the latter part of the Great Depression, World War II, and the post-war economic expansion (1945–1973). It lost some of its influence and appeal following the stagflation of the 1970s, and during the Reagan Administration of the 1980s. The advent of the Global Financial Crisis of 2007-2010, however, has caused a resurgence in Keynesian economic thought among policy makers in the world's industrialized economies. The President of the United States Barack Obama, former British Prime Minister Gordon Brown, as well as many other world leaders have used Keynesian economics to justify government stimulus programs in their own economies.
Milton Friedman, 1976 Nobel Laureate in Economics, was a monetarist, and perhaps one of the most vocal opponents of Keynesianism. Friedman, like Adam Smith, was a strong advocate of the virtues of a free market economic system with little governmental intervention. According to Friedman, market economies are inherently stable if left to themselves. Friedman believed that a laissez-faire policy approach is more desirable, and depressions resulted only from government intervention. His views were that governments should aim for a neutral monetary policy oriented toward long-run economic growth by gradual expansion of the money supply. He advocated the quantity theory of money, that general prices are determined by money, and therefore, active governmental monetary, or fiscal policy can have unintended negative effects. Friedman argued that the Great Depression was a result of a contraction of the money supply, which was controlled by the Federal Reserve, and not by the lack of investment as Keynes had argued.

Frank Knight, who was an important neoclassical economist at the University of Chicago, believed that while the free market system was likely inefficient, government programs were even less efficient. In his famous literary work - The Ethics of Competition, published in 1923, as well as in his other works on ethics during his tenure, Knight argued that there was a tendency in market systems towards monopoly, and that the "efficiency" of markets was misleading. However, he still favored and preferred a laissez-faire policy above anything else because he believed it best for allowing the markets to work out economic problems. He argued that, "The economy is a very complex and unstable thing. Programs of government intervention are too simplistic and do not take into account the complexities of a market economy – thus making interventionism even more dangerous. Laissez-faire is recommended, he argued, not because it "works" (for it patently does not) but rather because it holds individual freedom as an absolute
good and the alternative may be much worse. Nobel laureates Milton Friedman, George J. Stigler, and James M. Buchanan were among Knight's many students at the University of Chicago.

Economist Hyman Minsky was sometimes described as a post-Keynesian economist because, in the Keynesian tradition, he supported some government intervention in the financial markets and opposed many of the popular deregulation policies that were prevalent in the 1980s during the Reagan era. He also argued against the accumulation of debt.

Joseph Stiglitz, the 2001 Nobel Laureate in Economics and Columbia University Professor, argues that a major lesson from the current financial crisis is that the state has a crucial role to play in economic development, both in preventing crises and implementing adequate measures to avoid an amplifier effect. “One of the Main Lessons from the Financial Crisis is that the state must play a key role in sustaining economic development.” Stiglitz further contends that the theories advocating deregulation and open markets that were prevalent in the years leading up to the current crisis have shown their ineffectiveness. He advocates regulation and strong structural changes to the financial system as a whole, in order to avoid another crisis. “The current crisis promises to be longer than expected; without fundamental changes in the international financial architecture, another crisis is looming.”

Eugene Fama, economist at the University of Chicago, and the creator of the efficient market hypothesis, is probably one of the most pro-market economists today. He claims that the current recession was not caused by the financial crisis, but rather that it predates it. According to Fama, having banks that are “too big to fail,” is not capitalism. He states that capitalism says – “you
perform poorly, you fail.” Fama’s views are that “complicated regulation may be a nice idea in principle, but in practice it never works.” He believes that regulators get captured by the people they are supposed to be regulating (as now illustrated in the oil and gas industry); this is “not unusual; it happens all the time.” Therefore, having banks that are “too big to fail,” according to Fama, is “perverting activities and incentives” in financial markets – giving big financial firms, “a license to increase risk; where the taxpayers will bear the downside and firms will bear the upside.” Fama still believes that letting the financial system fail is not a viable, nor a sustainable option, and cannot work in our political realities. Governments will step in and make bail for banks when there is serious trouble. He references Senator Ted Kaufman in his exchange with Senator Mitch McConnell, “allowing the collapse of huge banks is a recipe for turning crisis into catastrophe.” Fama argues, “The only solution is to raise capital requirements of these firms dramatically, maybe up to 40-50 percent.”

Harry Markowitz, Nobel laureate, founder of the modern portfolio theory, and often times referred to as the “father of modern finance”, says that valuation and transparency are the crucial steps needed during the current financial crisis. "The valuation process will take as long as it takes, but it is the primary step toward effectively utilizing the very controversial bailout and avoiding the structural problem of a stagnant economy." Dr. Markowitz reckons it could take years before we have the transparency we need. “The current financial crisis is certainly a danger to the economy generally. An important component of the financial crisis is the obscurity of billions of dollars of financial instruments. The U.S. crisis could last as long as Japan’s if we don’t solve the structural problems posed by this lack of transparency.”

Paul Krugman, professor of economics and international affairs at Princeton University, op-ed
columnist for The New York Times, and 2008 Nobel laureate in Economics says that today’s
global financial crisis was a long time coming. In his book titled *The Return of Depression
Economics and the Crisis of 2008*, Krugman argues that “if the proximate cause for the crisis
was the bursting of the U.S. housing bubble, the first signs of which appeared in spring of 2006,
the ultimate causes were more complex and more deeply rooted, stretching back almost 30
years.”

Krugman, a self-professed Keynesian, tells us that you can have a recession even when an
economy seems basically sound, when it is left unregulated. Krugman shows how the failure of
regulation to keep pace with an increasingly out-of-control financial system set up the U.S., and
the whole world for that matter, for the greatest financial crisis since the Great Depression of the
1930s. Krugman directs much of the blame for this on the U.S. Government’s laissez-faire
macroeconomic policies focusing on supply-side economics and deregulation, which were
prevalent during the stagflation of the late 1970s, as well as during the Reagan era of the 1980s.
Krugman pins much of the blame for these lax governmental policies on Alan Greenspan, the
Chairman of the U.S. Federal Reserve from 1987 to 2006. As a result, Krugman contends, “we
rejected the time-tested “Keynesian compact” whereby the U.S. government had committed
itself to use monetary and especially fiscal policy to ensure that resources were fully deployed
and aggregate demand kept strong.” He continues by stating that, “we increasingly abdicated
responsibility for regulating various sectors of the American economy, with banking and finance
in particular.” citation Krugman offers many of his economic policy prescriptions based on the
Keynesian Compact, an agreement that an economy can achieve and sustain “more or less free
markets” when the national government is allowed to follow monetary and fiscal policies aimed
at achieving and sustaining low levels of unemployment. Krugman argues that relatively stable free markets require the presence of active governmental policies that are aimed at achieving low levels of unemployment.

Krugman examines major financial crises that occurred throughout the world including the Panic of 1907, the Great Depression, the savings and loan crisis (S&L) of the 1980s, the Latin American Crisis of the mid 1990s, the Asian Flu of the mid to late 1990s, and Japan's Lost Decade. Striking similarities emerge within each of these crises, including the recent crisis. Each crisis involved bringing in new capital to fund rapid economic expansion, loose credit, asset bubbles, a loss of confidence, investor biases, currency complications, and alas, the eventual unraveling of the entire financial system respectively. Krugman’s explanation of a crisis of confidence is as follows: “in order to fuel economic booms, participants in the economy have a great deal of confidence, so much so that during economic expansion, large risky bets are placed on the prospects of continued success. However, a financial crisis begins with a seemingly small change that chip away at confidence, eventually turning into a panic.” In each crisis, Krugman explains, there was a spark that moved confidence to very great heights, only to have it all come crashing down. According to Krugman, confidence, once lost, can be very difficult to regain. Krugman goes through each crisis and discusses what led up to the crisis, what governments tried to do to manage the crisis, discusses why their actions did or didn’t work, and finally attempts to demonstrate the warning signs and linkages that those crises have to the recent one. Krugman is clear about what he believes was central to the recent financial crisis – the shadow banking system. “In fact, it was in large part the rise in the 1990s of “shadow” banking institutions (bank-like entities that operated with virtually no regulation) and the embrace by the
principals associated therewith of very risky financial stratagems built on debt that underpinned both our housing bubble and other bubbles and crises throughout our global economy.” He cites the “Tequila Crisis” in Mexico and the economic crises in Latin America during the mid-1990s as situations that should have served as a warning to the U.S., but which were overlooked. Ultimately, the US was able to bail out Mexico, leading to the incorrect assumption that an influx of money was an easy and reliable way to rescue an economy. He argues that, although these countries indicated the return of depression era economics, we were unwilling to believe that there would ever be another depression, especially at home. He goes on to describe Japan’s lost decade, referring to the financial crisis in Japan and the big crash in Asia, each time systematically illustrating what we could have learned, but did not. Krugman argues that all these crises essentially happened for the same reason time and time again, because the banking system exposes itself to too much risk. When this happens, Krugman explains, people then lose confidence, and panic starts, which doesn’t even have to be based on anything real. Government responses from such crises are usually too little, too slow, and almost all of the time, too late. This is precisely what is emanating from the global financial crisis of today, Krugman explains.

Krugman’s main argument seems to be that everyone thought breaking the rules was acceptable because the capitalist system was basically infallible. Accordingly, the underlying theme of his book was that economists and policy makers alike had the hubris to believe that they had finally conquered the capitalist beast. He explains how the recent worldwide financial crisis was hatched in a $4 trillion unregulated market, which eventually collapsed under a downward spiral of confidence. Krugman believes that the recent crisis is "functionally similar" to that of the Great Depression of the 1930s, and accordingly, provides several striking similarities between the two.
However, he doesn’t think that the recent crisis was as severe, and notes, “we now have the financial tools and institutions - and the hindsight - to make for a softer landing. Nevertheless, this crisis has no end in sight yet.”

In order to solve today’s problems (stated at that time), particularly the credit crunch, Krugman believes that we’ll need to at the very least: 1.) Inject huge amounts of capital into financial markets, much more than anyone is currently talking about, 2.) Support weakened aggregate demand through robust government spending, and finally 3.) Regulate the business entities and economic sectors that got us into trouble in the first place. Krugman further states, “and because the American financial contagion has spread beyond our shores, we’ll have to coordinate our response with our partners abroad.” In many ways, these are the same types of policy prescriptions that were used during the 1930s to get our out of the Great Depression. Krugman states, “the one big thing that everyone seems to know now is that one does not increase taxes and implement budget cuts during a crisis, as Herbert Hoover did, and which FDR did several years into the Depression.” Consequently, Krugman argues that “the flow of credit and fiscal stimulus are good starting points, but much more will be needed. Finally, to prevent another crisis of this magnitude, regulation will play an important role, but it would be foolish to believe that this will be the last.”

There are five basic proposals to move forward from this recent crisis, all based on the Keynesian Compact, which Krugman presents: 1.) Put more capital into the banking system to help unfreeze capital markets, 2.) Create a lending program for the government to lend to the nonfinancial sector, 3.) Engage in a global rescue program for developing countries, 4.) Appoint fiscal stimulus focusing on spending to build infrastructure, and finally 5.) Reform and regulate
the financial system, especially the non-bank areas.

George Soros, author of the book, *The New Paradigm for Financial Markets: The Credit Crisis of 2008 and What It Means*, published in May 2008, says that a "super-bubble" had built up over the past 25 years and was ready to collapse. He states that “we are in the midst of a financial crisis, the likes of which has not been seen since the Great Depression of the 1930s, where the international financial system has come this close to a genuine meltdown.” When describing his view of the global financial crisis as it unfolded in 2008, Soros states that the world financial system had effectively disintegrated, adding that “there was no prospect of a near-term resolution to the crisis…..We witnessed the collapse of the financial system... It was placed on life support, and it's still on life support. There's no sign that we are anywhere near a bottom.”

In his book, Soros warns that the credit crunch, caused by the crisis, marks the end of an era of credit expansion based on the dollar. “If we are not careful, the dollar will lose its standing as the reserve currency of choice. The task of regulating credit will now become even more precarious since the credit market is already tightening.” He goes on to say that “this crisis is not confined to a particular firm, or a particular segment of the financial system; it has brought the entire system to the brink of a breakdown, and it is being contained only with the greatest difficulty. This will have far-reaching consequences. It is not business as usual, but the end of an era.”

Soros believes that Milton Friedman-type monetarist doctrine is inadequate for today’s credit crisis. Controlling the money supply is only half of the picture, he explains. He blames much of what we are experiencing today as a direct consequence and result of unregulated credit markets. Soros points out that bubbles such as the Internet bubble, housing bubble, and the commodities
bubble, were all created through the use of excessive leverage. “The amount of debt currently outstanding is unprecedented. If more isn’t done, the crisis could get much worse,” Soros warns. He prescribes that any new financial regulations will need to address the use of credit, if we are to avoid any future bubbles. However, Soros also believes that credit is the lifeblood of capitalism, and therefore, any excessive regulation or overregulation for that matter, will in turn damage the economy as well.

Soros rejects the classical economic theory, which advocates that supply is a function of demand and vice-versa. Instead, he makes a very different argument, saying that the supply and demand curves do not determine market prices at all, because if they did, we would have generally witnessed greater price fluctuations. In his book, Soros argues that a new paradigm is urgently needed as a way forward from the current crisis. He claims that the existing economic paradigm, used until now by most economists, was based on false premises, which he calls “free-market fundamentalism.” The central claim in his book is that the traditional economic theory is wrong. He claims that since the days of Adam Smith, economists have taught that markets sort out issues of supply and demand by settling at a point of equilibrium. Prices may temporarily deviate from that balanced state, but eventually, they return to it. Soros argues against this view. He believes that competitive markets are not self-correcting, and that they don’t naturally tend towards equilibrium. He states, “the belief that markets tend toward equilibrium is no better than Marxist dogma. Both ideologies cloak themselves in scientific guise in order to make themselves more acceptable, but the theories they invoke do not stand up to the test of reality.” Soros explains by saying that in the past, it has always been government intervention which has repeatedly saved the market. “The notion that the market deviates from an orderly path is the rule
rather than the exception.”

The new paradigm that Soros prescribes is one that incorporates the theory of “Reflexivity,” which examines the relationship between thinking and reality. Reflexivity asserts that prices do in fact influence the fundamentals and that these newly influenced set of fundamentals then proceeds to change expectations, thus influencing prices; the process continues in a self-reinforcing pattern. Because the pattern is self-reinforcing, markets tend towards disequilibrium. Sooner or later they reach a point where the sentiment is reversed and negative expectations become self-reinforcing in the downward direction, thereby explaining the familiar pattern of boom and bust cycles. This mechanism, described by Soros, as an “old-fashioned market psychology dressed up in theory,” is one that allows the market to go up as self-reinforcing, but which is ultimately self-defeating; it is what needs to be addressed. Soros connects today's financial turmoil with what he says are fatally flawed conventional assumptions about how markets behave. “If banks, investors and regulators had embraced reflexivity years ago, there never would have been a financial crisis,” Soros insists.

**Integrative Personal View**

My overall integrated view of the global financial crisis, based upon everything that I have learned from research, readings, and presentations is that the recent financial crisis was actually a perfect storm waiting to happen, and had been brewing for some time before it finally reached its breaking point, as seen during the unraveling of the financial markets in 2008. Both Paul Krugman and George Soros are also of this opinion, as evidenced by their work. The causes of the crisis are many, whilst the consequences and implications caused by it are substantial. A few
prescribed remedies have also been offered as a way forward, but time will have to tell whether or not they are effective.

The collapse of the U.S. housing bubble, which peaked in 2006, caused the values of high-risk mortgage-backed securities to plummet. As U.S. housing prices declined, many large and well-established investment and commercial banks in the U.S. and Europe suffered tremendous losses and faced bankruptcy. The crisis exposed other risky loans and the over-inflated asset prices of many of the largest financial institutions of the world. With loan losses mounting and the fall of Lehman Brothers on September 15, 2008, soon thereafter, a major panic took hold of the market, damaging financial institutions everywhere. The panic heightened insecurity amongst investors regarding banks’ solvency, and exposure to risk. This, coupled with a steep decline in credit availability, as well as damaged investor confidence, had an impact on the financial markets around the world. The financial crisis has been linked to a host of causes, including loose, reckless and predatory lending practices by financial institutions; easy credit, deregulation and lax government monetary, fiscal and regulatory policies over the previous decade; the rise of the shadow banking system; the growing trend of securitization; CDO’s, SIV’s, OTC derivatives, and other types of complex lightly regulated financial instruments in the market, as well as the increased leverage and risk taking/risk offsetting by the banking, shadow banking, financial services and insurance companies over the years leading up to the crisis. In the aftermath of the savings and loans crisis of the 1990s, US mortgage-backed securities, which had risks that were hard to assess, and whose underlying assets were over inflated, were packaged up and sold to investors in the capital markets. These securities provided shadow banking firms with a more profitable strategy of lending, one that differed from traditional banking where the bank held
mortgages that it originated until maturity. Shadow banking institutions, packaged and securitized these risky loans into special purpose investment vehicles and then sold them off to other banks and investors, as well as institutional investors, like pension funds, endowments, and governments, in order to offset the long-term risk exposure to themselves. In addition, companies such as AIG, which also suffered substantial losses during the peak of the financial crisis in 2008, then insured these risky securities. These mortgage-backed securities, and other similar types of financial products had proliferated within the market to the degree that it had become very difficult, if not impossible, to calculate their market value and assess the risk of exposure to the institutions that held them as assets.

Meanwhile, during the peak of the crisis, hedge funds heightened the volatility of the market, causing steep shocks to investors. At the same time, many traditional commercial banks also suddenly had to obtain additional equity capital in order to meet regulatory requirements, as well as to maintain the confidence of their depositors. As a result of these unfolding developments, liquidity disappeared from the financial system. Economies worldwide slowed during this period as credit facilities tightened and international economic activity declined. Central banks around the world reacted dramatically with attempts to cut interest rates and increase financial liquidity by bailing out their financial systems. The credit crunch, a direct consequence of the financial crisis, was caused by many factors, and chief among them was a dramatic change in the ability to create new lines of credit. After suffering enormous losses brought on by the heightened exposure to risk, banks were reluctant to lend. This dried up the flow of money and hence, also slowed down economic growth and activity. The biggest factor that determines a healthy economy is consumer spending, and consumers weren’t spending. During the credit crunch,
businesses and consumers alike could not get any type of financing from the banks. The crisis also exposed severe flaws in the credit rating agencies’ valuation process. Investor confidence has suffered as a direct consequence of these rating practices, which were primarily based on flawed mathematical models, which were based heavily on assumptions derived from historical data and the diversification of risk. “The credit rating agencies had downgraded $1.9 trillion in mortgage backed securities, as of July 2008 in order to account for the lower repayment rates on these high risk securities.” Another area of concern that has been brought up in the wake of the crisis is the conflict of interest in the incentive program for these ratings agencies. These agencies primarily earn their revenues from the amount of securities that they can rate, and not necessarily on the quality of their ratings.

**Remedies**

Some of the remedies that I would prescribe, based upon my overall integrated view of the crisis is that there needs to be more regulation in the right places, or rather “effective regulation,” as opposed to just more regulation. The banking sector has always been heavily regulated, and in fact, it was the primary reason behind the Shadow Banking industry’s growth. The traditional regulated banking sector constitutes roughly $6 trillion in assets, whereas the unregulated or lightly regulated shadow banking industry constitutes approximately $4 trillion in assets in the overall banking and financial services industry which is valued at $10 trillion. I find it very alarming that the shadow banking industry, which comprises almost half of the total assets of the entire banking and financial services industry isn’t regulated, and has been able to escape
regulation for so long. I am of the opinion of Paul Krugman, who says “if it acts like a bank, walks like a bank, talks like a bank, it is a bank, and should be regulated as such.” I think the banking, financial services, and insurance firms need to be increasingly scrutinized and more effectively regulated in terms of the risk exposure they take on and the capital requirements they should have to commensurate with those levels of risk.

In addition, they should also be severely penalized on any unscrupulous, reckless and predatory lending practices that they engage in. I prescribe that the way forward is to adopt a Keynesian policy approach, where a mixed economy with an increased government and public sector role within the markets is needed. I prescribe active governmental monetary, fiscal, and regulatory policies to be implemented, as opposed to the laissez-faire approach taken during the 1980s and 1990s. I think the rules (at that time) being suggested by Paul Volker and the Obama administration are a step in the right direction. However I agree with Paul Krugman when he says that more is needed, much more than what anyone is currently talking about, and it’s needed quickly. As Krugman identifies, we need to inject more capital into financial markets, support weakened aggregate demand through robust government spending in infrastructure projects, and effectively regulate the financial sector and its entities to avoid another financial meltdown in the future. Every policy action that we take needs to be coordinated with our allies overseas collectively, as evidenced in the G20 summit because we live in a globalized economy. I agree with George Soros and Joseph Stiglitz that a major structural change or new type of economic paradigm is needed because we now live in a highly complex and completely different economic environment, one that is global. I prescribe increased transparency as Harry Markowitz suggests on all of the complex financial instruments, such as securities, CDO’s, and OTC derivatives, to
be communicated to investors. The credit rating agencies should also be scrutinized in how they rate different investment firms and financial products. I believe that there should be a separation between investment banking activities and commercial banking activities, as there once was with the Glass-Steagall Act of 1933, before it was repealed.
Chapter 13

Our Century’s First Definitive Black Swan

Ben Zavadoski

Abstract

Prior to the market opening on September 29, 2008, I sent the following email to my immediate family: “Economically speaking, the current conditions could very well be our century’s definitive black swan for Wall Street. Even though productivity hasn't been immeasurably hit yet, one can only hope government intervention will assuage what appears to be almost certain gridlock for credit lines between banks and corporations. However, government intervention that doesn't even account for further displays of moral hazard is bizarre to say the least.” That day the Dow Jones industrial average dropped 778 points and $1.2 trillion vanished from the United States stock market. Two days later, I posted similar sentiments on a Washington Post discussion board. Having studied finance during my undergraduate degree, I knew enough about capital markets to realize that the fall of Lehman Brothers signified an historic trigger

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event. Unfortunately, I also knew economics and finance did not provide a panacea for the current crisis and that the path forward would be filled with disturbing levels of uncertainty.

Introduction

Economic literature is filled with literary devices such as lurid and hyperbolic phrases describing boom-to-bust cycles whereby each exuberant boom is followed by a lifeless bust leaving despondent investors incredulous in the wake. The ever ubiquitous investor plagued with short-term amnesia fails once again to heed Mark Twain’s insight that history doesn’t necessarily repeat itself but it rhymes. This insight is significant when viewing crises from hindsight. From a financial perspective, it begs the question as to how many people truly believed that markets could only move so convincingly in one direction without an adverse reaction. And more importantly, does the language we employ to describe the financial and economic events obfuscate the gravity of market movements through pedantry and sophistry? Economists euphemistically describe speculative behavior as “irrational exuberance;” yet, would anyone except for an economist describe a gambler sitting at a black jack table betting his family’s life savings as “irrationally exuberant?” Similarly, economists have historically associated economic downturns with seemingly innocuous descriptions such as liquidity gluts and savings gluts. But are we doing ourselves a disservice by expressing one of the seven deadly sins only in its abbreviated form? Conversely, greed is openly embraced in a free market economy. If the disciplines of finance and economics continue to use an argot that is seemingly biased and contradictory, how can we expect financial instruments to be any different? For example, are phrases such as paradox of aggregation, paradox of thrift, paradox of delivering and paradox of inflation helpful? Greenspan embraced this tendentious parlance during public announcements.
and many news outlets translated Greenspan-Speak into layman’s terms for the public.\textsuperscript{30} Maybe the calm before a recessionary storm can be called an exuberant calm denoting the false sense of safety investors feel during a market contraction preceding a financial collapse. Are the markets currently residing in an exuberant calm?

\textbf{Physics Envy}

Soon after the collapse of Lehman Brothers in 2008, Andrew Haldane of the Bank of England calculated that the net present value of the cumulative loss of global output resulting from the crisis could be anywhere in money terms between $60tn and $200tn.\textsuperscript{31} On April 6, 2012, the Bureau of Labor Statistics reported a 120,000 increase in March nonfarm jobs and the “confidence interval” for the change in total nonfarm employment from the establishment survey was on the order of plus or minus 100,000.\textsuperscript{32} The market was expecting a 220,000 increase and, as a result, market volatility ensued. The first scenario exemplifies extraordinary range variations using discounted cash flows and the second simply represents statistical noise. Such discrepancies in the world of finance and economics are not only common but they are unavoidable based on the instruments used. Although financial models employ the mathematics and style of physics, they are fundamentally different from the models that science produces.\textsuperscript{33}

Even though advanced calculus lies at the heart of economics and hard sciences like physics,
their modeling outcomes are much different. Physical models can provide an accurate
description of reality whereas financial models, despite their mathematical sophistication, can at
best provide a vast oversimplification of reality. In short, human behavior does not lend itself to
rationality where all individuals are maximizing decisions based on opportunity costs. Ian
Stewart of The Guardian went so far as to place culpability for the banking failure on the Black-
Scholes model during the global financial crisis.\textsuperscript{34} If only finding blame for the global crisis was
that simple. Human behavior is mercurial, temperamental and ephemeral. Financial models are
only ordinary instruments with limited forecasting utility that try to capture rational behavior
based on a human element that is if anything rational. Contrast Black-Scholes with either
Newton’s Second Law in Thermodynamics or Einstein’s field equation in general relativity. In
physics, the future is quantifiable until proven otherwise; in finance and economics, future
uncertainty is erroneously assumed to be quantifiable with consistent accuracy. Irrational
rationality would be a more appropriate phrase to describe such modeling.

Nassim Nicholas Taleb, the author of “The Black Swan: The Impact of the Highly Improbable,”
would like to quixotically eliminate anything that relies on a computation that involves the
probability of Black Swan events since a defective model, in his view, is less ideal than no model
at all. For example, “if you are a passenger on a plane and the pilot tells you he has a faulty map,
you get off the plane; you don’t stay and say “well, there is nothing better.” But in economics,
particularly finance, defective models are used on grounds that “there is nothing better,” causing

harmful risk-taking. Yet defective models do not decrease equity trading. The problem with contemporary economics is that everyone believed all risks could be quantified with mathematical models and that these quantifications could help us correctly price just about everything. This notion would lead to the costliest market corrections in eighty years. Financial and economic models should include the warning, caveat utilitor – let the user beware.

Pre-Crisis Events & Policy Actions

Conventional wisdom that markets always know best should be filed away as an anachronistic slogan of another time similar to “Workers and Oppressed People of the World, Unite.” Free market fundamentalism and unfettered capitalism are no longer beyond reproach. But what role did government play leading up to the Great Recession? Alan Greenspan, perhaps the single most prominent financial figure for the last two decades, lauded the use of derivatives and objected to their scrutiny by Congress and Wall Street. Greenspan reacted to the stock market decline of 2002 by lowering interest rates 12 times from 6.5% to 1.0% (550 basis points) and then kept the rates low allowing an easy money policy that helped foster the unsustainable credit and housing boom. In his defense, Siegel states that if investors do not like the consequences and they are unwilling to pay the “risk price” then the fault lies not in Alan Greenspan but in ourselves. Yet, Greenspan admitted in testimony to Congress that he was “partially” wrong, giving too

much credence to an ideology based on the self-correcting nature of markets and not anticipating the extraordinary risks embedded in the mortgage lending boom.  

On a government level, the opprobrium is not for Greenspan to share alone – both the Clinton and Bush administrations along with the Democrat and Republican parties deserve their share of the blame. In 1994, the government passed the Home Ownership and Equity Protection Act in order to crack down on predatory lending and it gave the Federal Reserve (Fed) the ability to regulate subprime lending. Greenspan refused to enforce this act. In 1999, Congress repealed the remnants of the Glass-Steagall Act through the Financial Services and Modernization Act, paving the way for additional mergers between investment banks, commercial banks and insurers. For the first time since the Great Depression, this law allowed banks, insurance companies and investment banks to offer each others’ products. During this bills debate, the concept of “Too Big to Fail” became known. In 2000, Senator Phil Gramm attached the Commodity Futures Modernization Act to the omnibus Budget bill which effectively declared huge swaths of derivative markets off-limits to regulation. Warren Buffet presciently raised alarms about derivatives describing them as potential time bombs and financial weapons of mass destruction. Then in 2004, investment banks successfully lobbied the SEC to loosen the rules regarding leverage resulting in ratios of in excess of 20 to 30 or more.

On top of this, the government advocated policies favoring home ownership. The National Homeownership Strategy began in 1994 when Clinton directed Secretary Henry Cisneros to come up with creative measures to promote homeownership. It promoted paper-thin down  

payments and pushed for ways to get lenders to give mortgage loans to first-time buyers with shaky financing and incomes. President Bush continued the practices because they coincided with his Ownership Society goals, and of course Congress was strongly behind the push.\textsuperscript{38} In brief, the government acted in a concerted effort to deregulate, resulting in an unproductive expansion of the housing and financial services industry.

The competitive wave of deregulation that started in the late 1970s and continued until the housing bubble burst was hugely beneficial to the financial industry and the economy at large from a short term perspective. Additionally, the de facto appearance of a conquered monetary stability enabled by Greenspan’s putative economic acumen led to a period of relative calm. Yet, the deregulation was not offset by a decrease in moral hazard – especially in regards to compensation. If anything, moral hazard had an inverse relationship with deregulation exemplified by incorporating the “Greenspan Put” into security pricing. Investors sought the best of both worlds – maximum deregulation backed by an inherent government backstop without redesigning the compensation structures to match the new regulations.

\textbf{Shadow Banking System}

Once the traditional barriers on leverage and speculation were removed through legislation, the financial sector grew exponentially. The combined assets of conventional banks and the so-called shadow banking system (including investment banks and finance companies) grew from a mere $500 billion in 1970 to $30 trillion by September 2008. But these trillion-dollar companies

\textsuperscript{38} Peter Coy, “Bill Clinton’s drive to increase homeownership went way too far,” \textit{Bloomberg Businessweek}, February 27, 2008, http://www.businessweek.com/the_thread/hotproperty/archives/2008/02/clintons_drive.html.
residing alongside regulated financial institutions only appeared to resemble their conventional
counterparts. The shadow banking system presented a mirage of free market enterprises that
extracted billions from the economy by speculating in stocks, bonds, commodities and
derivatives while appearing to operate under the guise of fiduciary responsibility and government
regulation. They could never have survived, much less thrived, if their deposits had not been
government-guaranteed, and if they hadn’t been able to obtain virtually free money from the
Fed’s discount window to cover their bad bets.\textsuperscript{39} Shadow banks were able to obtain the illusion
of regulatory status simply by borrowing and investing as if they were regulated banks.
Appearance meant everything. And to compound problems even more, these institutions grew to
rival the conventional banking system in lending capacity.

Furthermore, the Great Recession had the makings of a classic bank run similar to the Great
Depression, except the banks this time weren’t only commercial banks. The shadow banking
system included nonbank mortgage lenders, conduits, structured investment vehicles (SIVs),
mono-cline insurers, money market funds, hedge funds, investment banks, etc. They had one
thing in common – a profound asset liability mismatch. They borrowed from depositors who
lent on a short term basis and placed this money into illiquid, risky, long-term securities such as
mortgage backed securities (MBSs) and collateralized debt obligations (CDOs). When overnight
repurchase (repo) financing dried up, these banks started to fall – Bear Stearns was first followed
by Lehman Brothers. The run on the shadow banking system continued with a run on the $4
trillion money-market fund industry. Then the Federal Reserve stepped in and did what it didn’t

\textsuperscript{39} David Stockman, “Four Deformations of the Apocalypse,” \textit{NYTimes}, July 31, 2010,
do during the Great Depression – it became the lender of last resort but to a whole new generation of banks.  

**Housing Bubble**

After the 1982 recession, the U.S. and world economies entered into a long period where the fluctuations in variables such as gross domestic product, industrial production, and employment were significantly lower than they had been since World War II. Economists called this period the "Great Moderation" and attributed the increased stability to better monetary policy, a larger service sector and better inventory control, among other factors. The economic response to the Great Moderation was a decrease in risk premiums and an increase in the amount of leverage individuals and firms took on. Housing prices were boosted by historically low nominal and real interest rates and the development of the securitized subprime lending market.  

According to data collected by Professor Robert Shiller of Yale University, in the 61 years from 1945 through 2006 the maximum cumulative decline in the average price of homes was 2.84% in 1991. If this low volatility of home prices persisted into the future, a mortgage security composed of a nationally diversified portfolio of loans comprising the first 80% of a home's value would have never come close to defaulting. This false sense of security would prove to be ruinous.

In 2005, The Economist calculated that the total value of the residential properties in the world’s developed economies had effectively doubled from 2000 to 2005 ($40 Trillion). “It looks like

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the biggest bubble in history,” the magazine wrote. It is important to note that the housing bubble did not reside exclusively in America; housing prices were also at record levels in relation to incomes for Britain, Australia, New Zealand, France, Spain, the Netherlands, Ireland and Belgium as well. Many banks in Europe engaged in their own securitization frenzy similar to their banking counterparts in the United States.

A familiar and worn-out account of the Great Recession places sole blame on the people who took out mortgages which they could not afford and that they eventually had to default on. This sounds reassuring but it is inaccurate. The collapse revealed a frightening truth: the homes of subprime borrowers were not the only structures standing on the precipice of default; subprime loans were an additional tranche sitting atop an immeasurable entity constructed of too much debt and leverage. Yet, Greenspan surprisingly defended the rise of subprime lending, claiming in 2005 that “lenders are now able to quite efficiently judge the risk posed by individual applicants and to price that risk appropriately.” While the housing bubble rested in part on subprime mortgages, the problems were more pervasive and destructive.

**Debt & Leverage**

Financial innovation, failures of corporate governance, easy monetary policy, failures of government, and the shadow banking system all contributed to the onset of the crisis. But these items together do not explain the severity of the Great Recession that is only second to the Great Depression. The missing link is that almost everyone in the financial system increasingly relied

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on debt and leverage. U.S. indebtedness reached record levels: All debt (the sum of household, business, and government debt) as a percentage of GDP reached 350 percent by 2006, having doubled since 1984. For decades prior to the global financial crisis, jobs were lost to technology and foreign competition and the government promoted easy credit to inflate growth resulting in an increase in household borrowing. Growth contingent upon heavy borrowing proved to be unsustainable. Following the dot-com bust in 2001, the Federal Reserve cut interest rates to unprecedented lows that did little to stimulate the economy. In fact, the artificially low interest rates acted as a tremendous subsidy to parts of the economy that relied on debt, such as housing and finance. This led to an artificial expansion in housing construction, real estate brokerage and mortgage lending. In addition, fiscal deficits led to a commensurate fiscal retrenchment in the private sector after the housing bubble collapse. For example, the financial balance of the private sector shifted from minus 2.1 percent of GDP in the fourth quarter of 2007 to plus 6.7 percent in the third quarter of 2009, a swing of 8.8 percent of GDP. And this occurred despite the Fed’s efforts to sustain lending and spending.

This expansion of debt was by no means isolated to the United States. Many countries in the Europe such as Spain and France had accumulated debts of more than ten times their annual revenues. Historically, such levels of government indebtedness had led to government default.

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In particular, Greece has been hovering on the metaphorical default line ever since Europe provided numerous rescue packages over the last two years. According to the World Economic Forum, Greece ranks as the 90th most competitive country in the world (the U.S. currently is 5th) and even though it only has 11 million inhabitants, the country has illustrated the euro area’s fundamental flaws both in terms of political and economic unity and the long term outlook for the euro zone is still unknown.

**Minsky Moment**

By definition, an [economic] shock must be surprising, material, costly and unambiguous.\(^\text{46}\) On September 15, 2008, Lehman Brothers filed for bankruptcy and its failure was less a cause of the crisis than a symptom of its severity (many market watchers are convinced that its failure is responsible for turning the American crisis into a worldwide conflagration). The failure of Lehman and the government’s determination not to rescue the firm sharply raised investor fears. In response, the stock market plummeted, reaching levels of volatility not seen since the 1930s, with the exception of the single day 19 October 1987. Shortly after Lehman’s collapse, Goldman Sachs and Morgan Stanley both applied to become bank holding companies. This conversion marked a pivotal moment in the nation’s financial history: in the space of seven months Wall Street had been utterly transformed, with all five independent banks destroyed, absorbed, or temporarily muzzled. Unlike the Great Depression, the central bank became the lender of first, last and only resort.

In 2005, Raghuram Rajan stood before a room of prominent economic policymakers celebrating Alan Greenspan's legacy and presented a paper about how the world was headed for financial disaster. In September of 2006, Nouriel Roubini warned a skeptical IMF that the United States would likely face an once-in-a-lifetime housing bust, an oil shock, sharply declining consumer confidence, and, ultimately, a deep recession. Both individuals were ignored. Although very few economists predicted the global financial crisis, one economist actually predicted the event decades ago – Hyman Minsky.

Hyman Minsky’s “financial-instability hypothesis” included five stages: displacement, boom, euphoria, profit taking, and panic. Thirty years ago when most economists were extolling the virtues of financial deregulation and innovation, Minsky maintained a more negative view of Wall Street; in fact, he stated that bankers and traders periodically played the role of arsonists, setting the entire economy ablaze. The prime cause of economic slumps, according to Minsky, is the credit cycle, the expansion and contraction of loans for business and consumers: Easy credit amplifies the boom, and tight credit amplifies the contraction. In this View, Minsky followed John Maynard Keynes. Minsky argued for government intervention to reduce the amplitude of the cycle – more aggressive lending by the government during contractions and tighter regulation of bank lending standards during the booms. Minsky’s advice that “apt

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intervention and institutional structures are necessary for market economies to be successful” still remains largely unheeded.

Conclusion

Responding to a reporter in 2009, Bernanke stated “I was not going to be the Federal Reserve chairman who presided over the second Great Depression.” In short, the Fed’s response has been unprecedented but there has not been a commensurate fiscal response to match the central bank’s actions. And the Fed cannot save the economy on its own. In theory, markets operate best with the least amount of government intervention and history confirms its importance in issues of major economic policies; yet, faith in free markets is not irrefutable per se. An echo in our own time was the 1999 repeal of the Glass-Steagall Act, legislated in 1933 to separate investment banking and commercial banks. Its repeal was a key contributor to the calamities now gripping the banking system.51

Currently, the United States is politically and economically polarized as to which direction the country should take moving forward. One side advocates austerity and less government intervention while the other side advocates stimulus and more government regulation. Both sides provide valid points and the answer probably lies in combining elements of both party’s prescription policies. Unfortunately, the dogma of politics bleeds into economics. Just as it is important for our political system to seek compromise, the same goes for economists.

Unfortunately, the followers of Keynes will not talk to the followers of Schumpeter and the political and economic gridlock will only lead to further paralysis. In retrospection, the financial crisis of 2008 was suspended only because investors believed that governments could borrow whatever they needed to rescue their banks. What happens when the governments themselves cease to be credible? Considering Europe is more or less in a recession, growth in India and China are faltering, and growth in the United States is stagnant, the near-term economic outlook is ominous. One can only hope we are not in the midst of an exuberant calm whereby increased uncertainty and high volatility wait surreptitiously on the horizon.

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Chapter 14

The Government’s stake in hatching the black swan

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The global financial system has been recovering from a devastating downturn which many have titled the Global Financial Crisis (GFC). Although a couple of years have passed since the burst of the housing bubble and the big financial turmoil, many people still question “What happened?”, wondering what people did wrong or whether they knew what they were getting into. The truth is that finding a specific company, entity or CEO to blame for the entire meltdown has been almost impossible. However, the Government, which was one of the parties involved in the GFC, is also considered to have had a big stake in contributing to the materialization of the last black swan. Thus, knowing how this entity proceeded during the “housing era” can explain, to some extent, why and how the whole system collapsed.

According to Nassim Nicholas Taleb in “The Black Swan: The Impact of the Highly Improbable” from The New York Times on April 22, 2007, a Black Swan is a rare event that is unexpected, has a big impact and after happening, people believe it is explainable and could have been predicted.
Therefore, based on personal knowledge, current literature and news from the media, this paper intends to analyze the Government’s actions in order to confirm its contributions to the GFC and sustain that, if it had acted differently and taken the necessary measures beforehand, the chaos could have been contained or at least mitigated.

Introduction

We are currently in 2012 and people are still trying to appoint one organization to blame for the 2007-2009 GFC. Some argue that all the parties involved in the housing market contributed to the GFC\(^5\). Furthermore, considering that the financial institutions were all interconnected, the systemic risk was also extremely high. This means that the failure of one institution or market could spread to the whole financial system\(^5\).

Nonetheless, the Government, representing the highest entity present in the market, had to deal with the expectations people had of it. The question posed is whether the government’s actions were efficient in maintaining the financial system’s order. What we do know is that it left much to be desired when it came to creating and imposing regulations, and avoiding riskless decisions taken by companies and also moral hazard.


Led by its homeownership strategy, the Government backed up financial institutions that were involved in the housing market, incentivizing predatory lending. This also stimulated the increase of companies willing to enter into the mortgage market due to the large profits these entities were making\textsuperscript{56}. On the other hand, while the number of these institutions increased, regulations got poorer and poorer. This knowledge emphasizes the lack of supervision and control of the loans being issued. Additionally, companies started taking aggressive risks, loosening up loan requirements and issuing mortgages to people without the means to pay them back. At some point, this became the norm in the market. Institutions basically chose to become unaware of the risks these mortgages implied because they knew that they had the Government’s support and, in one way or another, they were working towards the same goal (essentially in theory, given that financial institutions were in the business mostly to make profits, and a lot of them). This is where the Government should have acted, controlling these procedures, enforcing compliance with regulations and in the absence of these, they should have been created. As we all know, it did not happen since the Governmental enterprises were involved in the housing market, competing aside financial institutions. Hence, moral hazard\textsuperscript{57} was present more than ever; enhancing companies’ bad decisions. They knew that, if something went wrong, the Government would find a way to pull them out of the pit.

In this sense, I set the case for considering the Government as the major responsible party for the GFC, discuss the strategy that led it to eventually support the subprime mortgage market,


\textsuperscript{57} Moral hazard refers to the tendency companies have in taking risks beyond what they would otherwise, believing that the Government will save them in case something goes wrong.
describe its wrong doings and consider whether it really contributed to the GFC. I conclude by discussing the mysteries of the Black Swan, whether anyone knew the last crisis was to happen and what warning signals we should look out for to prevent another shocking scenario from unfolding.

The Government’s unfortunate strategy

One could say that everything started a long time ago with Bill Clinton’s National Homeownership Strategy which intended to put, in houses, people who lacked cash to buy a home or to give the down payments. This in turn, was exactly what the subprime lenders desired. If, according to the Government, every family was supposed to own a home, then, subprime lenders would definitely not be the entities to decline mortgage loans to borrowers. The industry decided to “cooperate” with the Government, both working to achieve the same target. Nonetheless, we all know that these two institutions did not have the same intentions when supporting the American dream.

The business was quite attractive due to the high interest rates lenders could set as a result of higher default risks. Furthermore, although the risk of non-payment was higher, subprime lenders could off-load these risky loans to others in the market through the securitization process. It involved banks combining several loans with other financial assets and selling these packages which contained different layers, representing different types of risk. As stated by

Bethany McLean and Joe Nocera, All the devils are here, 32.
Cooperation happened according to the institutions’ own interests; to make profits.
The “American Dream” refers to the American’s people will in, some day, obtaining an own house.
Shah, many considered this instrument the “greatest financial innovation in the 20th century” and the most popular example, in the context of the global financial crisis, are the mortgage-backed securities (MBS). They are based on mortgages combined into a large pool and divided into smaller pieces that will subsequently be sold to investors, depending on each mortgage’s intrinsic default risk. They also had to be rated by the rating agencies in order to transmit confidence to investors. However, the rating agencies naively misunderstood the inherent risks these packages held as a mix of various risky assets, and started rating all of them Triple-A, considered the highest and best rate for a secure investment. They deliberately believed that the risk was reduced by putting these assets into a larger pool. Thus, because everyone in the business saw profits soaring, other institutions quickly decided to follow.

The problem though, laid in the fact that, because the risks of these MBS were actually shifted to others, and not shared62, the subprime lenders decided to “pass up the risk buck”63. This meant giving loans without strictly following the lending requirements. If the borrower defaulted, it would eventually be someone else’s problem anyway. In the meantime, house prices were skyrocketing and if the borrower defaulted, with the loan still on the bank’s balance sheet, it could repossess the house, which cost a fortune at the time. The ecstasy, however, ended when house prices started to fall and people actually owed more than what their houses were worth. Consequently, all of these factors further contributed to the housing bubble. So, the question that

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62 Bruce I. Jacobs, “Tumbling Tower of Babel: Subprime Securitization and the Credit Crisis,” in Insights into the Global Financial Crisis, ed. Laurence B. Siegel (The Research Foundation of CFA Institute, 2009), 54.
63 Term used in 2012, in a Global Financial Crisis course, at UMASS Boston, by Prof. James L. Grant, PhD.
remains is “Can everyone really own a house?”. Today, after the entire market has experienced the fear of a total system collapse, the answer is probably no.

Deregulation – Government’s (lack of) polices

As identified by conclusions of a federal inquiry, the GFC was “an ‘avoidable’ disaster caused by widespread failures in government regulation, corporate mismanagement and heedless risk-taking by Wall Street”\(^{64}\). Considerable blame is put on the Federal Reserve (Fed) for being the one entity empowered to stop banks in engaging in risky lending, preventing the “flow of toxic mortgages” and failing to do so\(^{65}\). None of these factors are to be blamed alone as the main contributor of the financial crisis. However, the report is increasingly harsh on regulators since it identified institutions such as the Securities and Exchange Commission (SEC), the Fed, the Office of the Comptroller of the Currency and the Office of Thrift Supervision that failed to do their job\(^{66}\). Robert Kuttner goes further and affirms that the problem was not a “regulatory failure … but a regulatory corruption”\(^{67}\). Therefore, I believe that deregulation happened as a result of three factors.

First of all, lack of regulation may be justified in part by the Government’s interest in giving continuity to its homeownership strategy, predominantly “among low-income and minority

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\(^{65}\) Zachary A. Goldfarb and Brady Dennis, “Government report blames regulators and financial institutions for economic crisis,”

\(^{66}\) Sewell Chan, “Financial Crisis Was Avoidable, Inquiry Finds.”

groups." Hence, it decided to loosen up enforcement as a way of favoring its intentions as well. In fact, the Government was the first to securitize modern mortgages, and not Wall Street as many people believe. The strategy was mostly executed by Fannie Mae and Freddie Mac, government-sponsored enterprises (GSEs), which represented an important piece of the puzzle given that, initially, investors only bought the mortgages they guaranteed. Exhibit 1 shows the Government’s outstanding share of the MBS market over the 1996-2007 period. Since the practice of securitizing mortgages was quite new at the time, investors preferred those assured by the Government because it meant that these two institutions were assuming the default risks. Thus, while Fannie Mae and Freddie Mac had quasi-governmental status, and the advantage that all procedures had to follow their standards, they were benefiting from higher profits than Wall Street.

**Exhibit 1** – The Government’s outstanding share of MBS (1996-2007)

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68 Zachary A. Goldfarb and Brady Dennis, “Government report blames regulators and financial institutions for economic crisis,“
69 Bethany McLean and Joe Nocera, *All the devils are here*, 7.
70 Bethany McLean and Joe Nocera, *All the devils are here*, 12.
Additionally, during the housing era, “financial innovation and experimentation” were encouraged since companies were making millions. In this sense, new institutions decided to enter the mortgage business willing to earn their share of the cake—see Exhibit 2—although the risks these different financial products involved were not completely understood in the market. These new entrants did not have supervision at all since they were not real commercial banks; they had several businesses. Thus, because existing and new financial institutions became slightly regulated by the Fed, things started to get out of control.

Moreover, when important bills, created to monitor or control these institutions, were sent to Congress, they would simply deny their necessity, stating that “the market will discipline itself”. According to Wien, market discipline was assumed without taking into account the extent to

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which excessive risk was being spread throughout the financial system\textsuperscript{72}. Alan Greenspan, which was the Fed chairman at the time, was a skeptic of regulation and also a believer of the self-discipline argument\textsuperscript{73}, however, in a later interview with CNBC, he stated that even if the Fed had tried to suppress the extension of the subprime mortgage market, it would have not gone far with the Congress since the country was experiencing “a major increase in homeownership which is an unquestioned value to this society”\textsuperscript{74}. As a result, this assumption ended up costing the financial system a lot of money as it is known.

\textbf{Exhibit 2} – Fast increase in subprime lending (1994-2006)

\begin{itemize}
\item[\textsuperscript{73}] Bethany McLean and Joe Nocera, \textit{All the devils are here}, 64.
\end{itemize}

Another underlying assumption in place was that the real estate market and house prices were stable. Market participants underestimated the possibility that house prices could actually decline and pose a threat for the financial system. The underlying reason was that house prices had not declined on a nationwide scale since the 1930s (Exhibit 3). In this sense, derived from the fact that every company was in a race to become more competitive and the Fed ended up raising interest rates, the subprime mortgage market became more popular than the prime market. In mid-2003, subprime mortgages had increased more than ever, due to subprime originators which entered the market to profit from the higher interest rates. This in turn created a bubble which burst when borrowers started defaulting on their mortgage payments. Hence, investment banks started to shut down credit lines to independent mortgage lenders, constraining

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the subprime business. This combination of frozen lending and borrowers defaulting eventually led to a decline in housing prices, and it was also followed by the decline of subprime originators when delinquencies and foreclosures rose in 2008\textsuperscript{77}.

\textbf{Moral Hazard and Riskless decisions}

According to Kaplan et al., the primary ingredient that led the U.S. economy, and eventually the world’s entire financial system, into a recession was human nature\textsuperscript{78}. Greed and misalignment of incentives were present along with the use of innovative financial products, which were created to reduce risk but actually ended up increasing those risks.

\textsuperscript{77} Bruce I. Jacobs, “Tumbling Tower of Babel: Subprime Securitization and the Credit Crisis,” 63.
\textsuperscript{78} Paul D. Kaplan et al., “The History and Economics of Stock Market Crashes,” in \textit{Insights into the Global Financial Crisis}, ed. Laurence B. Siegel (The Research Foundation of CFA Institute, 2009), 134.
Due to securitization, companies strongly believed that packaging and tranching MBS would make them risk free investments. Additionally, given the fact that if the risk of default existed, it could be transferred to others up the “food chain”, we witnessed companies ignoring the essential requirements that should have been followed when issuing a loan for a mortgage. There was no incentive at all to do due diligence since the risk of borrowers not paying could be transferred to others. This knowledge, in a way, contributed to riskless decisions taken by financial institutions which abandoned the practice of following reliable standards. The question

which remains though is “Why did institutions simply decide to become irresponsible and dive into the subprime mortgage business?”.

One plausible answer is that institutions simply underestimated the possibility of credit default, relying on the assumption that house prices would continue to increase, which led the economy into a vicious cycle and destroyed the financial system. Another option brings up the moral hazard concept which some argue to be the root of the GFC. The perception that these institutions had, that the Government would intervene in case something went wrong, as it has always done (during the Great Depression, the Great Inflation and so on), transmitted too much confidence to the subprime lending entities and contributed to magnify the bad decisions. Risk seeking and excessive optimism were also present. Nevertheless, the big problem, as identified by Siegel, was that Governments around the world, in particular the U.S. Government, were trying to create a riskless society and this made institutions believe that “their Governments could protect them from all macroeconomic risk”. We verified this protectionism once again when a number of financial institutions were accounted for as “too big to fail” and were essentially bailed out by the Government, with the exception of Lehman Brothers’, which was left to fail in a way to prevent moral hazard and the transfer of toxic-assets to others institutions as well. However, this event literally pulled the financial system deeper into the crisis! In the end, all other institutions which were in disastrous situations (Bear Stearns, Goldman Sachs,

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AIG, Merrill Lynch, among others) were bailed out with the justification that their failure also meant the failure of the whole financial system.

An interesting aspect to highlight though is that the financial institutions which bailed out others which were termed “too big to fail”: Bank of America, JP Morgan Chase, Wells Fargo and Citigroup, basically became even bigger\(^{84}\). Hence, the question that must be posed is “If one of these institutions got in trouble, how could they be bailed out?”. The decision to bailout large institutions does not seem a sustainable solution since it does not fix the causes; it addresses the consequences and the problem will certainly reach a point where it will be impossible for authorities to handle. Thus, a more sustainable method should be explored. A report made by the International Monetary Fund (IMF) actually concluded that, by bailing out these large institutions and not making important changes to convince them that it will not happen again, the Government’s response to the crisis just increased the threat of moral hazard\(^{85}\). Therefore, I believe companies should be held responsible for their decisions and deal with the consequences of their actions. Authorities should encourage taking risk to produce for the better of mankind, but discourage moral hazard in the sense that ups and downs are part of normal life\(^{86}\); we just need to be more aware and careful for our own sake.


\(^{86}\) Laurence B. Siegel, “A Riskless Society Is ‘Unattainable and Infinitely Expensive’,” 17.
The mysteries of the Black Swan

As a final point, we could assert that all of the factors discussed were contributors to the last black swan. Not one aspect alone, but their combination essentially magnified the negative outcomes of the GFC. Thereby, a question to be addressed is whether anyone saw it coming. In fact, this is the mystery of the black swan: “Is it indeed predictable?”.

Shefrin stresses that in late 2007, four analysts “forecasted that the financial sector would experience difficulties”87. They largely targeted Citigroup, recommending a sell in its stock and claiming the company’s need to raise money by cutting dividends or selling assets. They also alerted to the risks posed by the subprime mortgage market. Roubini and Mihm also presented a vital and timeless book that proves that calamities can be predicted, prevented and, with the right efforts, cured88. Nonetheless, Shefrin also illustrates the point that those involved in the financial crisis were actually fooled by psychological pitfalls which affected judgments and decisions along procedures mostly pertaining to mortgages89. As a result, it is important to track and monitor warning signals that could recognize the possibility of a black swan return.

Conclusion

Many have argued about the causes of the GFC but one aspect should be primarily pointed: weak regulatory structure. This led to lax lending practices which boosted the housing market, increased the flow of subprime mortgages and later resulted in a downturn in the financial system\textsuperscript{90}. When the Fed realized what was happening, it was already too late and the mechanisms put in place were insufficient to stop the housing bubble from growing\textsuperscript{91}. Thus, existing regulations need to be enforced\textsuperscript{92}. Not just enforced, but new laws should be proposed since, as Krugman described, it was a small financial engineering that “led to a gigantic financial bubble”\textsuperscript{93}.

In late June 2009, the Obama administration compiled a whole new set of proposals to prevent a next crisis from unfolding\textsuperscript{94}. It included aspects such as the enforcement of financial regulation, constant supervision, more simplicity and transparency, more-comprehensive regulatory oversight and disclosure of rating agencies’ methodologies. I must agree with Kaplan et al. when they affirm that new regulation “should not be limited to banks but should also apply to insurance companies, investment banks, other non-depository financial institutions, and their holding companies”\textsuperscript{95} given that these were the actual institutions that had less supervision. It also identified the need for a national mortgage market, and a national and uniform regulatory


\textsuperscript{92} Laurence B. Siegel, “A Riskless Society Is ‘Unattainable and Infinitely Expensive’, “ 17.


\textsuperscript{94} Bruce I. Jacobs, “Tumbling Tower of Babel: Subprime Securitization and the Credit Crisis,” 70-71.

\textsuperscript{95} Paul D. Kaplan et al., “The History and Economics of Stock Market Crashes,” 159.
authority as well\(^\text{96}\). I also find it necessary to emphasize the prevention of moral hazard by the Government. If institutions engage in the market knowing that they will be held accountable for the outcomes their decisions, it will help prevent risky decisions from taking place.

The global financial system is highly interconnected, which means that problems in one market can easily spread to others, triggering a total collapse. We have observed an improvement in financial conditions, but long-term economic challenges still remain\(^\text{97}\). In this sense, because it is difficult to oversee “a world of increasingly large and integrated financial markets”, instruments and a regulatory system that are consistent across markets are needed\(^\text{98}\) to prevent another black swan from appearing.

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Chapter 21

The Bright Side of the Global Financial Crisis

Elda Puka

Introduction

The world has become more and more interdependent. Therefore when shocks occur in a specific part of the world, their effects are spread and amplified globally, exposing everyone to risk. This was the case with the most recent financial crisis of 2007-2009, which was not limited to a specific location, a certain social class, or a particular sector of the economy. The crisis spread globally, and affected everybody. World history has seen several crises unfold. After the Great Depression, other minor crises have occurred over the last two decades: the US stock market crash of 1987, the Savings and Loans Crisis (late 80’s), the Japanese financial crisis of 1990, the Asian financial crisis 97-98, and the dot-com crash of 2000. But none of them has had such a big impact on the world’s economy.

This paper will not focus on finding whom to blame for what happened, but will rather look at the bright side of the crisis. It will try to answer the questions: “Did this crisis serve a purpose? Is there something to learn from it? Is there something to be done?” Because I believe that the best lessons in life are learnt from the bad and painful experiences, not from good ones. It was the severe panic of 1907 that brought up the need for a coordinated effort in order to end the crisis ⁹⁹; the need for a

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central bank. A few years later in December 1913, the Federal Reserve System was established. Emphasis will be given to the government role, as the only regulatory authority with the power of maintaining economic growth and stability. But there are lessons to draw from everyone, starting at the individual level, and I mean even the most uninformed individual. In order to do this, I will take a detailed look at what happened and confront it with the academic studies and debates.

**A short overview**

The main cause of this crisis was the subprime mortgage, which involves lending with low standards to risky borrowers, who understandably could not afford those mortgage obligations. The investment institutions innovated and heavily used new products, the “derivatives”\(^ {100} \) (such as mortgage backed securities, collateralized debt obligations, credit defaults swaps, etc.), in order to “manage” the risk related to these subprime mortgages. But that did not diminish the risk. It only transferred it through different parts of a big and complex financial system that was spread in different parts of the world. In fact, due to this global interconnection, it was countries in other parts of the world, which had in large part financed and fueled the debt boom in the US. The mortgage loan boom and increased demand for real assets lead to their overvaluation (the housing market) and created a housing bubble. At some point in 2007, the housing bubble burst. This caused some financial institutions, which were highly leveraged, to be at the brick of collapse. Many companies were left with little choice; they started to lay off employees, creating confusion

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\(^ {100} \) Derivatives are those financial instruments, which derive their value from the underlying asset. They are usually used as an instrument to hedge risk.
and anxiety in the job market. Rising unemployment\textsuperscript{101} (Exhibit 1), falling exports and frightened investors were the macroeconomic issues that accompanied the recession.

**Exhibit 1: Unemployment rate in US**

![Unemployment rate in US graph]

Source: Data from U.S. Bureau of Labor Statistics Updated: Apr 23, 2012

**A Detailed History of the Crisis – The Causes**

**The subprime loans**

The crisis traces its origins back to late 2000, after the burst of the dot com bubble and then the terrorist attacks of September 11\textsuperscript{th}. In order to restore the people’s trust in the market and stimulate the economy, the Fed lowered the federal funds rate, (which is the rates at which depository...
institutions lend to each other overnight) from originally 6.5% down to 1% in July 2003 (Exhibit 2).

Exhibit 2: Federal Fund rates

![Fed Funds Target Rate](source)

Lower rates meant that money was available at a low cost and this fact gave a spin to the mortgage loan boom. Lenders continued to lend heavily until there were no more good borrowers left. Then, they turned to subprime borrowers, those with a poor credit rating. The subprime borrowers were realizing their life’s dream. They could afford to buy a house with no down payment even if they had no job and no income. These loans were known as subprime mortgages. They usually cost two or three percent above those awarded to borrowers with less-risky credit ratings and had low ‘teaser rates’ for the first couple of years, followed by a reset to
much higher rates, which could raise the borrower’s monthly payment by as much as 100%. The growing demand for houses led inevitably to higher house prices. Although lending institutions were taking on more risk by lending to those borrowers who could not afford to pay back their obligations, they were satisfied as long as the houses were appreciating in value. After all, they could still get the house in case the borrower defaulted on his debt.

**Innovations**

At the same time, banks and financial institutions were trying to increase their profits through another method called securitization. “Packages” of loans with mixed degrees of risk were developed and sold to worldwide investors as financial instruments. They were called collateralized debt obligations or “CDOs”. In this way, high-risk subprime mortgages along with other types of debt were travelling from one financial institution to the other. CDO’s were not the only innovations that emerged. Along with them came the mortgage backed securities (MBS), credit default swaps (CDS) etc.

A new group of real estate speculators added to this turmoil. They got in the business of buying houses with intention to sell them off at higher prices.

**Deregulation**

Deregulation added to the chaos. “In October 2004, SEC relaxed the net capital requirement for five investment banks - Goldman Sachs, Merrill Lynch, Lehman Brothers, Bear Stearns and Morgan Stanley. They could now leverage up to 30-times or even 40-times their initial investment.\(^{102}\)

But deregulation in US started much earlier, in the 80’s. In December of 1986, for the first time, the Federal Reserve reinterpreted the Glass-Steagall restrictions\textsuperscript{103}. A bank could now derive up to 5 percent of gross revenues from investment banking business. The Federal Reserve allowed banks to handle commercial paper, municipal bonds, and mortgage-backed securities. Later, in 1996, this limit was extended from 5% to 25%. And again in 1999 the Gramm-Leach-Bliley Act was passed, removing all existing restrictions on the combination of banking, securities and insurance operations for financial institutions. A lot of companies were moving towards consolidation to become bigger and more powerful, offering a variety of financial products and services. The financial system grew bigger and more complex, especially during the boom years (2003-2006). The regulators, by relaxing lending standards, indicated that they were unable to see the risks involved in those innovative financial instruments.

**Risk assessment**

Similar to regulators, credit rating agencies and investors failed to accurately price the risk involved with mortgage-related financial products, simply because they didn’t understand the complexity of those sophisticated financial instruments. The risks were rapidly spreading from banks, which were supposed to know them, to other institutions that were less familiar with those risks. Moreover, the Credit Rating Agencies (CRA) relied on calculations provided by the issuers of those instruments, which indicates a direct conflict of interest.\textsuperscript{104} CRA’s are under the

\textsuperscript{103} The Glass-Steagall Act of 1933 had established a firm separation between commerce and banking in the financial world

\textsuperscript{104} Soros, George 2009 “The Crash of 2008 and what it means” pg.119
supervision of regulators, who should have been more careful in this regard. We see how many things relate to the regulatory authorities role.

The Housing Boom and the Burst

The situation became worse when interest rates started rising. From June 30, 2004, the Fed started raising rates so much that by June 2006, the federal funds rate had reached 5.25%. It remained at this level until August 2007.

By 2006, housing prices in the US had risen dramatically. This can be illustrated by the Schiller index, which shows the history of house prices, index-adjusted for inflation in the US, starting from the year 1890. Also in the chart are depicted the trends for building costs, interest rates, and population growth. As shown in Exhibit 3, the home price boom of 2006 could not be justified by any of these other trends.
Exhibit 3: The Schiller index

As subprime mortgage interest rates began to “reset”, many borrowers were unable to pay back their debts. This is when housing prices started to decline during 2006, primarily in California, Arizona, and Florida.

During February and March 2007, more than 25 subprime lenders filed for bankruptcy. In June 2007, two Bear Sterns hedge funds collapsed. According to a 2007 news reports, financial firms owned more than $1 trillion in securities backed by these now-failing subprime mortgages.

Banks and investment houses turned to governments to be bailed out. Lehman Brothers collapsed, while Bear Stearns and Merrill Lynch were taken over. The notion that all banks were...
"too big to fail" no longer held true, they were all at risk. As consumer confidence collapsed, so did the credit flows to the private sector.

In August 2007 the subprime crisis was evident and the problems spread beyond the United State's borders.

**Government Intervention – Global Response**

Announcements by international organizations, such as World Bank and IMF, in beginning of 2009 forecasted negative growth for the global economy for the first time since 1945. See Exhibit 4. The situation looked better for emerging countries, which experienced positive growth rates, although significantly lower when compared to 2008. The International Labor Organization predicted the loss of 51 million jobs worldwide.105

**Exhibit 4: GDP growth Rate**

![GDP growth Rate Graph](image)

Source: World Bank

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105 Varoufakis, Yanis. 2011 "The Global Minotaur" pg.159
In order to stabilize the economy and restore trust in the markets, monetary, fiscal and financial policies were initiated by individual nations. But, since the crisis had reached a global level, there was a strong need for a coordinated effort between countries. In the G20 summit of April 2009, many ideas were discussed, but there were differing and controversial opinions coming from the US and Europe on how to coordinate their actions. The US urged more countries to spend on fiscal policy stimulus, while European countries asked for sweeping financial regulations at a global level.

**Monetary policy**

One of the most popular tools that central banks used to stimulate the economy was to reduce interest rates to nearly zero percent. Nevertheless, Europe acted less aggressively than the US and the UK, because it feared that a drastic move would contribute to a rising uncertainty among people.

Another monetary tool was to apply quantitative easing measures. Central banks started to buy bonds from private financial institutions and businesses in order to inject money into the economy. Since interest rates could not be lowered below zero, by using quantitative easing central banks could directly affect the money supply. But, with all the above-mentioned measures, policymakers realized that monetary policy was not enough to encourage consumer demand. Therefore they initiated fiscal policy measures.
Fiscal policy

The IMF advocated additional fiscal stimulus to promote growth and cushion the effects of the global recession. “Fiscal stimulus” is the proposition that by borrowing money and spending it, the government can raise the overall state of the economy, raising output and lowering unemployment. The package is typically comprised of tax cuts, increases in infrastructure spending, and greater social safety net benefits. The IMF proposed increasing each country’s GDP by 2%. The US was the first to take action by approving a fiscal stimulus of $787 billion, accounting for more than 5% of GDP. China followed with 4 trillion yuan or $570 billion, representing 6% of China’s GDP.106

Many government officials (Obama, the Australian prime minister) urged for a more coordinated effort on a global level in terms of fiscal policy in order to recover more quickly. But not many nations were in the position to expand their fiscal balances. In fact, only five nations reached the IMF goal to increase fiscal stimulus by 2% of GDP and those were: US, China, Australia, Spain and Saudi Arabia.

The G20 leaders were called to support a $1000 billion stimulus package for the developing nations, whose situation were deteriorating, leading to political instability. These countries depended on international capital flows, which had seen a considerable decline because of the crisis. Investors had returned to US Treasury bills as an investment, which were considered risk free, since the US government had little chance of defaulting on its debt; therefore investment in developing countries fell.

Europe, on the other side, was against additional fiscal spending. It had already approved a 200 billion euro stimulus package in November 2008. Now it was time to focus on improving regulations, especially over hedge funds and private equity. A strong opponent of additional fiscal stimulus was Chancellor Angela Merkel of Germany, affirming that Germany already had a very generous welfare system and there was no need for additional government spending which would not resolve the situation.

**Protectionism**

In 2009, the WTO forecasted a 9% decline in exports, which was the result of lower demand from developed nations. This decline in trade was leading to another trend, namely, economic protectionism. 17 of the G20 countries had imposed trade restrictions to protect their own economies. WTO Director General urged the governments to avoid protectionist policies, which could in turn create rising unemployment.

**Proposed solutions**

An idea that was proposed to help the global economy recover was to secure loans from the IMF without stringent conditions in the form of Special Drawing Rights (SDR). Controversial debates on the IMF’s role were raised: should it lend to provide liquidity or should the IMF serve as an interlocutor between lenders (developed countries) and borrowers (developing countries). Critics blamed the IMF for aggravating the situation for the loan recipient countries by imposing harsh loan conditions on them. After the G20 summit, the developed countries promised to work on their financial regulations, while developing nations would create a new Financial Stability Board that would include all of the G20 members.
After gathering information about the global financial crisis and reading the literature, a natural question comes to my mind. Was the subprime mortgage debacle an external shock to the system that led to the crisis, or was it the system itself that caused the crisis? Bruner\textsuperscript{107} believes that all crises follow a certain dynamics, which goes through different steps: 1) the financial institutions will form a complex system 2) this system will grow unstable 3) an external shock to the system will trigger the financial crisis 4) the government will intervene. All of this happened during the global financial crisis. Only the shock that triggered the crisis – the decline in house prices - was not so unexpected after all. Being able to look back at all the factors that led to the housing bubble, we should have expected it.

Soros talks about a super bubble that had started much earlier\textsuperscript{108}. The long-term trend of excessive lending practices started back in the 1930’s as illustrated by Exhibit 5. The rapid growth of total credit to GDP ratio was reinforced after the 1980’s.

\textsuperscript{107} Bruner 2009
\textsuperscript{108} Soros 2008 pg.95
Exhibit 5: US Credit Market Debt/GDP

Excessive lending was combined with two other trends starting in the 1980’s; the globalization of financial markets and the progressive removal of financial regulation together with innovations. The global financial crisis was the infection of this long-term super bubble. The subprime crisis was what triggered the unwinding of the super bubble. Soros believes that markets do not necessarily trend to equilibrium if left to their own devices, because market participants are biased in their perceptions, and therefore prices will reflect their biases. That is why the role of financial authorities in supervising and regulating the markets becomes crucial.
This is consistent with Minsky’s financial instability hypothesis. Minsky believes that economic stability will always lead to financial instability, because when the economy is doing well, market participants will engage in riskier activities in exchange for a higher return. As the riskier financial units (highly leveraged) dominate the economy, it will gradually transition to an unstable state. Financial deregulation has in large part fueled this transition, by relaxing lending standards. During 2003-2006, the subprime mortgages and financial innovations boomed, asset prices inflated, the economy was growing and yet becoming riskier; instability was replacing stability. This was the forward journey. After reaching its peak in August 2006, it entered the reverse journey phase, where everything was deflating and riskier financial structures were replaced with more solid ones to gradually restore stability again (2007-2009). Again the role of government becomes very important. It should follow a countercyclical policy in order to regulate markets and maintain stability.

By countercyclical, Minsky means that during boom periods, the government should strengthen the rules, should tighten lending standards and keep an eye on financial innovations, which was contrary to what happened in the US. On the other side, when the economy is in recession, the government should help restore confidence by exerting its monetary and fiscal policies. At the same time it should let the deflationary process unfold to find the bottom of asset prices. In fact, after the approval of the US stimulus package in 2009, unemployment started to diminish month after month. China did the same, and its economy recovered much faster, probably because the fiscal stimulus was larger per GDP share. It is true that government debt increased due to fiscal stimulus, but the money went in the right direction. Investing in infrastructure, in research, in


medicine surely has a positive impact on GDP growth, and it creates jobs. Relaxing the tax burden certainly helped rebuild trust among people.

**Conclusion:**

To summarize all this analysis, I would say that the global financial crisis has a bright side after all. The crisis helped us to discover the big problems hidden under the highly leveraged “Too big to fail” companies and their innovative instruments. It cleaned up the system. Now they have become much more careful in their lending practices. The fall of Lehman Brothers served as an important lesson to the other big financial institutions. The government is not a capital provider of last resort, no matter how big and powerful a company is.

At the individual level, an important lesson that the crisis taught us is “to live by your means”. Next time, when the banking system gets crazy and offers you loans with teaser rates and no down payments, you should think twice before accepting; you have already been through this. The crisis caused us to look back in time and discover the super bubble trends starting in the 1930s. Excessive lending practices over the years (starting in the 1930s) combined with deregulation, innovations, and globalization of financial markets (1980s) slowly created the bubble and proved to be disastrous.

The crisis also served as a hint to question market fundamentalism theories. To what extent are markets really efficient? We used to believe that price is always right since it reflects all publicly available information, and we built our models based on those assumptions. But now we have become more skeptical of the market’s ability to adjust and find equilibrium if left to its own devices.
Another lesson learned is that everything follows a cycle; nothing can grow indefinitely. Therefore the government’s role as a regulator becomes crucial. It is countercyclical policy that is necessary to maintain stability and lower the amplitude of economic cycles. Deregulating when the economy is growing will only lead to the creation of asset bubbles, which will later inevitably burst. And forcing overleveraged countries with harsh austerity measures is again a cyclical, not countercyclical policy. It will only destabilize them further and they will enter a vicious circle, from which it’s difficult to come out. Consider that Greece's austerity, as a means to decrease its debt, has exacerbated its unemployment crisis and has triggered political instability.

Furthermore, this global crisis demands a global solution. It is a fact that when the economies of Europe and China do poorly, it is reflected in the US stock market as well, and vice versa. We are interconnected to each other. Therefore something has to be done at an international level so that we can all prevent a future crisis. I would suggest that cooperation at an international level should be exerted in terms of financial regulations. Also a greater interaction between central banks and banking supervisors should be acquired, since they play a key role in maintaining financial stability.
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Chapter 22

A Little Commonsense Goes a Long Way: Lessons Learned from Studying the Financial Crisis:

Eric Arthur Pinsoneault

Introduction:

The most recent economic recession affected almost everyone living in the United States in some way. The most dramatic news could be found in the newspaper, which reported on such sensational stories as the collapse of Leman Brothers, the bail out of insurance giant American International Group (AIG), and the dramatic decrease in the Dow in 2008. The stories which resonated with most Americans however were personal ones. In my own life I saw the effects of the financial crisis all around me. In September 2008 I had invested several thousand dollars in mutual funds to help finance my upcoming graduate business education. One month later my investments had lost 35% of their value. Shortly afterward, a close friend informed me that the home he had purchased for him and his wife only one year prior had lost so much value that, at the time it was worth less than the outstanding mortgage he held. My roommate, who worked in construction, lost his job a month later. Two more friends were laid off in the following 3 months. That summer the father of a coworker jumped from a seventh story window in an attempt to take his own life after finding out his retirement savings had lost nearly half its value. These are just some of the personal stories that illustrate how the financial crisis shaped my life and the lives of those around me.

Given the negative impact that the recession has had on so many, it is natural to want to assign blame. It is also natural to want to understand what caused the crisis so we protect ourselves
when it happens again. I have had the opportunity to learn about the financial crisis in a very unique way. In 2009 I enrolled in business school where I studied finance at a time when the value of our entire financial system was being called into question. I also worked with a professor of finance at my university, helping him edit a series of papers written by students which document their individual beliefs and perspectives regarding the financial crisis. I drew some very important lessons about the crisis from these experiences.

After analyzing the financial crisis from this unique perspective, I believe that we are all at fault in one way or another for the events that lead up to the crisis. Blame can be placed on almost every actor in the economy, from investment banks, to the United States Government, to individual investors and home owners. I also believe that a little common sense can go a long way towards preventing a crisis of this magnitude from occurring again. In this paper I will briefly discuss some of the primary factors which led to the financial crisis. I will then outline a few lessons I have learned from my personal experience, my studies while in business school, and my work reviewing the analysis of other emerging business leaders.

An overview of the financial crisis:

The first thing that any student studying finance learns is that the purpose of the U.S. financial system is to connect people who have excess money with people who need to borrow money. In essence, borrowers pay interest, lenders earn interest, and financial institutions such as banks act as intermediaries, connecting these two groups and take a cut for their services.

The next thing that any student of finance learns is that the financial system in the United States is far more complicated than that. Financial innovations dreamt up by Wall St. whiz kids have
made the U.S. financial system one of the most robust in the world. The ways in which borrowers are being connected with lenders has moved past depository institutions and stocks and bonds. However, all of this has come at a price.

At the heart of the most recent financial crisis was the collapse of the housing market. Prior to the financial crisis the housing market had been demonstrating signs of a financial bubble. In short, prior to the crisis, the cost of existing houses had increased to an unsustainable degree. As the Case Shiller Home Price Index illustrates, in July of 2006 the price of existing homes reached a breaking point where the price of existing homes was higher than what buyers were willing to pay. The market subsequently collapsed.

The collapse of the housing market was notable for many reasons; the most pertinent in the case of the financial crisis was the fact that home mortgages were intricately woven into the U.S. financial system through investments called Mortgage Backed Securities (MBS). It is these securities that have been largely cited as one of the main causes of the financial crisis.

A full explanation of how MBS work is beyond the scope of this essay. However the basics are as follows; numerous mortgages are purchased by investments banks from the actual banks that issued them. These mortgages are “pooled” together. This pool of mortgages generates a stream of mortgage payments on a monthly basis. The investment bank splits this pool of mortgages into pieces and sells off ownership rights to the streams of income in the form of securities. In the lead up to the financial crisis MBS were seen as high quality, low risk investments and were purchased in large quantities by insurance companies, pension funds, and other institutional investors.
The “packaging” of mortgages into securities seems like a great idea, and in many ways it is. Neighborhood banks are able to sell off the mortgages they issue, increasing the liquidity of their balance sheet. Investment banks have, in theory, an investment product to offer their customers which are backed by actual assets, and investors have the opportunity to invest in the mortgage market which had previously been accessible only to banks. While this idea sounds good, the fact is that it became too complicated.

Without going into detail, the issue with MBS was that the originating banks issued many mortgages to “subprime” borrowers, or people with poor credit. These mortgages ended up in the “pools” of mortgages which were then packaged into MBS. When the housing market collapsed it became obvious that many of these mortgages would never be paid back, and thus the value of the MBS which contained these mortgages was called into question. Since many investment banks and insurance companies held massive amounts of MBS, many of these institutions incurred large losses which destabilized the entire financial system.

Keep it simple:

Mortgage backed securities failed because the complexity of these products made it impossible for investors to appreciate the risks they were assuming by holding these securities. The lesson that I take away from the downfall of the MBS market, which I apply to my own personal finances, goes back to a phrase which my grandfather used to say. Whenever I became overwhelmed my grandfather would always advise me to “keep it simple”. His point was that unnecessary complexity is confusing and often limits our ability to understand the risks we are assuming. Since the collapse of the financial crisis I have applied this advice to my finances and
investment decisions. Now, when I make investment decisions, I give preference to simple transparent investments that I understand completely.

I mentioned earlier in this essay that my first investments, made during the financial crisis, lost 35% of their value in one month. These investments were all mutual funds which I had purchased on the recommendation of a financial adviser. I made these investments prior to attending business school. At the time I didn’t know how to read financial statements, and had no idea what companies these mutual funds were invested in. I blindly trusted these financial products, without making an attempt to fully understand how they worked and where the returns came from. The same can be said for many of the individuals and institutions who invested in MBS.

Since the financial crisis, the only investments I have made have been in certificates of deposit and stocks issued by audited public companies, whose business models I understand entirely. I am reasonably confident that I can assess the risks involved in these investments, and calculate their return myself. I suppose that the financial crisis has made me more cautious. It has also taught me that we are all responsible for understanding where our money goes when we interact with the financial system and how these interactions with banks, pension funds and the like can expose us to risk.

So how do we apply the principle of simplicity to the mortgage market? I have a proposal for an alternative financial product that would provide liquidity to banks while allowing investors to keep it simple. Why not sell shares of individual mortgages to individual investors? As I mentioned before, when multiple mortgages were “pooled” by investment banks, this made it impossible for holders of MBS to fully comprehend their investment’s risk. Evaluating these
securities would have involved assessing the credit worthiness of thousands of mortgage holders; a process that would have been too time-consuming. So why not allow investors to buy a portion of individual mortgages. Like public companies, we could require homebuyers to submit to an annual audit to verify income and credit worthiness. Banks could then split these individual mortgages into several pieces and sell them off to individual investors. While this type of product wouldn’t provide the type of scale that would interest firms on Wall St., it would allow investors to clearly understand the risk of a particular security. I won’t be investing in the mortgage market anytime soon, but in the future I think most of us could benefit by following my grandfather’s advice and keeping it simple.

**Don’t buy things you can’t afford (or encourage others to do so):**

Besides my grandfather, another person that I turn to for advice is my mother. One of the best pieces of advice I have received from her is that I should always try to live within my means. One of her simple, timeless adages is “don’t buy things that you can’t afford”. This concept is another lesson that I have learned from the financial crisis. I believe that the financial crisis was caused, in part, by our government’s efforts to encourage low income citizens to purchase homes which they could not afford.

In addition to investment banks, the United States government played a key role in the financial crisis, mostly by encouraging banks to issue mortgages to people who could not afford them. The government has intervened in the mortgage market since 1932, with the passage of the Federal Home Loan Bank Act.\(^\text{110}\) Since that time the government has, in one way or another, attempted

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to assist citizens with the goal of homeownership. More recently, in 1977, the Federal government passed the Community Reinvestment Act (CRA) which was aimed at insuring that banks serve the “entire community”. This act requires banks insured by the government to issue a certain number of loans to low and middle income borrowers. After this act was passed banks could no longer evaluate mortgage applications on credit worthiness alone, but also had to consider the governments requirement of issuing a certain percentage of loans to low income borrowers. 111

The United States government also attempted to increase home ownership by creating two government sponsored entities (GSE); Fannie Mae and Freddie Mac. Fannie Mae was created in the 1930s as part of then President Lyndon Johnson’s New Deal. 112 Freddie Mac was created by congress in the 1970s. 113 Both of these institutions were designed to increase homeownership by creating a secondary market for mortgages. Essentially, the government created these two institutions to buy mortgages from banks so that banks would have the funds to issue more mortgages. Both entities explicitly state that supporting affordable homeownership is part of their mission. Since these two GSEs purchase mortgages issued by banks, they then assume the risk of default. This eliminates bank’s incentive to deny home loans to risky borrowers. In the build up to the financial crisis this scenario led to very risky lending which ultimately destabilized the financial system.

111 Peter J. Wallison, “The True Origins of This Financial Crisis,” The American Spectator February, 2009: 2
The passage of the CRA and the creation of Fannie Mae and Freddie Mac have been identified as primary factors which fueled aggressive mortgage lending. By requiring banks to lend to low income customers, and then creating entities to provide the liquidity to fulfill this mandate and absorb much of the risk created by this activity, the government has encouraged the relaxation of lending standards. Ultimately this led banks to issue mortgages to people who could not afford them. Encouraging banks to serve the whole community is an altruistic goal worth supporting, but not at the expense of the stability of our entire financial system. The government should make attempts at ensuring that citizens have access to affordable housing. However government policy should not encourage citizens to stretch themselves thin financially. My mother always told me that I shouldn’t buy things which I cannot afford. This is common sense wisdom that our government may want to consider.

**What goes up must come down:**

Sir Isaac Newton, the influential mathematician is quoted as saying “what goes up must come down”. In economics and finance this principle holds true in regards to investments. One of the most basic concepts that we learn in economics is the idea of supply and demand. One underlying assumption of this theory is that the price of a product will affect demand for that product. As the price of a product rises, demand should fall as fewer and fewer consumers are willing or able to purchase the product. Theoretically, there is a price point at which demand for a product will cease. This same logic can be applied to investments.

As I mentioned earlier, the collapse of the housing market is widely credited as one of the primary triggers which ushered in the financial crisis. The reason that the housing market collapsed was because the average price of existing homes had increased to the point where
many buyers were no longer willing to participate in the market. This dramatic increase in price is mostly the result of a shift in the way that many viewed homeownership. In the run up to the financial crisis, and still today, homeownership was viewed by many as an investment, rather that the acting a satisfying a basic need.

After the dotcom bubble of the late 1990’s, many investors learned the hard way that internet companies were not the golden investment many believed them to be. Many investors subsequently went searching for yet another investment that provided high returns. This time however, safety and the preservation of capital were paramount. Many investors believed that they had found this combination of high returns and safety in the housing market. The notion that investing in the housing market would produce high returns was based on observations of recent history. From 1997 to 2004 real home prices rose 52%. The housing market was also seen as safe because any investment was backed by an actual asset. However, the belief in safety and high returns was also reliant on another critical assumption; that the value of existing homes would continue to increase in the future. It was this assumption that proved fatal to those investors who believed that they had finally found a perfect investment.

As I mentioned previously, the value of existing homes eventually fell as the bubble in the U.S. housing market burst. Those investors who had purchased homes in the hopes that they would continuously earn above average returns from their speculative activities were left holding assets that had lost value after all.

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What would Sir Isaac Newton have thought about the collapse in the U.S. housing market? If he were alive today would he have put his excess money in housing with the hopes of earning a return, or would he have applied his observations of gravity to the financial markets? The lesson that I have taken away from all of this is simple. It is a rare, if not non-existent investment that will appreciate indefinitely. Common sense would lead us to the conclusion that all investments can be bid up to a price at which demand will cease. One could reason that this would be especially true of investments that are popular and have already experienced a dramatic run up in price. As Sir Isaac Newton said “What goes up must come down.” It seems that the laws of gravity are as relevant to the financial markets as they are to the physical world.

**The take away:**

There are many lessons that we can draw from living through the financial crisis and the recession that followed. The lessons that I mentioned above are just a couple of the most important lessons that I have taken away from the financial crisis and applied to my own life. After witnessing how financial complexity obscured investors understanding of risk, I will always ensure that I chose simple investments which I can understand completely. After observing how our government’s actions inadvertently led to reckless financial behavior by encouraging people to live beyond their means, I will always ensure that I don’t buy things which I cannot afford. And when I make investment decisions I will not be lured by the false promises of investments that offer indefinite price appreciation with little to no risk. When making choices in the financial markets, we should apply the same logic and wisdom which we have learned from other facets of life. In finance, as in life, a little common sense goes a long way.
Moral Hazard Implication of Government Bailouts

Anders Kristiansen

Introduction

In this paper, I'll investigate how government intervention, especially bailouts, have worked in the recent Global Financial Crisis and what consequences this may have had for the economy. I'll start by looking at the essential theory behind a bailout and go back in history to look at how governments have worked in previous crisis. My primary focus will be on the Great Depression and the New Deal implemented in United States from 1933.

There are different opinions by economists on how much the government should intervene in a crisis and try to rescue the economy. According to Laurence B. Siegel, government intervention mostly does not mitigate risk, rather it moves risk elsewhere and government intervention and bailouts creates moral hazard. Robert J. Shiller also thinks that government bailouts encourage moral hazard, but he also argues that bailouts of some sort are a necessary solution to the Global Financial Crisis. On the other hand Paul Krugman is of the opinion that government intervention
is necessary to rescue the economy. I'll look at these opinions and explain how government interventions encourage moral hazard and examine the dangers of that.

After I’ve looked at these different opinions about government intervention, I move on to examine why the government let Lehman Brothers declare bankruptcy while the government offered aid to Bear Stearns before the bankruptcy of Lehman Brothers and also offered aid to AIG, Fannie Mae and Freddie Mac, Citigroup, and many other financial institutions. I’ll investigate if this could have something to do with the problem of moral hazard.

At the end of this paper, I’ll discuss the use of government bailouts and the consequences of these bailouts. First I’ll look at how the government’s actions had driven up debt, and second and probably most important I’m going to discuss the moral hazard implication of government bailouts.

**What is a bailout?**

The essence of a bailout is that a government, institution or individual offers a service to a tumbling business in order to prevent its failure. An often used explanation of a bailout refers to a parent who offers a late-night meal to a child who is complaining because he is hungry after he has refused to eat with the rest of the family at dinnertime (Shiller, 2008). A bailout can take many forms, e.g. a loan to troubled business, lowering interest rates, tax rebate etc.

A problem with a bailout is that it is quite unfair to those who act responsibly and do not get into trouble, and in the case of government or Fed bailouts it is often the taxpayers who suffer and needs to pay higher taxes to finance the bailout. Of course if the government or Fed doesn’t have any losses no one will have to pay. One example of that could be if the Fed offered securitization
for subprime loans and no foreclosures occurred. But the problem is that when the Fed or the
government offers a bailout there often isn’t a market for it, thus the Fed is taking a risk that is
higher than the market will handle. Therefore it doesn’t seem quite fair to expect that the Fed
will not lose money on the bailout, and this means that someone will have to pay the bill, and
this is typically the taxpayers. Some economists also argue that bailouts have another negative
effect, namely they encourage moral hazard, but before I’ll go further with that topic, I’ll start by
looking at a previous example of how the government in United States intervened in The Great
Depression.

The Great Depression and the New Deal

There is no doubt that The Great Depression is one of the worst crises the world has ever
experienced and as a response to the crisis the government and President Franklin D. Roosevelt
introduced numerous programs through the New Deal, which had its background in Keynesian
policy (Siegel, 2009). I’ll only go through some of the programs, and the first to mention is the
Home Owner’s Loan Corporation (HOLC), which was created in 1933 by the Congress with
Franklin D. Roosevelt as the new president. The HOLC was lending to local home-financing
institutions and took the riskiest home mortgages as collateral. The organization also created
loans with a longer loan period up to fifteen years, and the loans were both fixed-rated and self-
amortizing, which meant that the homeowners paid a steady monthly payment instead of a large
payment at the end of the loan period. The same year the Glass-Steagall Act was created and this
separated banks into two kinds: commercial banks and investment banks. Commercials banks
accepted deposits and were sharply restricted in risk-taking. They had also ready access to credit
from Fed, and most important, the deposit was insured by the taxpayers. Investment banks were
only slightly regulated, since non-depository banks should not be subject to bank-runs. A year later the Federal Housing Administration (FHA) was created, and this organization went even further than HOLC by raising the maturity on the mortgages to twenty years. Also in 1934 the Congress introduced the Securities and Exchange Commission (SEC), a regulatory body with the primary task of making the financial sector work again. (Shiller, 2008)

As we will see later, economists disagree about whether the government should intervene when crisis arise, and this is the same case here when the New Deal is discussed. According to Laurence B. Siegel (Siegel, 2009) will we never know whether the Great Depression was relieved or prolonged by the New Deal, since government intervention in the economy is not a controlled experiment and there is a general consensus among economists including Siegel that it was World War II that ended the Great Depression and not the New Deal. In fact Siegel argues that many programs in the New Deal worsened the Great Depression instead of hastening its end.

However, not all economists agree with the explanation that it was WWII that ended the Great Depression, and Robert Shiller (Shiller, 2008) finds the policy responses to the Great Depression as inspiration for the solutions to the Global Financial Crisis; and this is clearly the opposite opinion of Siegel. According to Shiller, it was really important that not only the private sector went through major innovations, but that the public sector did as well. And it wasn’t only a one man work, the entire population tried to understand the crisis and changed the infrastructure of the United States economy, and this resulted in the organizations that I’ve previously talked about. The New Deal is not necessarily the right solution for this crisis, but it is crucial to the solution that people are not afraid of thinking and acting on the same level of the New Deal reforms.
Thoughts about government bailouts

There are several opinions about government interventions and bailouts, and why governments should or should not intervene under economics crisis. In this section I’ll discuss different views and explain how government intervention encourages moral hazard, and why this can be a problem for economic growth.

It is necessary for an economy to grow in order to be a well-functioning economy, and this can be done by private vices, but only to a certain point. However, private vices are self-controlled, as there is a chance of losing money, if you’re too greedy and take on high risk. But this self-controlled behavior is going to diminish, when governments intervene and this is one of the main problems of using government bailouts because they encourage too much moral hazard. Thus, individuals may begin to act irresponsibly, since they are protected from the consequences of taking higher risk by the government’s rescue, and this is of course a big problem for the economy, since it encourages undesirable behavior. Thus, a common consequence of government interference in order to control business cycles and achieve a riskless society is that private vices no longer produce public benefits.

According to some economists (Siegel, 2009), risks are an important factor to produce economic growth. Thus, people should be willing to pay a price for risk and growth and instead learn to manage risk and not try to hide it, as a riskless society is impossible and infinitely expensive to obtain. But there is a major problem to avoid the government intervention, as people don’t tolerate downturns, and since politicians are elected by the general public, many politicians are more willing to let the wishes of the public become true, than they are likely to do the right thing for the economy, and this encourage moral hazard. Thus, to avoid moral hazard it is necessary
that the public becomes more tolerant of the ups and downs, especially downs, and not punish the politicians when they are making difficult but necessary decisions that sometime allow downturns to happen.

To stay at the same mindset, it can also be argued that downturns and recessions are good, as they “clean up” the markets, as the demand typically is shrinking in downturns, and then the markets regulate prices, wages etc. and only profitable firms will survive. This mindset is the basic concept of a free market and therefore the government should not intervene when downturns and recessions happen, since it is only sound for the economy to get rid of the unprofitable firms. Then the economy becomes more efficient and those that survive may come out stronger than before the downturn. This theory is often referred to “the cleansing effect of recessions”. If we look at the Global Financial Crisis the most prominent firm that underwent the cleaning effect was the investment bank Lehman Brothers, which declared bankruptcy on September 15, 2008. However, this bankruptcy created a massive panic in the financial markets, thus, the government took action, as I’ll talk about later in this paper, but the intervention has only pushed the risk further away and not solved the problem.

But not all agreed with the thinking that government intervention isn’t necessary, and one of the spokesmen for government intervention under the Global Financial Crisis is Paul Krugman. He is a spokesman for Keynesian economics and argued that the solution to the credit squeeze under the Global Financial Crisis was to put more capital into the financial markets and compared it to one of the solutions to the Great Depression, where the Reconstruction Finance Corporation recapitalized the banks by buying some preferred stocks. This recapitalization has to be at a certain size before it will have an effect on the economy, and may come close to a full temporary
nationalization of a part of the financial sector. It is not a long-term goal, but Krugman argues that it is important to loosen credit, thus, purchasing stocks by the government could be a good instrument to help alleviate the crisis. A government intervention could also be the solution to the credit crunch. But bringing the credit markets back is not enough and according to Paul Krugman (Krugman, 2009), the economy needs some Keynesian fiscal policy to get back on track.

In the middle of the two mindsets we have some economists including Robert J. Shiller, who have concerns that government bailouts encourage moral hazard, but despite the negative consequences it may have; they find bailouts necessary as a short-term solution given the Global Financial Crisis. The politicians need to react to prevent some economic disaster that will create a long-term distrust of the economy and thereby recreate the Great Depression and the following consequences, whereby World War II is the worst example. Here it can be argued that the governments in Europe didn’t intervene enough, if you believe that World War II was a consequence of the Great Depression; since the war had its epicenter in Europe and specifically Germany. And in opposite to the missing reaction, the U.S. implemented the New Deal and this may have had a positive effect on the social consequences. Thus, economics crises have economic as well as social consequences. Hence, Shiller argues that we must act as an integrated society and protect everyone from major catastrophes and prevent existing problems from spreading further, and this should to be done despite the unfairness of bailouts to those who have acted responsibly and didn’t receive them.
The missing bailout – Lehman Brothers

As I’ve talked about in the previous section, the government has the opportunity to let the market clean itself by the market actions or intervene by using bailouts when the economy undergoes a downturn. It is clear now that the government selected the last opportunity, namely bailouts, but in one case they remained passive, and that resulted in bankruptcy of Lehman Brothers on September 15, 2008.

I’m going to start with Lehman Brothers, and explain the story in short line. Lehman Brothers declared bankruptcy September 15, 2008, but the beginning of the end took place some days before (Financial Times, 2008a), then the stocks of Lehman Brothers fell dramatically and dropped 45% September 9, 2008, as you can see in Exhibit 1, after some reports cited that the Korean Development Bank (KDB) decided not to invest in Lehman Brothers, after rumors that KDB would take 50 percent stake in Lehman. On September 10, Lehman announced a loss of $3,9B in the third quarter. The days after, the stock plunged further, and several banks discussed a potential takeover of Lehman, but the Fed signaled that it wouldn’t use money from the taxpayers to help a takeover, despite the fact that the government and Fed helped JPMorgan Chase to fund its purchase of Bear Stearns a half year before. In the weekend before the bankruptcy, several solutions were discussed, but Barclays denied a potential takeover, as the government and Fed refused to help. However, the authorities continued to press for a private solution, but the other potential buyer, Bank of America, turned around and instead they bought Merrill Lynch for $50B. Thus, at the end, the only solution was for Lehman Brothers to declare bankruptcy.
Exhibit 1 – Stock price of Lehman Brothers September 8-16

Source: finance.yahoo.com

But why didn’t the government and the Fed rescue Lehman Brothers when they helped JPMorgan Chase to buy Bear Stearns and the day after the bankruptcy of Lehman, the Fed announced a bailout for the insurance company, AIG. The explanation from Treasury Secretary Henry Paulson, Federal Reserve Chairman Ben Bernanke etc. was that Lehman Brothers had a lack of collateral, and this was the key problem, as the Fed could only make a loan if collateral supported it, and in this situation a loan would only be lending into a run (Valukas, 2010), and they wouldn’t use the taxpayers money. They also believed that Bear Stearns posed a greater risk, and the markets were more ready for a failure of Lehman Brothers. However, I think that is quite difficult to say whether the markets were ready or not for a failure, but as it can be seen in Exhibit 2, the S&P 500 index plunged more than 4% the day of the declared bankruptcy by Lehman, and it is impossible to forecast how the markets would have reacted if the government
let Bear Stearns declare bankruptcy, but it is certain that the bankruptcy created some form of panic.

**Exhibit 2 – S&P500 index September 15**

![S&P500 index chart](http://finance.yahoo.com)

Since it is quite difficult to measure whether the markets were ready or not, another explanation for the missing bailout arrived. It may be able to be explained by moral hazard, but that poses another question. If the reason for the missing bailout is that the government feared moral hazard, why did it save AIG only few days later? The explanation may have its background in both the explanation from the U.S. authorities and the fear of moral hazard. From the outside it looked like the U.S. authorities decided that it was necessary to have a black sheep to show the whole financial sector that the financial institutions cannot take infinitely high risks and the government cannot and will not rescue them all. Thus, U.S. authorities selected Lehman Brothers as the black sheep to teach the market a lesson about moral hazard, but why did they pick
Lehman? The answer to that, may be found in the previous explanation by the U.S. authorities, namely that the cost and risk of letting Lehman Brothers declare bankruptcy was quite low compared to letting Bear Stearns or AIG declare bankruptcy, but even if this is the right answer, it seems quite odd that the government decided to rescue Bear Stearns by the same method that could have led to an agreement between Lehman Brothers and Barclays.

**Bailouts during the Global Financial Crisis**

Despite that the government let Lehman Brothers declare bankruptcy, they acted actively in the Global Financial Crisis and created Quantitative Easing 1 & 2, and before that the government helped JPMorgan Chase to fund its purchase of Bear Stearns. In this section I’ll go through some of the most important actions from the government and discuss how these actions had an effect on the U.S. economy.

One of the first actions by the government was on March 16, 2008, when the Federal Reserve Bank issued a nonrecourse loan of $29B to JPMorgan Chase through acquiring mortgage backed securities, so that JPMorgan Chase could fund its purchase of Bear Stearns. It is notable that the market value of these MBS was $27B at November 26, 2008 (Barth, 2009).

Only one day after the bankruptcy of Lehman Brothers, AIG received an $85B two-year secured loan from Fed, in exchange for warrants for a 79.9 percent equity stake in AIG. The Commercial Paper Funding Facility (CPFF) was created in October, 2008, and AIG was given a $58.7B credit line under CPFF. Also, on November 10, 2008, the Treasury purchased $40B of newly issued AIG stocks under the Troubled Assets Relief Program (TARP), which reduced the original loan to $60B. And I could continue with examples of offerings to AIG.
On November 25, 2008, the Fed announced the purchase program of obligations of the housing-related government-sponsored enterprises (GSEs) – Fannie Mae and Freddie Mac, and the Federal Home Loan Banks and MBS backed by Fannie Mae, Freddie Mac, and Ginnie Mae. This bailout was a part of the Quantitative Easing 1, and the purchase was up to $100B in debt obligations.

The last bailout I would like to mention is the Troubled Assets Relief Program (TARP), which was used to purchase the stocks from AIG and also Citigroup. This program allowed the Treasury to purchase up to $250B of preferred stocks in selected banks, and half of the amount was earmarked to nine of largest U.S. financial institutions. I could continue to remark on government bailouts during the Global Financial Crisis, but I’ll move on to look at the consequences of these bailouts.

Before looking at the moral hazard implication of government bailouts, I’ll start by looking at how these bailouts drive up the debt. The Global Financial Crisis have contributed to a significant increase in the federal public debt, as it can be seen in Exhibit 3, and this is partly due to the government bailouts, I’ve looked at before. The problem with this increasing debt is that, the bailouts were primarily used as a short-term solution to the crisis, and therefore the government has a big challenge for the future, since the recent crisis may have shown that some large and drastic changes need to be done. Of course the debt-to-GDP ratio has been increased due to the slowing growth in the U.S. economy, but the debt has also increased, and the latest QE2 has contributed to this. One may conclude that such an aggressively short-term intervention by the government has created a concern for some potential long-term solutions and decreased the liberty of action.
Was the Global Financial Crisis worsened by government bailouts?

As I’ve described, the government used many bailouts throughout the crisis, but this may have worsened the crisis and did not have the expected effect on the economy. And was it actually the government who created the crisis? This is a question I’ll try to answer here at the end.

Using the interest rate to control the economy is a way in which the Fed and government are able to intervene, and before the crisis began the interest rate was quite low, and the low interest rate may have been a cause of the crisis, as this was a part of the creation of the housing bubble, since more and more people and institutions believed that the low interest would stay at that level, and then they took some more risk and the house mortgages became riskier and house prices increased. The Fed began to raise the interest rate, and this triggered the housing bubble to burst.
in 2006/07. Also the government-sponsored enterprises Fannie Mae and Freddie Mac failed, and were maybe one of reason why it ended so badly.

You also need to ask yourself whether previous bailouts had encouraged moral hazard, and this could have led to higher risks, if everybody expects to be saved if they fail. It is of course quite difficult to measure, but I think that, if you’re insured you will always behave more irresponsibly than if you’re not insured, and if this is right, then previous bailouts are one of the reasons why it went wrong.

Thus, the government and Fed intervention could have been one of the causes of the Global Financial Crisis, but did it also worsen the crisis? One of the responses to the crisis was the Economic Stimulus Act of 2008. This gave a tax rebate of over $100B to individuals and families, but as economic theory predicted, it didn’t jumpstart consumption as was intended. According to economic theory, consumers internalize the government budget constraint and therefore a tax rebate doesn’t help, since the consumers know that they have to pay the money back in the future. This is known as the Richardian Equivalence. Milton Friedman’s permanent income theory also shows that temporary tax rebates don’t lead to significant increase in consumption. Another policy by the government was to decrease interest rates, but the most remarkable effect was the higher oil price and the depreciation of the dollar, and this didn’t help the economy get back on track.

As we’ve seen, it is possible that the government and Fed were guilty in the creation of the Global Financial Crisis, at least to some extent, and the bailouts may not have helped, but what are we going to do now, since we have seen a lot of bailouts? Will this encourage moral hazard in the future, when the Global Financial Crisis is over? The government and Fed have may have
tried to avoid moral hazard by letting Lehman Brothers declare bankruptcy, but I doubt that it is enough, as they have rescued many others financial institutions. One argument against the idea that moral hazard can be a problem in the future is that the crisis has hit the economy hard enough and people are afraid to take high risks. But that argument could also have been used before the Global Financial Crisis, since the world had experienced the Great Depression. This problem will maybe be the same in the future, if the government intervention continues at the same level, and then people really don’t care about the history.

I do not say that the government should not intervene at all, but instead the government has to implement some long-term solutions and try to prevent the crisis instead of acting as a fireman when the house is burning down. Of course it can be necessary in some instances to react quickly, but in overall terms the politicians need to think long-term and not only be concerned about the next election. Then, hopefully we will not undergo the same crisis again.

**Conclusion**

I’ve now looked at the Global Financial Crisis, and the moral hazard implication of government bailouts. I have explained the term bailout, which is assistance from the government to a distressed company. As I explained, the problem with bailouts is that they encourage moral hazard. Bailouts were used during the Great Depression, as the New Deal was implemented, but not everyone thinks that the New Deal ended the Great Depression and instead they believe that it was World War II that ended it, while some economists argued that the New Deal could be an inspiration for the solutions to end the Global Financial Crisis.
In general, there are different opinions about government intervention and bailouts. Siegel argues that people have some self-controlled greed that creates economic growth, but when governments intervene, people begin to react irresponsibly and the government intervention encourages moral hazard. On the other hand, Krugman argues that the New Deal can be an inspiration for the solutions to the current crisis, and purchasing stocks by the government, as we actually have seen, could be a good instrument to loosen credit. In the middle we have Shiller, who thinks that bailouts are necessary now to rescue the economy, but he also sees the danger by using government intervention, since it encourages moral hazard, and we need therefore to be careful by using such instruments.

The government has been very active during the Global Financial Crisis, but in one case they remained passive, and let Lehman Brothers declare bankruptcy. The explanation from the U.S. authorities was that Lehman Brothers had a lack of collateral, and this was the key problem, but the true explanation may have its background in moral hazard, as the U.S. authorities wished to create an example and show that they will not rescue them all.

As mentioned, several bailouts took place under the Global Financial Crisis, and one of them was the rescue of Bear Stearns, thus JPMorgan Chase could fund its purchase of Bear Stearns. This bailout was only one of many, and aid to Fannie Mae and Freddie Mac, AIG, and Citigroup are only some of the others. But previous bailouts may have caused the Global Financial Crisis, or at least to some extent, since bailouts could have encouraged moral hazard and then people were more willing to take risks. The intervention during the crisis may have also encouraged moral hazard, and I don’t think that letting Lehman Brothers declare bankruptcy is enough to avoid moral hazard in the future. Therefore, the government needs to change the direction of its
policy, and try to implement some more long-termed solutions instead of trying to save a burning house. Otherwise, we will probably repeat the same mistakes and undergo a new big crisis in the future.

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Chapter 24

Re-emerging of the Emerging Market Economies

Anne Brink Nandrup

Introduction

In order for a financial crisis to be named ‘global’ it must necessarily have an effect on the economies worldwide. This is indeed true for the current global financial crisis – or Great Recession, as many have named it. However, the impact of the crisis has varied substantially across countries. While the recession took a toll on the European and U.S. economies already in the second quarter of 2007, several of the so-called emerging market economies were not severely affected until a year later, giving brief support to the view, that emerging markets had largely decoupled from the demand of advanced economy trading partners and could now sustain growth rates (Blanchard et al. 2010). In effect, only a few of the transitional economies (e.g. China, India, and Indonesia) never experienced an actual recession in the sense of two consecutive quarters of negative growth in GDP.

With the progression of the European debt crisis and its global consequences, the world economy is currently still struggling to re-emerge from the largest shock in the post-World War II era, once again with several of the emerging market economies coming out on top – others at the very bottom. During the toughest period of the crisis (2008Q3-2009Q1) the real output of emerging market economies fell by some 4 percent, compared to the global economy declining 6 percentage points from peak to trough (Llaudes et al. 2010). However, as usual these average figures mask considerable variation across emerging market economies, as the authors’ descriptive statistics show that the worst affected quartile experienced a contraction of 11
percent, while the least affected could cash in an increase of 1 percent. Furthermore, Berglöf et al. (2009:2) notes, “[...] the global financial crisis hit emerging Europe harder than any other region in the world.”

One might ask why the emerging market economies worldwide were affected in such different ways, and better yet: Can we take any important conclusions with us for future reference. After all, this is what the economical scrutiny of the crisis is about: understanding the underlying dynamics in order to avoid or dampen the impact of future recessions.

**Emerging Market – and so what?**

Today, some argue that the term Emerging Markets is outdated, but I will follow the terminology of the literature in the area and label the series of transitional (between developing and developed) economies Emerging Market Economies. Based on different criteria there are several suggested lists of emerging markets (EconomyWatch, 2010), but as many of my references use different versions, the exact definition of the term is somewhat fluent throughout this paper. However, there is a general consensus that the transitional economies can be crudely divided into five regions: Asia (besides Japan), Latin America, Africa (where South Africa is often the sole participant), the Middle East and emerging Europe. But even inside these groups there are large differences across economies, as will be discussed later. Nevertheless, emerging market economies as a whole are becoming increasingly more important in today’s global economy. In order to focus the scope of this paper, I will mainly discuss economies from emerging Europe, East Asia and Latin America.

Over the past few decades the world economies have become increasingly interdependent. Capital flows throughout the advanced economies have long had a strong linkage, but this bond
is now stretched to include many emerging market economies and several developing countries as well (Mohan 2009). Besides financial integration, outsourcing of divisions, or even entire production lines has spurred a new approach to trade: “[It] became much more than a simple exchange of merchandise across borders. It developed into a constant flow of investment, of technologies and technicians, of goods for processing and business services, in what has been called the “Global Supply Chain”.” (Escaith 2009:1). This means roughly speaking that a toxic asset crisis involving mainly U.S. financial institutions and other advanced economies may affect the emerging market economies through two channels: A collapse in trade and a sharp decline in capital inflows (Blanchard et al. 2010, Krugman 2009). Correspondingly Llaudes et al. (2010) find that emerging market countries more open to trade and with greater financial linkages were more affected by the crisis and that increased pre-crisis vulnerability caused more severe output contractions and widening of sovereign spreads.

**The impact of the crisis**

As might be considered trivial knowledge by now, the crisis in the U.S. subprime mortgage sector unfolded in July 2007 and quickly spilled over to other parts of the financial system and the rest of the advanced economies. Following the seizing up of the credit markets I would have expected the emerging market economies that for the most part depend heavily on foreign investment, to be severely set back. This did not happen immediately, however. The development of the crisis can be divided into three phases (Llaudes et al. 2010, Berglöf et al. 2009). Taking a look at the median stock prices of the emerging markets economies (EM)--classified by vulnerability measures--versus the advanced economies (AM) as illustrated in Figure 1 below, it is clear to see why.
Llaudes et al. (2010) have divided the emerging market economies into three groups based on measures of their pre-crisis (spring 2007) vulnerability\textsuperscript{115}. Many of the European emerging market countries lie in the group labelled high vulnerability. Following the authors, I call the three phases: Decoupling, re-coupling and re-decoupling.\textsuperscript{116}

\textsuperscript{115} Based on IMF’s semi-annual vulnerability exercise for emerging market economies (VEE).
\textsuperscript{116} These phases are more or less equivalent to Berglöf et al. (2009): Decoupling, The crisis hit, and Tentative stabilisation with rising costs.
Decoupling (– September 2008)

From the collapse, which was apparent in July 2007 until the failure of Lehman Brothers Holdings Inc. September 15, 2008, the emerging market economies largely avoided adverse effects of the crisis. As Figure 1 illustrates, the stock market indices of the low and medium pre-crisis vulnerability countries fell considerably less (about half as much) compared to the corresponding indices of the advanced economies. Also, capital inflows largely held up (Berglöf et al. 2009, Kamil et al. 2010). Thus, indications of a decoupling of several emerging market economies from the demand of their more advanced trading partner economies were present.

Re-coupling (September 2008 – April 2009)

Following the collapse of Lehman a general sense of panic spread, credit markets tightened up, and (in emerging markets, in particular) risk premiums surged, causing bank-lending flows to plummet (Berglöf et al. 2009, Kamil et al. 2010). Only in Latin America did outstanding foreign banks’ claims increase slightly during this period. As illustrated in Figure 1, the difference in the stock market decline across the emerging markets of different vulnerabilities and the advanced economies disappeared. Real output and growth started to decline however, the timing and severity of this decrease depended largely on the volatility measure of the economy as illustrated later.

Re-decoupling (April 2009 –)

Stability returned in the third phase, and from April 2009 financial indicators, along with the median stock indices shown in Figure 1, again pointed upwards. By May 2010 the low and medium vulnerability emerging market economies were almost at their outset in 2007, also the high vulnerability countries have gained ground on the advanced economies. However, the ripple
effect of the crises begun to spread to the households and corporate world of emerging Europe including rising unemployment, defaults on loans and failure of businesses.\textsuperscript{117}

In the following section I will present my view of the two elements, which in my opinion channelled the effect of the Great Recession to the emerging market economies – namely, a trade collapse and dried out credit markets, along with a discussion of the implications of these channels on the IMF volatility measure of the economies.

\textbf{Capital (in)flows}

Taking the view of consumption smoothing over lifetime applied at the level of countries, one would suggest that they should run current account deficits in the early stages of the country’s life cycle: Because a less developed country should be relatively more labour abundant compared to capital the marginal product of capital might very well be higher than the world interest rate. Thus, the optimal strategy of these emerging market economies should be to “[...] import capital, run current account deficits, and increase their growth rate through higher investment.” (Prasad 2009a:30).

Obviously, China is the greatest exception to the rule with a current account surplus of USD 440 billion in 2008 (Prasad 2009a). A number of other Asian economies including Taiwan, Hong Kong, Malaysia, and Singapore also have a substantial current account surplus as a percentage of GDP, and these also seem to be among the countries with the most robust domestic demand (Prasad 2009a). China is often accused of currency manipulation because of its rising trade surplus and accumulation of foreign exchange reserves. Ironically, the manipulation of the

\textsuperscript{117}Llaudes et al. (2010) suggest that the trend is continuing through the wake of the European debt crisis as the stock market indices of emerging market economies have declines less than the corresponding of the advanced economies – regardless of vulnerability, as indicated by the last line in Figure 1.
Chinese Renminbi may have been a contributing factor to the U.S. housing bubble. Prasad (2009b) argues that it has provided American consumers with cheap goods as cheap financing hereof, as the excessive capital inflow caused an artificial low level of the U.S. interest rate, which I agree on.

Financial integration increases the vulnerability of economies in several ways. When borrowing from foreign-owned banks, there is a risk of the banks withdrawing assets to their primary countries once credit markets tighten up. Especially cross-border lending that is typically funded in international markets is highly sensitive to movements in the global banking sector. Also, loans in terms of foreign currency add another aspect of exchange rate vulnerability to the equation.

Countries such as emerging market economies should, as explained by the life cycle theory above, be very dependent on growth in foreign loans in order to sustain growth in GDP. Figure 2 shows the pre-crisis net capital inflows to emerging markets in the three regions as well as Russia: Latin America, East Asia, Central and Eastern Europe.

**Figure 2**
Net capital flows to emerging markets: percentage of GDP (Bergløf et al. 2009)

![Graph showing net capital flows to emerging markets: percentage of GDP](image)

*Note: Latin America includes Argentina, Brazil, Chile, Columbia, Mexico, Peru and Venezuela. East Asia includes China, Indonesia, Hong Kong, Korea, Malaysia, Philippines and Thailand. CEE includes Bulgaria, Croatia, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic and Slovenia.*

From Figure 2 it is clear that emerging Europe received large net capital inflows in the pre-crisis period compared to the rest of the emerging market economies. However, since 2005 foreign banks’ lending to Latin America had increased sharply and was in 2008 representing a significant source of funding for both companies and households (Kamil et al. 2010). Foreign banks’ lending as a percentage of GDP in 2008 is shown in Figure 3 below. Still the median share of foreign banks’ lending to emerging Europe is significantly higher than the Latin

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Note, that indirectly extended credit from foreign banks through local affiliate branches does not in itself represent a balance of inflow and therefore this will not show in Figure 2 of net capital balance. As illustrated in Figure 4 a large part of Latin American credit is through this indirect channel.
American countries borrowing the most, e.g. Chile. Meanwhile, Figure 2 shows a declining net capital inflow to emerging Asia from 2004-2006, keeping a constant low level thereafter, corresponding to a very low median share of foreign banks’ lending in 2008.

**Figure 3**

Foreign banks’ lending anno 2008, percentage of GDP (Kamil et al. 2010)

*Includes cross-border lending and lending by foreign-owned local affiliates in each country/region.*
Furthermore, there is a great difference in the involvement of the foreign banks across the regions. In Latin America two thirds of all foreign banks’ lending took place through local affiliates compared to 50 percent in emerging Europe and 37 percent in East Asia (Kamil et al. 2010). As local affiliates mostly finance their lending through domestic deposits as opposed to emerging Europe, where the dominant part of the inflow of new credit is financed through cross-border flows from parent banks, they are not as vulnerable to a credit crunch in the parent banks’ country. Emerging Asia had a slightly higher rate of cross-border capital as a share of GDP than Latin America in 2008. Figure 4 illustrates this relationship, where foreign banks’ cross-border lending to the banking sectors of 21 selected countries from the three regions is shown.

Figure 4
Foreign banks’ cross-border lending to domestic banking sector in emerging markets,

2008 (Kamil et al. 2010).

Includes foreign banks’ overseas lending to domestic-owned banks and foreign-owned local affiliates in each country.

As argued above, dependence on foreign investment in itself raises the vulnerability of an economy. Cross-Border lending increases this measure; besides being highly sensitive to movements in the global banking market, it often takes place in foreign currency (Kamil et al. 2010). Krugman (2009) argues that these cross-border investments acted as a transmission mechanism: Prior to the failure of Lehman Brothers many saw large flows of cross-border
lending as a measure of risk diversification. Unfortunately, a large part of the financial integration came from investments in highly leveraged firms intensely (and indiscriminately!) seeking high returns.

The carry trade\textsuperscript{119} was a specific point of vulnerability within the emerging market economies. As credit channels dried up and the funds from low-interest nations were cut off, the currency of these low-interest countries soared compared to a plunge in the emerging market currencies, as net capital here was no longer positive. The carry trade loans were largely taken out in foreign currency causing the value (in terms of domestic currency) of those to escalate and the domestic firms took great losses making the emerging markets the “[...] second epicentre of the crisis” (Krugman 2009: 177). These conjectures are in line with the findings of Kamil et al. (2010), who argue that Latin America’s greater resilience toward the crisis was indeed caused by its relatively low share of cross-border lending. Compared to Latin American countries, European emerging market economies were more severely afflicted. Also, the foreign banks operating in Latin America and emerging Europe have different characteristics (Kamil et al. 2010). Spain and U.S. being the dominant players in the Latin American banking markets have more long-term commitment in this region while primary foreign banks in emerging Europe are European banks (e.g. from Austria, Belgium, and Italy) that only have a small share of the Latin American market. Long-term commitment combined with local affiliate lending and small cross-border lending caused the credit extended to Latin America to never decrease during the worst period of the crisis even though the growth rate decreased considerably (see Figure 5a). Latin American cross-border lending actually decreased more than cross-border lending to emerging Europe, but

\textsuperscript{119} Carry trade is a form of cross-border lending, which involves borrowing in countries with low interest rate (e.g. Japan) and lending to economies with higher interest rates.
because of its relatively small share of total foreign banks,’ lending continued to grow more.

Extended credit to emerging Asia was affected the most as illustrated by Figure 5a and 5b.

**Figure 5**

Capital flows and foreign banks’ lending.

5a. Growth in foreign banks’ lending, annual percent change (Kamil et al. 2010)

5b. Growth in cross-border bank lending, quarter on quarter (Berglöf et al. 2009)

![Graphs showing capital flows and foreign banks' lending](image)

*Note: both graphs are exchange rate adjusted. Foreign banks’ lending includes cross-border lending and lending by foreign-owned affiliates.*

**Trading with Emerging Markets**

With foreign banks’ lending to emerging market economies declining severely, trade finance is bound to decrease as well. The contraction in the value of trade finance during the crisis was accompanied by a sharp increase in trading prices (because of increasing risk premiums) (Menichini 2009). This hit emerging market economies threefold: In general, risk premiums rose considerably more in emerging market countries (Berglöf et al. 2009), transitional economies...
relied heavier on trade finance to support imports/exports (Menichini 2009), and they had less robust domestic demand, thus export growth is crucial in order to maintain growth in GDP.

As in the case of financial integration, the greater interconnectedness among economies in terms of trade tends to increase the vulnerability of an economy. “The Global Supply Chain” introduced in the first section, along with decreasing communication and transportation costs, have certainly created growth opportunities for many transitional economies – especially those with reasonable infrastructure and an equitable political structure. However, a chain is never stronger than its weakest link, and emerging market economies have an aggravated risk of propagation of these weaknesses.

On top of the adverse effect of trading finance, Escaith (2009) argues that a structural change of trade elasticity (towards a larger elasticity), a composition effect (imports fell more than GDP causing the elasticity to rise) and inventory effects contributed to the trade collapse of the global financial crisis. The latter effect is the most important when speaking about emerging market economies. As businesses in general tries to keep their inventory as small as possible, considering sales plans and willingness towards risk, at the same time they try to persuade suppliers to maintain large stocks in order to be able to supply with short notice. Thus, globally a significant level of inventories is present and in the face of a credit crunch and/or a demand contraction each firm will try to run down inventories causing a complete stop of orders to the supplier upstream (Escaith 2009). Thus, inventories magnify the adverse effects of a demand shock or credit crunch.

Large international corporations have mainly outsourced their production lines to low cost source countries, so when production is interrupted due to a credit crunch (and further stalled by
inventory effects in the primary sales markets), the emerging markets are severely affected. Adding insult to injury, exports from transitional economies may depend heavily on imports from more advanced trading partners, which had slowed down because of the lack of trade financing, causing further depression of exports and even more interruption of production (Menichini 2009). To sum up, emerging market firms face critical risks (vulnerability); because they rely greatly on trade financing and are severely affected by disruptive events, they are considered more exposed to defaults in the supply chain. Along this line Llaudes et al. (2010) estimates that emerging market economies experienced an additional decline of 1.5 percentage points of real output per percentage point fall in domestic demand in their advanced economies trading partners.

Following the collapse of trade in connection with the global financial crisis, the world has seen a rise in protectionism, which is not likely to decrease on a short-term basis due to the relatively high unemployment in the advanced economies (Escaith 2009) – and a European debt crisis. The notion of “buying domestically” has gained ground and the global supply chain is suffering. However, the collapse is not the only contributing factor to the deglobalization trend. The green anti-pollution movements, rising oil prices and general structural problems of decentralizing complex processes are challenging the global supply chain as well. These increasing objective and subjective transaction costs will, according to Escaith (2009), eventually hurt emerging markets, as future supply chains may be significantly shorter, however Llaudes et al. (2010) finds no evidence of this. Lately, some advanced economy corporations have announced that they might bring parts of their production apparatus home, but in my opinion this could easily be
nothing more than an attempt to quickly improve their image during hard times with high domestic unemployment.

**Vulnerability as an explaining factor**

At the time of re-coupling (September 2008, where the emerging markets suddenly started to feel the severe consequences of the Great Recession) it was not clear whether transitional economies that had invested in improving fundamentals prior to the crisis would benefit from these investments. However, Llaudes et al. (2010) finds evidence that markets indeed did discriminate across emerging market economies. Herein lies an important difference in my opinion compared to previous crises affecting emerging markets. In recent years, both the Tequila-crisis of Latin America in the mid-1990s and the 1997 Asian crash started out as relatively insignificant events in a single country (Mexico and Thailand, respectively) but quickly spilled over to the neighbouring countries and eventually dragged the entire regions down. Krugman (2009) presents one explanation: nervous investors were not able to (or simply did not) distinguish between emerging market economies. The discrimination based on sound fundamentals that happened this time should in my opinion provide incentive for emerging markets to invest in their own economies instead of focusing entirely on the “great exporting race”. In extension of this, initiatives promoting robust consumer driven domestic demand should be welcomed in order to secure resilience during future economic downturns.

Figure 6 illustrates the impact of the crisis on output based on the vulnerability of the emerging market countries. Here it is clearly illustrated, that countries with high vulnerability (e.g. most of emerging Europe) were affected earlier, longer, and more severely in all quarters compared to low and medium vulnerability economies. Llaudes et al. (2010) estimates than on average the
least vulnerable economies contracted 6.5 percent less than the most vulnerable – even when controlling for openness to trade and global financial integration. As discussed earlier, countries with high vulnerability were in many cases countries with large pre-crisis booms fuelled by foreign capital inflows. Likewise, Figure 6 verifies the pattern suggested in Figure 1 as well, namely that low and medium vulnerability economies re-emerged faster from the crisis than the advanced economies.

**Figure 6**

Impact of the global financial crisis on output (Llaudes et al. 2010)

As one might expect, pre-crisis reserve holdings are suggested to cause more room for manoeuvring the adverse effects of the trade collapse and credit crunch. Llaudes et al. (2010) finds a significant negative (non-linear) relation between reserve holdings – one of the components of the vulnerability index – and output loss. Thus, higher pre-crisis reserve holdings...
had a significant payoff in terms of lower output loss, however this is decreasing with the amount of reserve holdings.

**Conclusion**

In general, emerging market countries were affected deeply by the global financial crises and its current repercussions, which temporarily ended the spurring suggestions of a decoupling of the transitional economies from their advanced economy trading partners. However, the impact of the crisis experienced by the emerging markets differed considerably. Berglöf et al. (2009) noted that emerging Europe was among the most severely affected regions of the world, while Kamil et al. (2010) found that Latin America showed great resilience with Prasad (2009a) suggesting a similar pattern for Asia. However, I believe that emerging markets are no longer lumped together in regions in the minds of the investors like previous crises have indicated. Instead the reason why countries in the same region are affected similarly may very well be that they have approximately the same characteristics in terms of trading partners, economic fundamentals and borrowing patterns. Thus, investors are able to access this information and discriminate between the emerging markets based on their perceived vulnerability (Llaudes et al. 2010). Emerging market economies are in general subject to increased vulnerability because they are (and should be) highly dependent on foreign banks’ lending and trade finance in order to sustain growth in GDP. However, evidence suggests that a smaller amount of cross-border lending is prudent in terms of resilience towards the adverse effects of the Great Recession. Also, the relatively low production costs in emerging countries have placed them in the upstream production end of the global supply chain, resulting in increased vulnerability and dependence on advanced economy
trading partners. Furthermore, a smaller external demand shock to these trading partners may very well be magnified in the transitional economies because of inventory effects.

Based on the analysis and discussion presented here, a suggested way forward for the emerging market economies in my opinion is to invest and improve fundamentals and take political actions in order to develop robust domestic demand. But in order for this to be welfare improving it must be driven by private consumption. The evidence presented indicates that economies, which already initiated these programs prior to the crisis, were far better at manoeuvring the adverse effects – even when compared to advanced economies and previous crises emerging market economies. Thus, it seems that we currently are on the right path towards rebalancing the global economy.

References


Chapter 25

The Global Financial Crisis: A Political and Economic Approach

Carol Blenda Reyes Avila

Introduction

The most recent financial crisis has badly affected the global economy, including individuals, businesses, and governments. Each entity has suffered its impacts in one way or another (Burger, Coelho, Karpowicz, & Tyson 2009). Since it began, the financial crisis has posed a significant threat to world markets. Countries are trying to overcome the adverse effects of this crisis but have failed to recover their positions due to severe recession and worsening economic conditions (US Department of the Treasury 2012). As we have seen, authors, economists and financial analysts have discussed various reasons for the crisis; the huge downturn in the financial and housing mortgage sector seems to have been the biggest trigger of the crisis (Donath & Cismas 2009). The global financial crisis has hit almost all sectors of the economy, not only hampering industrial growth in countries but also creating serious challenges and issues for governments and regulatory bodies (Independent Evaluation Group 2012).

This paper provides a comprehensive review of the recent global financial crisis, which has shaken the world economy in a short period of time and reduced businesses and governments to helplessness in this recession period. The paper begins with a brief history of the financial crisis: what caused the financial crisis, where it originated, and what economists believe about it. Later sections discuss the different aspects of the global financial crisis, including its main impacts on the different sectors of the economy, the strategies that businesses and governments have been
adapting to overcome its consequences and detrimental impacts, and the potential impacts of this financial crisis in both the near future and the long run.

**History of the Financial Crisis**

In 2001, the Federal Reserve in the US began cutting interest rates dramatically to encourage borrowing, which spiked consumption and investment spending. Lower interest rates worked their way into the American economy, and the real estate market began to grow. The number of real estate properties sold, and their prices increased dramatically from 2002 onwards. At the time, the rate on a 30-year fixed-rate mortgage was the lowest it had been in nearly 40 years. Subprime lending and similar mortgage originations in the US increased from less than 8% of all mortgages in 2003 to over 20% in 2006 (Exhibit 1).
Exhibit 1

**Subprime Share of Mortgage Originations**

**2001 - 2007**

*Source: Insider Mortgage Finance*

The crisis was exacerbated with the bursting of the US housing bubble and high default rates on subprime and adjustable rate mortgages, beginning in approximately 2005–2006. For a number of years prior to that, declining lending standards, an increase in loan incentives, and easy initial terms for borrowers, followed by a long-term trend of rising housing prices had encouraged people to acquire risky mortgages in the belief that borrowers would be able to quickly refinance on more favorable terms.

In late 2006, the largest banks, insurance companies, and other financial institutions in the US
noticed a substantial decline in their sales and profitability (Magdoff & Foster 2009). This downturn in financial performance initially was barely discernible, but it increased dramatically over time. The crisis began in the financial sector of the US before spreading to world markets in a considerably short period (Corker 2012). The global financial crisis, after brewing for a while, started to show in the middle of 2007, before accelerating in 2008. Around the world, stock markets showed large losses and financial institutions collapsed or they were bought over. Governments had to come up with emergency rescue packages to bail out their financial systems, which were failing at record speed.

**Housing Finance, Mortgage, and the Subprime Mortgage Crisis**

Housing prices peaked in December 2006, when the Federal Reserve was raising short-term interest rates, and then declined by 30% over the subsequent 26 months. (Shefrin, 2009). An estimated 8.8 million homeowners had zero or negative equity as of March 2008, that is, their homes were worth less than their mortgages. The situation produced a “walk away from home” effect, despite the credit rating impact. Increasing foreclosure rates and the unwillingness of many homeowners to sell their homes at reduced market prices significantly increased the supply of housing inventory.

Many economists say that the lack of regulation on financial derivatives led to the financial crisis. In the US, the crisis was mainly triggered by the collapse of financial derivatives known as mortgaged assets, which include prime (borrowers with good credit history) and subprime (borrowers with weak credit history). The Global Financial Crisis was mainly due to the overinvestment of the general public in housing finance and mortgage contracts. Before this financial crisis hit the US market, the housing mortgage and finance market was dominated by a
few large commercial banks (Donath & Cismas 2009). They were in stiff competition with local and international banks and financial institutions that offered these facilities at comparatively lower interest rates than did banking institutions (United Nations Organization 2009). In order to contend with these competitors, the local banks in the US reduced their interest rates and made their terms for housing and mortgage facilities more flexible (Burger, Coelho, Karpowicz, & Tyson 2009).

The real estate and financial crisis, caused by a significant increase in mortgage delinquencies and foreclosures, had repercussions for banks and financial markets globally, and weakened the global financial system. In the past years, an estimated 80% of US mortgages held by subprime borrowers were adjustable-rate mortgages. After house prices reached their peaked in the middle of 2006, the steep decline that followed made refinancing exceedingly difficult. Adjustable-rate mortgages began to reset at higher rates, resulting in increasing mortgage defaults. Financial firms holding securities backed with subprime mortgages were left with securities with no value. Ultimately, credit around the world was tightening as the capital in many banks and US-government-sponsored enterprises was losing its value.

The crisis can be attributed to a number of factors: the failure of homeowners to meet their mortgage payments, adjustable-rate mortgages resetting along with the extensive lending, overbuilding during the boom period, international trade imbalances, inappropriate government regulation, and speculation. In 2008, the mortgage industry played a crucial role in the recession when an estimated 1.5 million homeowners defaulted on payments and when they were driven to foreclosure by 2009.

After the subprime mortgage crisis spiraled out of control, nearly five million jobs were lost,
together with a massive loss of wealth and depressed consumer confidence. Several big companies at the heart of the US financial system, such Lehman Brothers and AIG, faltered. In the past years, the rate of home foreclosures had risen dramatically due to defaults on residential mortgages, resulting in the overall meltdown of the US economy and subsequently other countries.

**Bankruptcy of the Largest Banks and Insurance Institutions**

As the crisis developed, credit markets froze, banks closed their lending doors to each other, and banking companies and financial institutions had to sell their short-term and long-term securities to pay for the loans, resulting in a significant decline in the volume of their deposits and long-term assets (Magdoff & Foster 2009). When they found no other means of funding those loans, they had to request bailouts from the government (Corker 2012). By September 2008, Lehman Brothers declared bankruptcy without a rescue or bailout, creating fear that the government would allow the financial sector to collapse.

American International Group (AIG), an insurer, and Fannie Mae and Freddie Mac, two mortgage-finance agencies were at the core of the crisis. Fannie Mae and Freddie Mac had owned, guaranteed, and helped securitize about half of American mortgages. These institutions were judged as essential to a healthy housing market; however, their numbers prompted government intervention, which came as a massive bailout.

**Bailout of the Financial System**

The Fed decided a few days later to save AIG with an $85 billion emergency loan in exchange for an 80% stake in the insurance company, in an attempt to stop the domino effect that was sweeping through the global financial markets (Exhibit 2). Fannie Mae and Freddie Mac, two
government-sponsored enterprises (GSEs), were nationalized by the US federal government, transferring $5 trillion of mortgage debt from private to public hands.

**Exhibit 2**

The Treasury Department implemented a key step in October 2008, with a $700 billion financial bailout program called TARP (Troubled Asset Relief Program). This plan also included a ban on short-selling of financial stocks. Consequently, financial institutions like Citigroup, Bank of America, JP Morgan, Wells Fargo, Goldman Sachs and Morgan Stanley, among others, lined up to receive a portion of TARP (see Exhibit 3).

**Exhibit 3**
Automakers include General Motors, Chrysler, and GMAC, General Motors’ financing arm. The automakers requested additional funding in February 2009.

According to “The Economist”, by 2009, the state owned about $170 billion of shares in banks. With the $160 billion of equity invested in the toxic trio, this number rose towards $300 billion. Including other kinds of help, such as loans, the total pumped into the three firms eventually reached $800 billion, or 6% of GDP. See Exhibit 4.
In the book “Too Big to Fail,” Sorkin describes how The US government responded by engaging in several proposals to tackle the issue: “The government would buy the toxic assets to get them off the bank’s books, which in turn would raise the value of the assets by establishing a price and make the bank healthier, which in turn would help the economy and, as Paulson repeatedly said, help main street.” Eager to bring life back into the economy, the Bush administration pushed for a stimulus package and created lending programs for banks, and interest rates were dropped to nearly zero. The Federal Reserve also expanded the types of assets it would buy from financial institutions in an effort to ease credit and restore confidence. As the economy showed few signs of recovery, the burden fell on the newly elected president Barack Obama, who faced, in his first
month of presidency, the task to push for a $787 billion bailout package. Across the Atlantic, the British government launched a 500 billion pound bailout to inject capital into the financial system, nationalizing most of the financial institutions in trouble. Many European governments followed as well, to prevent recession, improve liquidity, and boost investor confidence.

**Present Conditions of the Financial Crisis**

The world economy began experiencing the impacts of the crisis when investors from the United Arab Emirates and other rich economies had to face the same debt issues that the financial sector of the US had seen in its housing mortgage and finance facilities. At present (at the time of this writing), the world economy is in a great recession, where the economic performance of financial institutions has significantly decreased, industrial growth has slowed down, and international trade has been discouraged with the poor economic conditions of a large number of countries in the world (US Senate Committee on Banking, Housing, and Urban Affairs 2012).

Two weeks ago (at time of this writing), interest rates on 10-year US Treasury bonds fell to 1.4%, becoming the lowest on record under present or expected inflation, which ranges from 2–3%. Thirty-year Treasury bond rates have fallen to 2.5%. Investors are piling into Treasury bonds and are driving rates downwards, as they are not buying risky stocks or using their cash to expand or create businesses. American investors are protecting themselves against the unknown. Treasury Secretary Tim Geithner reported last week that bank capital had increased 70% to $420 billion from 2009. Home prices are starting to go up while household debt service (monthly payments of interest and principal) as a share of disposable income have dropped to the levels of the early 1990s. Nonetheless, to date, these favorable conditions have been neutralized by the general risk aversion and fearful psychology of people. After all, the Greek and European
European Crisis

The economy of the European Union is made up of 17 nations that use the euro and 10 other nations. The EU is a larger economic bloc than the US or China. The current European economic crisis has been three years in the making, and its outcome is still uncertain. In the case of Greece, there was high fiscal deficit and an attempt to manipulate the numbers prior to the global crisis, to hide debt, which was a result of deficit spending, economic mismanagement, government misreporting, and tax evasion. Even then, it took a long time before this was uncovered. The Greek tragedy has shown the financial world that no one can mock the critics of high fiscal deficits. Nowadays, countries like Greece, Spain, and Ireland face ongoing recessions crushed by debt, while Germany, the Netherlands, and the International Monetary Fund are pushing for austerity measures.

Government Policies

The governments of different countries are taking steps to recover the economic positions of the financial and services sectors. For this purpose, they are recapitalizing the financial sector so that it becomes stable and recovers its past performance. Moreover, this financial crisis has made a large number of governments run their economies in fiscal deficits. These governments are unable to achieve the Balance of Trade, or to control their expenditures to match their revenues (US Department of the Treasury 2012). Similarly worse conditions are being faced by business organizations in international markets.

As a result of this financial crisis, the purchasing power parity of customers has been badly
affected, which has resulted in a decrease in the number of customers for each particular product manufactured by international business organizations (Donath & Cismas 2009). This has shrunk the growth and profitability of these organizations and has forced them to keep their business operations limited to their local markets, instead of expanding into new international markets (Burger, Coelho, Karpowicz, & Tyson 2009).

**Expected Outcomes of the Financial Crisis**

The global financial crisis began in the housing sector in a single economy, spreading to all sectors and industries and hitting the entire world economy. A large number of economists and financial analysts have presented their views on the expected outcomes and impacts of this global financial crisis in the future. Many of these authors and the US Senate Committee on Banking, Housing, and Urban Affairs believe that this economic crisis will last much longer than previous global crises, which have hit the world economy three times during the previous century. They argue that the recent financial crisis has not finished yet and that it will continue to affect the financial sector and the other sectors in the services industry in the short run (Barth 2009).

**Impacts in the Short Run**

The economic downturn will first affect the manufacturing sector, and industrial growth will slow down. As a result, economies will experience a significant decrease in Gross Domestic Product and National Income (United Nations Organization 2009). This decrease in GDP and NI will automatically hit the service sector due to poor financial performance and miserable industry conditions (Corker 2012). The repaying abilities of industrial concerns will also decrease, which will restrict them from availing of high-interest, long-term loans from the financial sector
These negative impacts of the financial crisis will also affect the consumption patterns of individuals, businesses, and governmental agencies. As the US Department of the Treasury reported in 2012, consumers will find it harder to maintain a balance between their incomes and expenditures due to the deep recession and high inflationary pressures. They will either shorten their needs or look for substitute products to save money. Similarly, business organizations will feel hesitant to expand operations in international markets, especially in countries affected by the global financial crisis. Governmental bodies will also cut down their expenditure in view of the increasing fiscal deficits and deep recession in world economies (US Senate Committee on Banking, Housing, and Urban Affairs 2012).

**Impacts in the Long Run**

Individuals, businesses, and governments will face the same situation in the long run, when the recession will worsen for both the services and manufacturing sectors. Some researchers and economists believe that the global economic crisis will make it harder and more challenging for governments to revitalize their financial sectors. This is because the world has not yet seen any significant steps taken by the governments of the affected economies to recover the past performance of their financial sectors. For instance, the government of the US has failed to bring its economy out of serious foreign debt, which is rapidly increasing (United Nations Organization 2009).

**Global Economic Outlook through the IMF’s Eyes**

According to the International Monetary Fund’s latest forecast *(at time of this writing)*, the
global economy will experience steady growth over the next two years. Europe’s current financial crisis and a possible budget crisis in the U.S. could slow world growth even further.

The IMF warned that economic conditions could worsen if the U.S. does not deal with a pending budget crisis soon. By the end of 2012, several large tax cuts are set to expire, and massive spending cuts are scheduled to kick in at the same time. If Congress does not take action, the U.S. could experience another recession and the global economy could slow sharply. This all depends on the upcoming November elections and the measures that the U.S. president may apply. The IMF’s chief economist, Olivier Blanchard, said, “failure to deal with these issues could cut up to 4 percentage points off U.S. growth in 2013.”

Regarding Europe, the IMF predicted that even if the 17-nation euro zone follows through with its commitments, the region’s economy would shrink by 0.3% this year and grow by only 0.7% in 2013. German and French economies are expected to grow in 2012 and 2013 at a slow pace, while the economies of Italy and Spain will contract. The IMF expects slow growth in developing countries due to a decrease in exports to European countries and the U.S. (IMF report, 2012)

**The Next Decade Deficit**

After the panic and dark days of the financial crisis, it is expected that new generations may have an inclination to save and a reluctance to incur debt or borrow money. Today, “too big to fail” private financial institutions are fewer and larger, after having qualified for unlimited taxpayer bailouts. Nonetheless, our nation is facing an enormous deficit that may generate a collapse.

According to Arnold Bock from Safe Haven Preservation of Capital, “Rising interest rates are all that is necessary to trigger the Round Two collapse of the ongoing financial crisis.” The U.S. is
facing expanding government deficits as well as debt and unfunded liabilities. People and businesses that are paying fewer taxes due to diminished incomes are the reason for almost half of the debt in the U.S.

The U.S. deficit grew under the George Bush administration as a result of the recession. Bush approved the 2009 budget and the bank bailout (TARP). However, the recession itself is the main cause of the deficit. Bush and Reagan increased the debt in good times, while Clinton tried to pay down the debt (Exhibit 5). During the last three years of the Obama administration, national debt has increased more than it did during the eight years of the Bush administration ($4.899 vs. $4.939 trillion, as of March 2012). National debt on August 6, 2012 will reach the staggering amount of $15,993,366,918,897.39 and will keep growing. The estimated U.S. population is 313,266,356, so, each citizen’s share of this debt is approximately $50,862.04 (Debt clock, 2012).

Exhibit 5
As of today (at time of this writing), the national debt exceeds 100% of national GDP. The latest federal budget sent to Congress by Mr. Obama shows that the debt would continue to grow, hitting $16.3 trillion in 2012, $17.5 trillion in 2013, and $25.9 trillion in 2022. If Mr. Obama wins the November elections, and these budget projections prove accurate, national debt will exceed $20 trillion in 2016, the final year of his second term. That would mean that the debt increased by 87%, or $9.34 trillion, during his two terms (Knoller, 2012). According to sources run by political campaigns, from 1789 to 2008, with 43 presidents, the total debt left was approximately $6.3 trillion dollars, and the debt added by President Obama in less than one term is approximately $6.5 trillion dollars.

Considering these alarming numbers, our nation needs to become more fiscally responsible: people need to start taking risks, starting businesses and ventures, and we need to fuel the economy, leaving behind the fear acquired through the Global Financial Crisis. This is because the bills have to be paid, and a default is not an option if we want to maintain the good name of...
the US in global fiscal circles, in order to prevent another global financial crisis. Many economists believe that the debt ceiling needs to be raised, while others think that raising the debt ceiling may be a mistake that will only encourage the same poor decisions that brought us to the initial crisis. Considering that our monetary system was initially built on the gold standard and was then changed to one built on faith, if you lose this faith, then nothing matters.

**Risk Analysis in the Global Financial Crisis**

In order to revive the world economy from the severe financial crisis, businesses and governments have adopted different strategies in the recent past. The first is conducting risk analysis of the different factors that caused the financial crisis and badly hampered the industrial growth and economic performance of different entities (Kaufman, 2009). The risks involved in this process include further vulnerability of the financial sector, competition among businesses, and political instability in different economies of the world.

As far as political instability is concerned, the revival of programs for stable economies will not be affected because all governments have been taking initiatives to revive their financial sectors and industrial growth (US Senate Committee on Banking, Housing, and Urban Affairs 2012). The second risk factor is competition among businesses, which can affect the revival programs in a negative or positive way. The price war between different businesses can lead to greater competitiveness, but it can also lead to more relaxed terms and conditions, as the world experienced before the recent global financial crisis (French, Baily, Campbell, & Cochrane 2010).

**Impacts on the Different Sectors of the Economy**
The financial sector was not the only industry affected by the global financial crisis: all industries have been affected in one way or another. This section provides an overview of the impacts on different sectors in light of some important economic measures. The overall impact of the financial crisis can be discussed by highlighting its impacts on the inflation rate, balance of trade, monetary policy measures, and economic reform programs taken by governments from time to time (Chorafas 2009). These factors are now discussed below:

**Impacts on Inflationary Pressures**

The financial crisis badly affected the value of currency by putting high inflationary pressures on almost every currency of the world. The US Dollar returned to its previous position when the financial crisis hit its economy. Similarly, the value of currencies in the Asian and European markets also depreciated due to low production levels, high trade deficits, and discouraged international trade (Donath & Cismas 2009). Terrorist activities had also increased during the previous three to four years, which discouraged tourism and travel around the globe (UNCTAD 2009). The inflationary pressures also increased for general consumers: it became harder for them to save money for their future needs due to the increasing prices of consumer products. Businesses also experienced high costs of production after the global financial crisis affected their countries (Barth 2009).

**Impacts on the Balance of Trade**

The global financial crisis discouraged international trade by making it more expensive for
businesses and individuals to import required goods and services from international markets. Exporters were unable to sell their manufactured goods to potential target markets due to decreased demand by importers. These exporters were not supported by their governments, and their trade balances suffered (US Senate Committee on Banking, Housing, and Urban Affairs 2012). These issues resulted in a decreased level of production by manufacturers, which meant they had to run their plants under capacity (International Monetary Fund 2012). This increased their cost of production and the level of unemployment in their countries. The governments had to take external funding to meet their trade deficits, which increased their interest expenditures (French, Baily, Campbell, & Cochrane 2010).

**Monetary Policy and Economic Reform Programs**

Although the steps taken by the governments of different countries for the revival of their economies are largely criticized by business analysts and researchers, the changes in monetary policies and the launch of economic reform programs are two appreciable steps that seem to have effectively beaten back the global financial crisis (Chorafas, 2009).

**Monetary Policy**

Monetary policy measures are being implemented in order to control the flow of money in the economy. Governments are controlling the level of inflation in their countries through tight monetary policies. They have set the discount rates for banking companies higher in order to discourage borrowing (Patterson 2010). Similarly, the inter-bank rate has also been set high in order to discourage lending and borrowing transactions between local banks. Economic reforms by the governments of different countries include encouragement of foreign direct investment in
their countries, running industries at full capacity, and supporting micro financing in rural areas (Nanto, 2009).

**Foreign Direct Investment**

Attracting potential investors to come and do business in new international markets encourages foreign direct investment. Governments are attracting these investors by offering relaxed terms and conditions for setting up and operating their businesses. For example, the introduction of tax free zones, easy financing facilities, and regulatory conditions are few steps to attract these investors.

**Revitalizing the Industrial Sector**

Offering easy financing facilities to increase capacity and production is revitalizing industries. These steps also help to increase foreign direct investment. Donath and Cismas (2009) believe that industrial growth is the strongest weapon in beating the global financial crisis. An economy can only grow if its industries are running at their full capacity and contributing to the GDP. The revitalization process of the industrial sector will also help the economies by decreasing the level of unemployment and improving the social status of the consumers (French, Baily, Campbell, & Cochrane 2010).

**Conclusion**

The global economic crisis began in the housing sector and spread to all sectors of the world economy (Magdoff & Foster 2009). Overinvestment by the general public in housing mortgages was the main reason for this crisis, which led to severe economic conditions in the entire international business and economic environment (International Monetary Fund 2012).
Economists believe that the financial crisis was mainly due to the price war between banking companies, which forced them to charge very low prices for their services. The financial crisis soon entered the world markets and caused a deep recession, which is still affecting major parts of the world (French, Baily, Campbell, & Cochrane 2010).

The expected outcomes of the global economic crisis are presented by the researchers and analysts in two opposite perspectives; one camp believes that the crisis will worsen in the future, while the other argues that the maximum period for which this crisis will affect the world economy is one decade (US Department of the Treasury 2012). In either case, world markets will have to struggle to recover their previous positions. The governments of different countries have taken numerous steps to revitalize their economies (US Senate Committee on Banking, Housing, and Urban Affairs 2012). The tightening of monetary policies, encouragement of foreign direct investments, and supporting of industrial sectors are the most significant steps in this respect (Chorafas 2009).

From the above discussion, it can be concluded that every single entity in the world has been affected by the recent global financial crisis (Independent Evaluation Group 2012). The inflationary pressures, unemployment, balance of trade, fiscal deficits, and poor financial performance of major industries are some notable negative impacts of this crisis (Burger, Coelho, Karpowicz, & Tyson 2009).

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Chapter 26

The Great Recession: What About the Little Guy?

Chris Axsentieff

The Great Recession impacted all aspects of American life in ways not seen since the Great Depression, yet three years on the important role that the average American played--and continues to play--seems to have been lost. This paper will look at not only how the average American helped to bring on the Global Financial Crisis, but also the affects that this Crisis had and continues to have on them.

Hindsight has created much debate as to where the blame for the Great Recession lies. Arguments can easily be made against the government and central banks, Wall Street and credit rating agencies, and also local lenders, all of whom helped create and facilitate a flawed borrowing system. When the market eventually did crash, the focus of the recession rarely shifted from Washington and Wall Street. Many would look to a nation’s Gross Domestic Product (GDP), and hence the country’s output and growth, as a guide to the state of the economy. In 2008 and 2009 the US’s GDP contracted four consecutive quarters for the first time
since the Great Depression.\textsuperscript{120} See Exhibit 1. This figure accurately represents the dire situation the US and the entire globe were in during 2008 and 2009.

Exhibit 1


http://www.tradingeconomics.com/united-states/gdp-growth

But what of the average household, whose role in kick starting the crisis cannot be denied, and who, years after the recession, continues to feel the economic squeeze? The nation’s GDP relies heavily on the actions of the individual, namely Personal Consumption Expenditure (PCE). Consumption levels provide an insight into the habits of the household, and accurately detail the effect of a financial crisis on the average household. The role of consumption in times of

economic unrest is particularly important, not just as a measuring device, put also as a path to recovery. During a recession consumption is not only expected to decline, but reductions will also impede recovery.

In the US, both the economy and society largely revolve around personal expenditure. Personal Consumption accounted for 70% of GDP in 2008, building on consistent growth since the 1970s\textsuperscript{121}. This figure is much higher than countries like Japan and Germany, where Personal Expenditure accounts for 60% and 57% of the GDP, respectively.\textsuperscript{122} Years after the devastating recession, consumption provides a useful insight into just how far the US has recovered. With current consumption still below pre-recession levels, the strength and longevity of the Recession show it to be unlike anything seen since the Great Depression.\textsuperscript{123}

While not considered consumption, the purchase of a house could be thought of as the ultimate form of spending, and along with increasing levels of personal consumption; increased housing activity was also bolstering the economy in the early 2000s. Housing played a crucial role in the Global Financial Crisis, and is another factor which impacts a nation’s GDP. Residential investment, remodelling and construction of new residential properties accounts for roughly 5% of GDP, while housing services, including rent and owner’s imputed rent, accounts for approximately 12% of GDP.\textsuperscript{124}

\begin{thebibliography}{9}

\bibitem{122} Ibid
\end{thebibliography}
The bursting of the housing bubble in 2006, and market collapse that followed, affected all aspects of American life. The finance industry, government, credit agencies and local banks all suffered, and in some cases died. Yet, behind the ‘billion dollar’ bailouts, people all around America were suffering by losing their houses, their jobs and significant amounts of their savings. The Great Recession created fear and uncertainty around America, and ultimately the world, in levels not seen since the 1930s. The government, recognising the important role every American played in restoring the economy, looked to introduce stimulus to increase consumption, a strategy also followed by many of the US’s peers. However, unlike some other countries, results of the package were mixed, and while America is beginning to show steady economic growth, many individuals are still reeling as they look to rebuild their lives.

**HOW IT ALL BEGAN**

In 2001 the US forged through an eight-month recession brought on by the bust of the Dot-com bubble, and worsened by the terrorist attack of September 11. Central Banks, so as to increase money flow, lowered their interest rates, inviting lenders to take on greater risk in the name of economic growth. By mid 2003 the federal funds rate, the overnight bank-to-bank lending rate, had been reduced to 1%, the lowest in half a century. Following 9/11, the Fed flooded the financial markets with capital, purchasing more than $150 billion in government securities and lending $45 billion to banks. The American people responded with significant spending that helped lift the US from recession, and saw consumption levels rise until 2008.

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Consumers were no longer prioritizing savings, focusing instead on borrowing and spending within a society fostering and rewarding wealth, materialism and ultimately consumerism. By the mid 2000s the typical American household had more than 13 credit cards.\textsuperscript{126} The “Keeping up with the Joneses” mentality created a vicious cycle that ultimately saw household debts increase from $705 billion at yearend 1974, 60\% of disposable personal income, to $7.4 trillion at yearend 2000, and eventually $14.5 trillion in midyear 2008, 134\% of disposable personal income.\textsuperscript{127} With an increasingly healthy economy and low lending rates, consumers focused their attention on the ultimate form of spending, housing, which led to sharp price increases. Between 1997 and 2006, the price of the typical American house increased by 124\%.\textsuperscript{128} See Exhibit 2.

\textbf{Exhibit 2}

The Glass-Steagall Act and reduced lending criteria showed that the government believed the banking industry did not require such heavy oversight, and that borrowers and lenders were responsible enough to determine appropriate levels of leveraging. Buoyed by new freedoms and rising house prices, banks were increasingly confident in lending and looked to new avenues to increase loans. Creative financing and increasingly relaxed lending standards allowed banks to target those with poor credit histories. Commonly, borrowers were being introduced to mortgages with low initial rates and minimal repayments as a way of shielding them from the significance of the outstanding loan. Examples of this are adjustable rate mortgages, with two year fixed rates or interest-only and payment-option loans. Americans of every demographic
were being invited to live out the dream of home ownership, which grew on the back of seemingly accessible mortgages that the average American either did not understand, or believed they could use to their advantage.

By 2004, home ownership in the US had risen to 69 percent on the back of new forms of loans, and prices continued to rise.\textsuperscript{129} In 2005 interest-only loans accounted for 23 percent of all mortgages, with payment only loans accounting for 8 percent although the figures were much higher in some markets, such as California where interest-only loans accounted 34 percent of all mortgages.\textsuperscript{130} Between 2004 and 2006 the percent of subprime mortgages increased from 8 to 20 percent, of which over 90% had adjustable rates.\textsuperscript{131}

Many would claim that the system made it hard for borrowers to know what they were getting into. Some borrowers knew they would not be able to make the higher payments once the initial grace period ended and were planning to refinance their mortgages after a year or two of house price appreciation. Regardless of the methodology, as house prices continued to grow, both sides of the market seemed happy to go along for the ride with regulators exercising little oversight in the booming market. By 2007, borrowing had hit such heights that the ratio of debt-to-disposable personal income had risen from 77 percent in 1990 to 127 percent, much of which can be attributed to mortgages.\textsuperscript{132}

\textbf{THE GREAT RECESSION}

\begin{footnotesize}
\textsuperscript{130} Ibid
\textsuperscript{131} Ibid
\end{footnotesize}
The credit and house price explosion led to a building boom which was ultimately its undoing. A surplus of unsold homes caused U.S. housing prices to peak, and begin declining. In mid-2006, the housing market, which had risen for so long, was beginning to correct itself.

The unexpected decline brought about the unusual situation of borrowers having zero or negative equity in their homes. Consider a borrower who needed $180,000 for a $200,000 home; they have an equity margin of 10% and a debt ratio of 90%. If their house fell in value by 25% that $200,000 asset is now only worth $150,000 and the borrower now owes more than the value of the house. And while the situation does occur, the rate at which it was occurring was previously unseen. By March 2008 it was estimated that 8.8 million borrowers or 10.8% of homeowners had negative equity in their homes. This figure went on to rise to 23% by September 2010, well beyond the end of the Great Recession.\textsuperscript{133}

Many borrowers had expected to be able to refinance their loans once introductory periods ended, as their house value would have further appreciated over this time. However, refinancing of adjustable rate mortgages had become more difficult and borrowers who found themselves unable to escape higher monthly payments by refinancing began to default. Between August 2007 and October 2008, 936,439 US residences completed foreclosure placing further downward pressure on housing prices, which fell 20% between the mid-2006 peak and September 2008.\textsuperscript{134}

While the focus of this paper is on the average household, it is important to note the role that the financial markets played in taking a localized housing crisis, and creating a Global Financial Crisis. With investors always looking to new means to make money, the subprime mortgage

market represented potential. Through securitization, the risks and impacts of lending were no longer confined to borrower and lender. Banks were distributing credit risk through the common practice of Mortgage Backed Securities (MBSs) and Collateralized Debt Obligations (CDOs).

However, unique to this situation was that below-prime mortgages, brought about through relaxed lending and creative financing, were playing an important role by forming an increasingly large share of CDOs, up to 36% in 2007 from 5% in 2000. Further, it was becoming more common to pass on the risk of a subprime loan to a third party investor, with the securitized share of sub-prime mortgages increasing to 75% in 2006.

The securitization market represented more than a third of America’s credit market. As mortgage delinquencies soared, the value of these securitized assets crumbled. By August 2008 financial firms around the world had written down holdings in subprime securities by $501 billion, wiping out much of the capital in the banking system. Soon to follow, in September, was what would later be considered a defining moment of the late 2000s, the fail of Lehman Brothers, the fourth largest investment bank in the US. By November the crisis had spread further, and the S&P 500 was down 45% from its 2007 levels.

Exhibit 3

S&P 500 – 2007 to 2012

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136 Ibid
Much of the focus of the fallout of the Great Recession has been on the reaction of Wall Street, and rightly so given the unprecedented failures of groups such as Lehman Brothers who were previously considered “too big to fail.” The severe impact being seen at this level had disastrous results for the global economy and is still being seen today.

But how was the American household--who the government and Wall Street ultimately service--coping? The activity on Wall Street was light years from most households whose median income in 2008 was approximately $52,000. Even $1 billion--a relatively minor figure compared to the losses and bailouts that occurred--would take someone earning $52,000 a year 19,230 years to earn. The figures discussed are so astronomical that in some ways they have no meaning to the average household, as they are difficult to truly comprehend. Yet, the impact of the Great Recession was just as visible on the average family, although losses were typically in the thousands or in the more extreme cases, hundreds of thousands. A 2010 Pew Research poll

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showed that more than 50 percent of adults in the US labour force had experienced some form of “work related hardship” since the recession began in 2007.\textsuperscript{140} In 2008, the economy shed 3.6 million jobs and lost another 4.7 million in the year that followed as long-term unemployment eventually rose to 17.4\% in October 2009, the highest levels since mid-1940s.\textsuperscript{141}

According to a Federal Reserve survey, the average wealth of U.S. households, including homes, fell from $598,000 in mid-2007 to $481,000 in 2009.\textsuperscript{142} This equates to approximately 25 percent of net worth in 18 months, the largest decline seen since World War II. Data from the Federal Reserve on America’s median net wealth also shows devastating results, falling 40\% from 2007 to 2010, and taking American’s back to 1992 levels.

Individuals were not only feeling the effects at the time, but also saw a bleak future. By one calculation, assets in retirement accounts such as 401(k) plans lost $2.8 trillion, or about a third of their value, between September 2007 and December 2008, creating further concern.\textsuperscript{143} Along with people losing their jobs, society was being faced with the prospect of longer working lives to support the reduced retirement accounts.

As noted, Personal Consumption Expenditure, accounting for approximately 70\% of GDP, provides an important insight into the state of the economy from the mindset of the people.\textsuperscript{144} Looking at what people are spending is often used to measure consumer’s long-term economic

\textsuperscript{141} ibid
\textsuperscript{142} ibid
confidence. See Exhibit 4. In the years that followed the Dot-com bubble, consumption figures grew, strengthening the country and bringing the US out of recession.

Exhibit 4

PCE Index – 2003 to 2012


During the second half of 2008 and the first half of 2009, consumption fell by an annual rate of 3.5%, indicating that people couldn’t or wouldn’t spend the same level of money that they were previously.\(^{145}\) The fall in consumption can partly be traced to lack of access to funds as wages and financial income dropped -6.9 percent and -26.5 percent in light of significant job losses around the country.\(^{146}\) However, this is only part of the story; consumption levels fell further than that of disposable income, which was assisted by government transfers to households, offsetting some of the individual loss. And while the early 2000s saw households acting without adversity to debt, so as to facilitate the purchase of larger items such as cars, the credit crunch


\(^{146}\) Ibid
that followed the Recession meant such financing was no longer as readily available. Spending on automobiles fell by 40% over the Great Recession.\textsuperscript{147} However, just as important as a lack of access to money, the fall in consumption is also attributed to a loss in consumer confidence, reducing spending due to an accumulation of precautionary savings. See Exhibit 5.

\textbf{Exhibit 5}

\begin{center}
\includegraphics[width=\textwidth]{chart.png}
\end{center}


The Volatility Index, referred to as "VIX" or commonly known as the Fear Index, measures expectations of volatility in the market. High values indicate investor’s uncertainty and

\textsuperscript{147} Ibid
expectations that the value of the S&P 500 will vary greatly, up or down, in the next 30 days. During the recession of 2000-2001 the VIX exceeded standard market levels, usually “20”, peaking at 38 in 2001.\(^\text{148}\) However, the failings of ‘Dotcoms’ were limited in effect. While the market and economy did suffer significant losses, many households were not directly affected by the losses. The Great Recession was a different beast, built on the back of a housing crisis that spread across American backyards, and into Wall Street. On October 24 2008, at the height of the Great Recession, the VIX rose to 89.53 as fear continued to mount.\(^\text{149}\) See Exhibit 6.

**Exhibit 6**

**VIX Index - 2000 to 2012**

![VIX Index Chart]

Households were worried about their financial future and actions reflected this. Recognizing the importance of personal consumption, a series of stimulus packages were released during and

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after the Great Recession. On February 2008 President Bush signed off on a $168 billion economic stimulus package directed to taxpayers. The break, which arrived months later, coincided with an untimely increase in gasoline and food prices, which generally lead to the stimulus simply covering higher prices without the intended effect of real increased expenditure. As a result, consumption levels remained low and, unlike in 2001, America was not able to execute a swift recovery plan.

LIFE BEYOND THE RECESSION

The second half of 2009 saw the US exit the recession as its GDP grew, although this remained inconsistent and the effects of the most damaging recession since the Great Depression remain. By 2012, 8.8 million Americans had lost their jobs, and by the end of 2011 the economy had only regained 30%. While this is expected to grow in 2012, it is unlikely to exceed 50% by the year’s end.150

Homeownership, after peaking at 69.2% in 2004, had only reduced slightly by 2010 to 66.9%.151 While this appears relatively positive, it is in fact the opposite as approximately a million homes remain in foreclosure, with several million more in the pipeline, and just under a million previously foreclosed homes still on the books of banks. High levels of homeownership continue to tie the American household to the crisis that tried to ruin it. House prices remain unstable and are currently at the lowest level seen since 2002.152 With real estate housing sales remaining...
slow, economists predict the backlog of foreclosed houses will take another two to three years to clear.

Still today, people are concerned and confused about the economy. Even since the technical end of the Great Recession, the VIX has twice hit similar levels to that seen during the 2001 recession, demonstrating the significance of this Recession. Along with uncertainty about investment, job security, and the economy comes reduced spending as households delay purchases and look to create their own safety nets. This creates something of a self-fulfilling prophecy as a lack of spending exacerbates a falling economy.153

As well as demonstrating the large effect of this crisis on the consumer, consumption levels provide an important insight into the significance of the Great Recession both in history and in the future. For example, given the period of consumption growth since the 1970s, the US has experienced six recessions:

- 1973 to 1975 - Oil shock;
- 1980 – Money supply restrictions;
- 1982 to 1983 – Energy crisis and tighter monetary policy;
- 1990 to 1991 – Oil price shock and debt accumulation;
- 2000 to 2001 – Dot-com bubble;
- 2007 – 2009 – sub-prime mortgages;

All recessions severely impacted the US in different ways with varying levels of unemployment and dramatic falls in GDP. However, consumption levels stand out as a key differentiator.

between the Great Recession and all others. While consumption has historically responded immediately to the beginning of a recession, consumption at the start of the Great Recession was relatively unchanged, taking multiple quarters to fall significantly. And in terms of recovery, while some improvement was seen during 2009 and 2010, consumption levels remained below pre-recession levels for 4 years after the onset of the crisis.\textsuperscript{154} By comparison, the next slowest crisis recovery followed the 1990-1991 recession; here however, 15 quarters after the onset of this crisis, consumption had recovered to be 5\% greater than before the recession.\textsuperscript{155} This recovery time serves as an important indicator to the severity of a crisis and, in this case, points to the Great Recession as above all others in the last forty years.

Unfortunately, these results are not surprising; the complete de-leveraging of such debt can often take seven years, and in the years that follow recessions countries will typically grow 1 to 1.5 percentage points below that of the previous decade largely because previous growth had been inflating by private borrowing.\textsuperscript{156}

CONCLUSION

America showed its ability to rebuild following the 2000 – 2001 recession and many hoped that the recession of 2008 – 2009 would follow a similar pattern. However, in many ways America’s recovery from 2001, built on significant levels of debt, was what led to the Great Recession in the first place.

\textsuperscript{155} ibid  
As the government provided easier access to funds and relaxed borrowing standards in the early 2000s, households were encouraged to spend. Society increasingly encouraged a consumerist lifestyle that increased personal debt and took mortgages to new heights. On the back of soaring house prices, lenders continued to look to new markets of potential borrowers, regardless of their ability to service a mortgage, believing the safety of an asset increasing in price would provide protection, while borrowers took advantage of low introductory mortgages that they believed could be refinanced in a strong market in the future. Both sides of the equation understood the situation, and believed they could use it to their advantage. Wall Street also saw the potential of the subprime mortgage market, taking on and sharing the risk of a subprime loan to third party investors everywhere.

However, increased interest rates and excess supply corrected the housing bubble, which for so long seemed like it would never burst, affecting borrowers and lenders alike. Homeowners defaulted and lenders were left with assets that they couldn’t sell and that were depreciating in value. The securitization market, which represented more than a third of America’s credit market, crumbled and brought down some of the largest companies in the world. For families, defaulting on mortgages, job loss, a 25% reduction in net wealth, and a loss in retirement savings have had lasting effects.

The immediate benefits of increased consumption and an active housing market can have a significant positive effect on many facets of a country, namely the economy. However, the Great Recession has shown that this is not sustainable. The debt created in America in the early 2000s, and the faith and money placed into a flawed banking system, resulted in the undoing of years of economic progress. The Great Recession ended mid-2009 when GDP returned positive, yet
uncertainty remains and three years after the end of the recession, market uncertainty, measured through the VIX, is reaching mid-recession levels. Saving is a bigger priority than spending, and consumption remains below pre-recession levels, slowing any potential recovery. However, given the severity of the crisis, a slow and steady recovery may be the only sustainable solution. In the meantime, households, companies, financial markets and governments around the world continue to feel the effects of a crisis that proved to be a greater recession than any seen since the Great Depression.

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Introduction

The financial crisis of 2007-2009 had its origin in the burst of the American housing bubble. This paper explains how a burst in the housing bubble could lead to such an international recession in the overall economy. It focuses on the role played by the Federal Reserve providing easy credit, the government’s policy of making mortgages available for everyone, and the risk financial securitization faced by the high correlation of house prices within America. Secondly, this paper will put its focus on Norwegian house prices that have increased rapidly in recent years. The paper will discuss the author’s view of what we can learn from the global financial crisis and the chances for a burst in the potential Norwegian house bubble, and what affect that might have on the overall Norwegian economy.

“While the vulnerabilities that created the potential for crisis were years in the making, it was the collapse of the housing bubble – fueled by low interest rates, easy and available credit, scant regulation, and toxic mortgages – that was the spark that ignited a string of events, which led to a full-blown crisis in the fall of 2008” (Financial Crisis Inquiry Commission, 2011, p. xvi)

Pre-Crisis Economic Growth and Monetary Policy
The Federal Reserve has faced critics in the time after the global financial crisis. After the tech bubble and the terrorist attack on 9/11, the Federal Reserve has applied a very low interest rate. Figure 1 shows a very low interest rate in the early 2000s and a rapid increase starting in 2004. It can be argued that the Federal Reserve should have increased the interest rate earlier, and that this could have prevented the housing boom.

Figure 1

![Federal Funds (effective)](http://www.federalreserve.gov/releases/h15/data.htm)

Figure 1: Federal Funds effective interest rate.

Figure 2 shows the annual growth of gross domestic product in the United States. In 2003 and 2004 the annual GDP growth was 2.55% and 3.48%. The Federal Reserve did not start increasing the interest rate before late 2004. The interest rate increased until it was around 5.20%
in the first half of 2007. The pre-crisis low interest rates provided the United States with cheap credit, and good conditions for economic growth.

**Figure 2**

![Annual GDP Growth USA](image)

**Figure 2: Annual growth in American gross domestic product measured in percentage as a growth from the year before**

Figure 3 shows the Standard & Poor’s Case-Shiller Home Price Indices (SPCSUSA). There is a significant increase in home prices during the low interest rate period from early 2002, until the Federal Reserve started tightening in late 2004 through the first half of 2007. According to the SPCSUSA index, the American house prices reached their peak during the summer 2006.

**Figure 3**

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How Could a Burst in Home Prices Cause the Global Financial Crisis?

The financial world faces bursting bubbles in different assets frequently. This section of the paper discusses how a burst in the American housing market could have such an impact both nationally in the United States and internationally. That a fall in house prices results in lower consumer spending, thus a decrease in the gross domestic product, is a reasonable assumption.

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158 Data: Home Prices Continue to Rise in May 2012 According to the S&P/Case-Shiller Home Price Indices(PDF)
However, as Wallison (2009) argues; a burst in the housing bubble should not by itself have
enough impact to cause what we have named the Big Recession.

**Governmental Influence**

“Since the beginning of the 20th century, the United States has had a policy of fostering
homeownership” (Wallison P. J., 2009, p. 198). The American government put a lot of effort in
making mortgages available for everyone, including people with poor creditworthiness. Issuers
of mortgages have for a long time been encouraged to make these loans of bad quality. Under the
Clinton Administration in the early 1990s, a policy entered into force where banks were not only
encouraged, but required to make these loans to underserved communities (Wallison P. J., 2009,
p. 198). Fannie Mae and Freddie Mac were two governmental sponsored enterprises owned by
shareholders. Originally the missions for these two companies were to maintain a liquid
secondary market in residential mortgages. In 1992, however, their mission was expanded to
include promoting cheap mortgages. The Department of Housing and Urban Development got
the task of governing these missions (Wallison P. J., 2009, p. 199). Fannie Mae and Freddie Mac
bought a significant portion of the total mortgages in America, to keep the market liquid and
make sure lenders could get rid of the risk through financial products. With support in the
government, Fannie and Freddie were able to raise capital cheaply. Their purchases increased
through the 1990s and the early 2000s. When the two companies got taken over by the
government in September 2008 they were responsible for approximately $ 5.3 trillion in
mortgages (Wallison P. J., 2009, p. 200)

Wallison (2009) argues that to meet the requirement from the Department of Housing and Urban
Development, the governmental sponsored enterprises affected the market by driving down the
risk premium and (in competition with Wall Street) drove up the numbers of subprime and other junk loans. Not only were more subprime loans created and the premium driven down, but as the market searched for more raw materials, the quality of the loans went down. In 1998; the market offered loans with 3% down payment; in 2002 the market offered 0% down payment. Even in the period 2004-2007 when interest rates grew, Fannie and Freddie kept on purchasing, and homeownership was able to grow despite the higher interest rates (Wallison P. J., 2009, p. 201). “Although many have argued that it was Wall Street that led the subprime boom, that claim is disproven by the total number of subprime and Alt-A mortgages that Fannie and Freddie ultimately became responsible for” (Wallison P. J., 2009, p. 202).

Alt-As are other nonprime mortgages with poor quality due to the terms of the loans. Fannie Mae and Freddie Mac were very successful in increasing homeownership, but this policy was very dangerous when we look back at it today.

Systematic Risk

Diversification is an effective tool to eliminate unsystematic risk. Unsystematic risk is the individual risk for an individual asset. In the mortgage market, unsystematic risk can be individual factors for defaulting on a mortgage, such as an individual facing economic distress independent of the economic environment. Systematic risk can be seen as the risk of the whole market, and cannot be escaped. By holding a large portfolio with a high number of assets, unsystematic risk can be eliminated by the law of large numbers.

Securitization Products

An important aspect of the financial crisis was the role played by financial products with the purpose of reducing risk. Individuals who bought houses financed by mortgages can be said to
have invested in put options sold by the lender (Jacobs, Tumbling Tower of Babel: Subprime Securitization and the Credit Crisis, 2009, p. 53). In a put option framework, the underlying asset will be the value of the house and the strike price will be the value of the mortgage. In a situation where the price of the house is worth less than the mortgage, the house owner will choose to default on the mortgage leaving the house with the issuers of the mortgage. The cash flow received from the buyer of the put will be equal to \( \text{MAX}[K-S,0] \). The price of the option will equal the down payment of the borrower. In this way the risk is overtaken by the issuer of the option. Mortgages can be sold through special purpose vehicles (SPVs). SPVs pool a great number of residential mortgages into residential mortgage backed securities (RMBS) (Jacobs, Tumbling Tower of Babel: Subprime Securitization and the Credit Crisis, 2009, p. 54).

Structured investment vehicles (SIVs) issue short term commercial paper and medium term notes for purchase by risk-averse investors (Jacobs, Tumbling Tower of Babel: Subprime Securitization and the Credit Crisis, 2009, p. 56). SIVs were, in the start of the financial crisis, heavily invested in commercial and residential mortgage backed securities including subprime mortgages (Jacobs, Tumbling Tower of Babel: Subprime Securitization and the Credit Crisis, 2009, p. 54). SIVs were also heavily invested in collateralized debt obligations (CDOs) that again were heavily invested in RMBS. Just as the RMBS pooled a great number of mortgages, the CDOs pooled hundreds of RMBS (Jacobs, Tumbling Tower of Babel: Subprime Securitization and the Credit Crisis, 2009, p. 54). These financial products were therefor highly diversified in terms of being exposed to a high number of individual mortgages. Unsystematic risk for individual default was wiped out. However, all the mortgages were directly exposed to

\[ K = \text{Strike price given by the value of the mortgage, } S = \text{value of asset, namely the house price.} \]
the house prices. A decrease in home prices would give mortgage borrowers incentive to exercise their put options. The question is therefore how much house prices are correlated. A high correlation in housing prices in the United States reduces the value of diversification.

**Portfolio Effects: Role of Diversification (or lack thereof)**

The author of this paper has calculated the correlation between housing prices in Los Angeles, California and Miami, Florida using Standard & Poor’s *Case–Shiller* Home Price Indices. The result is for illustration purposes only, and the result can be argued to be very misleading as both Miami and Los Angeles were hit hard by the house bubble. Figure 4 shows a high correlation of 0.74 in the period before the financial crisis. Even with the high diversification of mortgages, this shows that a portfolio holding mortgages from the two geographical areas does not have high diversification benefits.

*Figure 4*
However, what is interesting is that during the financial crisis the correlation between the two indexes increased significantly. Figure 5 shows a correlation of 0.90. A hypothetical correlation of 1 gives no diversification benefit in terms of escaping the risk of falling house prices.

Figure 5

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160 All numbers are calculated using tools provided by JLG RESEARCH (www.jlgresearch.com). All data is quarterly return provided by http://www.standardandpoors.com
Credit-rating Agencies (CRAs)

The securities were divided into tranches. The upper or “senior” tranche was the safest one, and the one to receive the first payments from mortgage borrowers. The tranche on the bottom was the last one to receive any payment, and therefore the one with the highest return and highest risk. The credit-rating agencies can be accused of having done a poor job analyzing these products. Normally credit-rating agencies will analyze the fundamentals of the underlying asset. “… [T]he agencies routinely analyzed the underlying RMBS tranches, but not the original mortgages” (Jacobs, Tumbling Tower of Babel: Subprime Securitization and the Credit Crisis,

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161 All numbers are calculated using tools provided by JLG RESEARCH (www.jlgresearch.com). All data is quarterly return provided by http://www.standardandpoors.com.
Many of these financial securities received AAA rating, and securities that got rated more poorly could be pooled into a new mix that would receive a higher rating.

“Credit-rating agencies played a crucial role in the success of subprime mortgage securitization, inasmuch as their ratings came to be viewed as virtual guarantees of investment quality” (Jacobs, Tumbling Tower of Babel: Subprime Securitization and the Credit Crisis, 2009, p. 60).

The System Fail

“Greed on Wall Street was a given--almost an obligation. The problem was the system of incentives that channeled the greed” (Lewis, The Big Short, 2011, p. 256). In answering how a burst in the house bubble could have such an impact on the world economy, there are three aspects the author puts extra emphasis on. Firstly, the demand for mortgage backed securities was unnaturally high, especially given the role of the government. Thus, too many financial products were created, both with roots in real mortgages and synthetic products created to give a similar cash flow. Secondly, the underlying portfolio consisted of assets with high correlation. The products received good credit ratings, but the diversification benefits were probably overestimated in addition to credit-rating agencies not analyzing the fundamentals of many of these products. The financial products were in many cases build up by so many assets that they were too complex to really get an understanding of what they consisted of. However, after the crisis it is clear that the financial products were too exposed to a fall in overall house prices. Thirdly, the correlation is not constant, and as the example above with house prices in Miami and Los Angeles illustrates; the correlation increased during the downturn in the market. This is an important argument, when institutions calculate their value at risk. In the belief that correlation is low no matter what situation the economy faces, the leverage might be far too high.
Not only were these financial products a device for moving along risk rather than sharing risk, but it also made it possible for banks to issue huge amounts of risky loans. They were able to pass along the risk, and therefore able to make new loans as the old loans were no longer on their balance sheet. This increased the total number of subprime mortgages significantly.

**The Norwegian Situation**

As an interesting comparison, house prices in Norway have increased significantly both before and after the global financial crisis. Since early 1992 to the second quarter of 2012, the Norwegian house price index has more than quadrupled (Figure 6). A direct comparison of Norwegian house prices to American house prices gives at first glance reason for concern. The opinion held by the average Norwegian today is in many ways similar to the opinion held in the United States before the global financial crisis – the house market will never stop increasing. Recently Norwegian media has started to address the problem and question if it is a sustainable growth. Norway got through the global financial crisis in very good shape compared to the international economy. However, the central bank dropped the key policy rate significantly after the fall of 2008 as a direct result of the financial situation.

**Figure 6**
The Central Bank’s Dilemma

Figure 7 gives an overview of the key policy rate set by the Norwegian Central Bank. It has been kept low from the fall of 2008 and until today. It can be argued that the key policy rate should have been increased already due to the strong economy. However, the interest rate has been kept low to protect Norway’s international competitiveness. Norway’s economy is dependent on exports, and adapting to the international situation is essential. In the pre-crisis period Norwegian house prices grew rapidly despite the high key policy rate almost reaching 6% in 2008. In the author’s view, this was a result of a strong national and international economy. However, the

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Data: www.ssb.no
rapid increase after a small dip in 2008 can perhaps be blamed on the very low interest rate set by the Central Bank.

Figure 7

![Key Policy Rate](image_url)

Figure 7: The Key Police Rate set by the Norwegian Central Bank.

A Sustainable Situation?

The interest rate will keep on playing a key role in the Norwegian housing market. A continued low key policy rate will in itself impact home prices for further growth. The Norwegian mortgage market is however not influenced by subprime mortgages. The Norwegian government increased the demand for down payments on mortgages from 10% to 15% in December 2011. The guidelines for improving mortgage loans in Norway today are not comparable to the situation in the United States before the global financial crisis, in terms of having much higher creditworthiness among borrowers. Above, we explored the effect the American government had

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on the financial crises due to their policy of increasing homeownership. In Norway people can receive help on down payments and paying interest rates through Husbanken\textsuperscript{164}. Again, compared to the role played by the American governmental sponsored enterprises and policy for providing mortgages to underserved communities, the Norwegian government is playing it safer. Norwegian homeowners will not have as high an incentive to default on their mortgages as the American homeowners had.

A situation with high house price, hence high mortgages, can be very unstable if the overall economy is performing poorly or the interest rate is increasing. These two scenarios are, in the author’s view, likely. With the present unstable financial situation in Europe, a poor economic performance is not unlikely both internationally and nationally. Another concern, due to the situation in Europe, is the possibility of tightened access to money for the banks, thus increasing inter-bank rates. This will again lead to a higher rate for mortgage borrowers despite an unchanged key policy rate. On the other side, positive growth in international and national economies will probably lead to an increase in the Norwegian policy rate, also leading to a rise in mortgage rates. Keeping the interest low is increasing the likelihood of a future burst, and the question might be how dramatically the growth is going to change.

**Possible Impacts from a Burst in Norwegian House Prices**

As described earlier in this paper, there were more factors than just a burst in the housing bubble that crafted the global financial crisis. The author believes that these factors are not present in the Norwegian market in terms of; a great number of financial products exposed to house prices with high correlations within each other; the misleading credit-ratings; and the extreme amount of

\textsuperscript{164} www.husbanken.no
subprime mortgages created in addition to synthetic financial products. For these reasons, a hypothetical decrease in Norwegian house prices will probably not affect the overall economy in the same way as in the United States. With this said, it is to be considered that a home for the everyday Norwegian is an investment of huge significance, thus consumer spending will probably fall if house prices fall. However, a crash in the financial market is, in the author’s view, less likely.

Conclusion

House prices in Norway today might face a decline just like the American housing market faced from 2006 and until today. There are similarities in the monetary policy with low interest rates. Just like the Federal Reserve, the Norwegian Central Bank might find itself in the position of increasing the interest rate too late. Especially if we assume that a change in the key policy rate will have a lagged effect on economic growth. However, the Norwegian Central Bank is pressured by the export business to prevent the exchange rate from increasing, in the low interest rate environment the world currently faces.

In comparison to the United States, a decrease in housing prices is less likely in the sense that Norway is not infiltrated with subprime mortgages. The down payment today for example is 15% in contrast to situations with down payments of 0% in the United States pre-crisis. The overall incentives of creating mortgages are also low in comparison to the United States.

A burst in the Norwegian housing bubble is perhaps likely. The unstable situation in Europe that might lead to a decrease in the Norwegian economy, or the possibility of higher inter-bank rates, might release this scenario. On the other side, and perhaps an even worse scenario is the
possibility that today’s situation with low interest rates keeps on going and feeding the bubble to grow to even more extreme levels into the future, making a burst unavoidable.

A drop in Norwegian house prices will not give mortgage borrowers as high an incentive to default on their loans, due to the higher down payments. The transfer of the risk starting with the mortgage borrower and over to both national and international investors through financial products made the American house bubble affect the economy significantly. The underestimated high correlation within these products was gasoline for the fire. A burst of the Norwegian housing bubble is less likely to have such an (relative) impact on the overall economy as the American burst caused.
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http://finance.yahoo.com/q?s=%5EVIX
Introduction

Joseph Stiglitz opens the first chapter of his New York Times Bestseller *Freefall: America, Free Markets, and the Sinking of the World Economy* by saying that “the only surprise about the economic crisis of 2008 was that it came as a surprise to so many”.\(^{165}\) Indeed, there have been numerous crises in modern times, bubbles that have eventually burst leaving countries in economic downturns; periods of exceptional growth followed by decline and stagnation.

Nonetheless, the crisis of 2007-2009 came crashing down on the U.S. and spread quickly to the international markets. The United States, with its financial institutions and currency in the center of the global financial system, led the way into what is now known as the Global Financial Crisis.\(^{166}\) This paper will focus on two factors that, in authors view, contributed the most to the
crisis: policies and actions of the U.S. Government, and a human nature that prevented people from “doing the right thing”.

**United States Government**

The involvement of the United States government in creating a crisis ready scenario can be traced back to a couple of key factors. Firstly, the Community Reinvestment Act opened the door to the subprime mortgages that would otherwise have not been issued. Secondly, increased involvement of Fannie Mae and Freddie Mac as government-sponsored enterprises (GSE) in the subprime and Adjustable Rate Mortgage market contributed to the growth of this low-quality lending. Both of these factors impacted the behavior of banks in terms of their risk exposure and the relaxed lending standards.

**Community Reinvestment Act**

The drive to increase homeownership has been a part of the United States domestic policy for numerous decades. During the Hoover administration (1929-1933) and after World War II, Congress took actions to allow government-backed mortgages to be issued through reduced lending requirements. At the same time, most of the lenders continued to provide traditional lending with stricter underwriting, believing their requirements resulted in better quality mortgages and a lower default rate.\(^{167}\)

The principle idea behind the Community Reinvestment Act (CRA) of 1977 was directed towards encouraging financial institutions to provide lending to low and moderate-income families in order to promote homeownership.\(^{168}\) Yet again, the Congress was the driving force behind the initiatives that would allow more people to purchase homes. However, the targeted

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\(^{167}\) Peter J. Wallison, CFA Insights: Not a failure of Capitalism – a failure of Government, 2009

\(^{168}\) Board of Governors of the Federal Reserve System website
borrowers in this situation were generally low income residents with poor credit and likely no funds available for down payments, a combination that put these borrowers at a higher risk of default. One might ask why the financial institutions did not behave as they had in the past by sticking to their principles and maintaining high standards. The answer is simple; the Community Reinvestment Act came with a catch. Peter Wallison writes in his article *Not a failure of Capitalism – a failure of Government*: “(CRA) gave regulators the right to deny bank applications for expansion if the applicant had failed to lend sufficiently in minority neighborhoods”. As one can imagine, this had a major impact on banks’ decisions to reduce lending requirements as a way to meet the CRA objectives. In a way, the banks were being penalized for being cautious and for using their best practices. If the participation in the Community Reinvestment Act meant they could expand their business as planned, lending to individuals who did not meet the “old” underwriting criteria became a price of doing business. Once the door was open for lower quality mortgages, it was only a matter of time before these products were expanded to borrowers from outside of the CRA umbrella. Especially considering that the emerging market for subprime mortgages was driven by two big financial players.

**Fannie Mae and Freddie Mac**

Fannie Mae and Freddie Mac were both government-sponsored enterprises (GSE) chartered by Congress to “provide liquidity, stability and affordability to the mortgage market”, according to the Federal Housing Finance Agency. The primary way of carrying out their mission was through purchasing of existing mortgages from banks and financial institutions. These mortgages became either a part of the GSE’s portfolios or they were repackaged into mortgage backed

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170 Federal Housing Finance Agency website
securities (MBS) which were then used in various investments in various markets. The pressure from affordable housing regulations, that Fannie Mae and Freddie Mac were supposed to promote, and their easy access to funds at a relatively lower rate through their relationship with the United States Government, allowed the two enterprises to quickly jump on the subprime mortgage purchases. As a result, the demand for subprime mortgages increased. It should not be surprising then that the supply of these low-quality mortgages increased as well. As mentioned before, banks have already reduced their lending standards due to the Community Reinvestment Act requirements; therefore an increase in the issuance of subprime mortgages was in line with the increased demand for such products.

It is important to realize that Fannie Mae and Freddie Mac were in the business of promoting homeownership altogether, as per the government driven initiatives. The subprime mortgages met some of these goals but it was not enough. The Adjustable Rate Mortgages, and mortgages with interest only payments, as well as negative amortization, filled in the gap nicely. Again, these products were not issued by Fannie Mae and Freddie Mac directly; neither business sold directly to the end customer. However, as in any market, where there is a demand, there will be a supply. Figure 1 and Figure 2 illustrate the dramatic increase in Adjustable Rate Mortgages and the Nontraditional Mortgages respectively from 2004 through 2006. With the GSEs being more than willing to purchase these low-quality and high-risk products, the banks and financial institutions were there to supply them. Joseph Stiglitz argues that such "litany of defenses is, for the most part, sheer nonsense" as he claims that Fannie Mae and Freddie Mac simply “joined in the fun” by deciding to include these products in their portfolios.\textsuperscript{171} The question that comes to

\textsuperscript{171} Joseph E. Stiglitz, Freefall: America, Free Markets, and the Sinking of the World Economy, 2010
mind is whether there would have been any “fun” to join if no one was there to create the “fun” in the first place.

Figure 1:

Source:
FHFA based on data from the Department of Housing and Urban Development, the Federal Housing Administration (FHA), the Department of Veterans Affairs (VA), the Rural Housing Service (RHS), and Inside Mortgage Finance Publications


Figure 2:

Nontraditional Mortgage Product
Was it worth it?

As Figure 3 clearly shows, the United States government did succeed in its quest to increase homeownership, but the price was just way too high. The subprime and Adjustable Rate Mortgages resulted in default and foreclosure rates skyrocketing. FDIC foreclosure statistics paint a grim picture:

Figure 3:

Homeownership Rate

Source:

FDIC Outlook: Breaking New Ground in U.S. Mortgage Lending


172 FDIC FORECLOSURE STATISTICS; http://www.fdic.gov/about/comein/files/foreclosure_statistics.pdf
1 out of every 200 homes will be foreclosed upon

Every three months, 250,000 new families enter into foreclosure

One child in every classroom in America is at risk of losing his/her home because their parents are unable to pay their mortgage

The home prices continue the free-fall leaving homeowners wondering how low can the prices go and how much more home equity will they lose (see Figure 4). The housing bubble would have burst one way or the other and the American people would likely be facing an economic crisis as such is the cycle of growth and economic decline. The

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173 S&P/Case-Shiller Home Price Indices
magnitude of the crisis however was largely influenced directly and indirectly by the policies and actions of the U.S. government, and it is the author’s opinion that these policies made matters worse than they could otherwise have been.

Figure 4:


Source:
S&P Dow Jones Indices and Fiserv
Human Nature

Regardless of the extent the United States government policies played a role in the Global Financial Crisis, one might wonder, coming back to the opening statements of this paper, why is it that the crisis was such a surprise to some many people? Those involved in operations at Fannie Mae and Freddie Mac must have known something was not right with the mortgages they were purchasing and the risk they were exposing the company to. Those involved at banks must have known the mortgages they were issuing were unsustainable and with higher default probability than ever before. Those involved at AIG must have known their exposure was way off. The list goes on and on. Indeed, one can actually find examples from memos, emails and phone call transcripts showing some degree of concern but no actions. 174 It is the author’s view that human nature played a key role in the Global Financial Crisis.

174 Marianne M. Jennings, CFA Insights: Of Candor and Conflicts: What were we thinking?, 2009
The pressure to perform

As discussed in a previous section, with the implementation of the Community Reinvestment Act, banks suddenly found themselves under new pressure to provide lending to lower-income borrowers. Pressure was building up at Fannie Mae and Freddie Mac to meet the affordable housing regulations. Evidently pressure can drive people to make decisions that they might not otherwise make under different circumstances. Marianne Jennings in her article _Of Candor and Conflicts: What were we thinking?_ explores the idea of pressure playing a key role in the Global Financial Crisis though numerous examples, such as the collapse of Merrill Lynch. She cites executives who stated that the pressure to meet and exceed the goals was always present in the office. Jennings also links pressure with looking for loopholes and focusing on the short-term objective rather than long-term gain and producing sustainable growth; this shift in focus therefore led many businesses to compromising their principles. She contributes, in part, the collapse of Lehman Brothers and Bear Stearns to increased pressure to perform as well.

Bigger and Better
As much as banks had their incentives (good or bad) to issue low-quality mortgages, the borrowers were more than willing to take on the loans for more than they could actually afford. Stiglitz defends the borrowers by saying that they were “financially illiterate” and “did not understand what they were getting into”.\textsuperscript{175} It might be true in some cases, however, the author believes that for many people it was just more convenient to take the money the bank was willing to give them rather than admit they might not be able to pay it back. The reason is simple, human beings want things other people have. The ”Keeping up with the Joneses” mentality makes us want the bigger house and the better car. The large amounts coming from loans were just a new way to buy something now and worry later about how to pay it back. The American people had been living beyond their means for years before the Global Financial Crisis, with the household debt-to-income ratio on increase from late 1990’s (see Figure 5). The trend continued in the early and late 2000 since there was no incentive to change the behavior. Owning a home has always been an American Dream. Yet, it used to come with hard work and sacrifices. The subprime mortgages took care of the hard work part, leaving just the dream coming true on the table. The bigger and better one as well

\textbf{Figure 5: U.S. household debt}

\textsuperscript{175}Joseph E. Stiglitz, Freefall: America, Free Markets, and the Sinking of the World Economy, 2010
It is someone else’s fault

When the extent of the Global Financial Crisis became more evident, plenty of pointing fingers and passing the blame onto the next party involved took place. Between the mortgage originators, companies involved in securitization, the rating agencies, the Federal Reserve and the U.S. government, everyone found someone else to accuse of wrongdoing. Human nature once again makes us search for a way out. No one was willing to step up and take responsibility. As a result, the average consumer lost faith and confidence in everyone involved; the outcome that is now making the recovery slow and unpredictable. It is easy to point fingers and hope that
it will reduce one’s exposure. Humans like easy solutions. The difficult choices are, well, difficult and admitting to a mistake or a lapse in judgment takes courage. Even Stiglitz admits that restoring trust and learning to take responsibility are key features on the road to a new society. 176

**Irrational decisions of a rational investor**

A significant number of home purchases during the housing bubble were associated with an investment opportunity rather than pure homeownership; which brings the human nature discussion to the idea of a rational investor making irrational investment decisions. With housing prices on the rise from 2000 to 2006, as indicated in the Case-Shiller Home Price Index (Figure 4), many investors bought the idea of a great return coming from a real estate investment, not recognizing the risks of the growing bubble. The human nature drives overconfidence and inflated optimism in good times. People get caught up in the excitement of the market and, at the same time, use incomplete information to draw incorrect decisions. One investor’s willingness to pay a high price for real estate is a signal for another market player that real estate is a good investment, suggests Robert Shiller in his New York Times article *How a Bubble Stayed Under the Radar.* 177 He then continues to explain that, as more people act in such way, these signals outweigh any information or research the investors might have done on their own, that might have led them to a different decision. As the prices of real estate continued to grow, and the earlier investors saw their initial returns going up, the feeling that they had discovered the next great opportunity to make money became contagious, and this lead to herd behavior among the investors. However, these same excessively optimistic investors quickly turned around towards

excessive pessimism as the bubble burst. This excessive pessimism still lingers in the air and contributes to the very slow recovery from the Global Financial Crisis. Human nature prevented the investors from seeing that the investment that sounded too good indeed was too good to be true.

**Conclusion**

The Global Financial Crisis had an enormous impact on the global economy and put the international community in a recession which has been hard to overcome. With the United States in the center of the crisis, the country has the difficult job of regaining internal stability and its external position as a world leader. There are numerous points of view as to what contributed the most to the crisis and what lessons to draw from the crisis itself.

The United States Government, with its initiatives and regulations, played a key role in opening the door to the low-quality mortgages that flooded the market and provided a foundation for the spike in default rates and foreclosures. The government-sponsored enterprises, Fannie Mae and Freddie Mac, provided the demand for these subprime mortgages, therefore increasing their supply in the marketplace.

Yet, it was also good old human nature that contributed in many ways to the Global Financial Crisis. From greed and the pressure to perform, through the easy way out, and the inflated sense of entitlement to everything other people had and more, and finally irrational investment decisions coming from their behavior, we all in a way contributed our fair share to the crisis.

The road to recovery already proved to be a tough one and there are still many challenges to come for countries all over the world. Lessons remain to be learnt from the Crisis of 2007-2009. The complexity of the two factors included in the discussion above makes it even more difficult to provide suggestions on how to avoid the same issues in the future. Government regulations
and initiatives play an important part in our lives and are so crucial in many ways. At the same time, there needs to be a more comprehensive understanding of the outcomes which regulations bring about, and the effects they have on the overall economy, not just in a national sense but on the global scale as well.

One can only hope that, as individuals, we all learnt something from the Global Financial Crisis. Human nature can be difficult to overcome. Have we changed enough to stop ourselves from falling into the same traps again? Or is our memory short? In this aspect, only time will tell.

Crises come and go; it is a part of the world we live in. Let us all just hope that next time we all collectively will make better choices and will be better prepared so we can say that this time it is different.

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FDIC FORECLOSURE STATISTICS

Chapter 36

Crisis of Decisions - Failure and Improvement of Decisions in the Market

Mate Jendrolovics

Abstract

This paper has two purposes. The first is to provide an explanation for the pre-crisis decisions of four relevant market participants who played an important role in the events that led to the crisis. The second is to propose recommendations regarding how these decisions can be improved in the future by changes in the regulatory environment. In the paper it is argued that many of these decisions failed because of two reasons. First, many participants were not capable of making rational decisions. Second, several participants made individually rational decisions, but these decisions had disastrous consequences for the whole market because of their misaligned incentives. The paper provides four recommendations to improve decision making. The first is to increase rational decision making capabilities of the citizens by providing financial education and high quality publicly available, easy to understand information. The second is to improve corporate governance in the fields of risk monitoring and executive compensation. The third is to solve the conflict of interest between credit rating agencies and issuers. The fourth (at the time of this writing) is to set up a new division of the regulatory authority, with the duty of developing system-wide incentive structure models to identify systematic risks.

Introduction
Imagine a world, where people apply for loans while they do not have the necessary income to pay them back. Imagine a world, where banks actually provide mortgages for these people. Imagine a world, where these mortgage providers can sell these mortgages to other financial institutions. Does this chain of events look unrealistic? In fact it describes the pre-crisis U.S. mortgage market pretty well.

It is exceptionally important to understand why these decisions have been made in the past in order to improve the regulatory and economic environment of the future. We need to understand how these decisions were made and whether they were simply not rational or actually were rational but only for the individuals, and disastrous for the market as a whole. Without that information, developing measures to prevent future crises is exceptionally difficult.

As mentioned, this paper has two purposes. The first is to provide an explanation for the decisions of four market participants who played an important role in the events that led to the crisis, namely the mortgage borrowers, the mortgage providers, the financial institutions who securitized and invested in residential mortgage-backed securities, and the credit rating agencies. The second is to propose recommendations regarding how these decisions can be improved in the future by changes in the regulatory environment.

The paper follows the following structure. First, it presents important hypotheses about economic decision making. Second, it describes the most relevant factors of the pre-crisis environment which are significant to understand the decisions made before the crisis. Third, it analyses separately the incentives and decisions of the already mentioned four market participants. Finally, it provides recommendations based on the outcomes of the analysis.
Hypotheses of wrong decision-making

This part of the essay consists of three subparts. First, it presents a well-known theory (Soros’s reflexivity) that provides reasons why market participant’s judgment might fail. Second, it summarizes Garrett Hardin’s “The Tragedy of the Common” theory which explains why rational individual decisions can lead to disastrous consequences for the whole. Finally, it explains a framework of decision making analysis which is based on these theories.

George Soros – The theory of Reflexivity

The main argument of Soros is that “our understanding of the world in which we live is inherently imperfect because we are part of the world we seek to understand” (Soros [2009] p. 3.). He argues that people interact with the reality in two ways; through the cognitive function and the manipulative function. The former is the function of understanding the reality; the latter is the function of making an impact on the reality. Soros also argues that these two functions operate at the same time which leads to a two-way interference, which he calls reflexivity, which leads to biased understanding of the reality. For instance when someone tries to analyze the price of a stock, its past price may be determined, but its future price depends on many participants’ decisions, which can be only predicted based on the views and judgments of the individual. It means that because the two functions derive each other (we manipulate reality through our judgments, while we try to understand it), decisions are not based only on knowledge, but beliefs and judgments, which makes these decisions inherently imperfect. (Soros, 2009) The argument that judgments and decisions are not purely based on knowledge and not perfectly rational is used in the essay’s decision making analysis framework.
Garret Hardin - Tragedy of Commons

Hardin (1968) argues that decisions of rational beings seeking to maximize their own gains can lead to disastrous consequences for the common. He also provides an example to support his claim. In an imaginary pasture each herdsman can keep as many cattle as possible. Hardin argues that “As a rational being, each herdsman seeks to maximize his gain” (Hardin [1968] p. 1244.). He argues that “the rational herdsman concludes that the only sensible course for him to pursue is to add another animal to his herd. And another; and another…” (Hardin [1968] p. 1244.). However, if every herdsman reaches this conclusion, overgrazing occurs, which is then disadvantageous for each herdsman (Hardin, 1968). The argument that individually rational decisions can lead to disastrous consequences for the whole is used in the essay’s decision making analysis framework.

Framework for the decision making analyses of the paper

A framework has been developed for this paper to analyze pre-crisis decisions in the market. It assumes that two types of wrong decisions could have played an important role in the creation of the crisis. First, when market players failed to make rational decisions, and second when these players made rational decisions, but their decisions were disadvantageous for the market as a whole.

The model also assumes that rational decision-making can fail for two main types of reasons. The first is the lack of appropriate and sufficient information, or the lack of knowledge and capabilities which would enable decision makers to draw reasonable conclusions from their
information. The second is failures in human nature such as greed, which might distort rational thinking.

To provide some examples, the first type of reason played an important role in the failure of decision making, when in several companies, according to an OECD analysis “information about exposure did not reach the board” (Kirkpatrick [2008] p. 2.), or when mortgage borrowers failed to understand that housing prices cannot always increase in the long-term. The second type of reason is the main cause of the irresponsible behavior of the people, which is described by Kaplan (2009) the following way: “the public was hungry for bigger and better homes that they could truly not afford” (Kaplan [2009] p. 135.)

Another key assumption of the model is that the main roots of individually rational, but on market level, disastrous decisions are misaligned incentives. The last assumption is that these misaligned incentives can occur on two different levels. First, on the level of the individual/micro-level (compensation, promotion, etc.), which is a clear corporate governance issue. Second, on the macro/industry level (e.g.: the relationships between market players, low interest rate environment, etc.), which is a regulatory issue.

The individual/micro level incentive misalignment occurred in many cases, for instance when “incentive systems at lower levels have favored risk taking” (Kirkpatrick [2008] p. 14.) in several companies. The conflict of interest between credit rating agencies and CDO issuers is an example of incentive misalignment on the macro/industry level.

**Relevant decision making factors in the pre-crisis environment**
The purpose of this part of the essay is to explain three major pre-crisis economic trends in the United States which are essential to understand in order to conduct a proper analysis of the market participants’ pre-crisis decisions.

**Housing bubble and housing prices history in the United States**

The housing bubble in the United States played an important role in the global financial crisis and also in the decision making process of the market players. As it can be seen in Exhibit 1, housing prices increased sharply from 2000, and peaked and then started to decline in 2006.

**Exhibit 1**

It affected the judgment of market players in two ways. First, many of them believed that housing prices would always increase. Second, several players underestimated the potential
decline in the prices. Jacobs (2009) cites a review of Bank for International Settlements and argues that the reason for that was that “such a decline had not occurred on a nationwide scale since the 1930s.” (Jacobs [2009] p. 67.).

Securitization of mortgages

According to Jacobs (2009) securitization of mortgages basically meant that hundreds or even thousands of residential mortgages have been pooled together to create residential mortgage backed securities (RMBS). The key idea was to “take the payments on the underlying mortgages and redirect them – and any associated losses on them – to three categories of securities, called tranches”. (Jacobs [2009] p.55.) These RMBSs had a special payment structure as the tranches had different risk-return profiles, and the higher-rated tranches were the first paid each month. (IMF, 2008). It meant that these tranches were safer, while the lower-rated ones had the potential to earn more (IMF, 2008). In many cases hundreds of these RMBSs were pooled together again to create CDOs. The process of securitization of mortgages is explained in Exhibit 2.

Exhibit 2

The effects of securitization on market players’ decisions were very significant and affected them in two major ways. First, it shifted the risk between market players and led to incentive misalignment as I will explain later. Second, the perceived risks of these securities were very low before the crisis.

**Government intention to foster affordable housing and economic growth**
The U.S. government had two key intentions, both of which drastically affected the market environment, thus the decisions of the market players.

The first was the intention to foster economic growth after the burst of the dot-com bubble, which manifested in a low interest rate environment. According to the FED database, the effective federal funds rate in 2001 was 3.88%, while between 2002 and 2004; these rates were below 2 percent. (federalreserve.gov, 2012) These low interest rates created easy credit conditions, which had a huge impact on the decisions in the market.

The second intention was to foster home ownership through Fannie Mae and Freddie Mac. According to Wallison (2009), the “requirements that Fannie and Freddie promote affordable housing were gradually escalated over the years.” (Wallison [2009] p. 200.) To prove his argument he states that by 2005, about 55 percent of the mortgages that Fannie and Freddie purchased from banks and other originators had to be loans made to low- and moderate-income, and 25 percent had to be made to low- or very low-income borrowers. It led Fannie and Freddie to purchase large amounts of subprime and Alt-A loans. Wallison (2009) argues that these purchases increased the competition for these loans which drove down the risk premiums on them and drove their quantity higher. This trend had a huge impact on the incentive structure of the market.

**Analysis of the pre-crisis decisions of market players**

This part of the analysis explains the pre-crisis decision failures of mortgage borrowers, mortgage providers, investors and credit rating agencies separately. Each analysis follows the same structure, which is based on the already explained decision-making analysis framework.
First, the difference between ideal decisions and past decisions are being evaluated. Second, I will analyze whether past decisions were rational from the market players’ perspective. Third, distortions in the incentive systems are assessed to find out whether rational individual decisions tended to foster disastrous market outcomes.

**Mortgage borrowers**

**Differences between ideal and past decisions**

Ideally, a borrower should apply for a mortgage that he/she truly needs and can afford. However, before the crisis, in many cases borrowers applied for loans they could truly not afford (Kaplan, 2009). In other cases they applied for loans with only investment purposes. They planned to purchase houses with the loans, sell them on higher prices, and pay back the loans with profit. However, when interest rates rose and housing prices declined, many of these loans began to default, as people did not have sufficient income to pay the interests, or the value of the loan exceeded the value of the real estate they bought, removing the incentive to pay the mortgage back.

**Non-rational elements in the decision making process**

It can be assumed that rational decision making of mortgage borrowers failed because of the lack of information/knowledge and human nature.

First, it is probable enough to argue that people failed to understand the risks of rising adjustable interest rates, and the risk of decreasing housing prices because of the lack of their information and finance/economic knowledge. With that knowledge, they might have realized the true risks of applying for mortgage loans, which would have decreased the quantity and the volume of
mortgage applications. Second, it also can be assumed that greediness facilitated the demand for mortgages.

**Incentive misalignment**

Low interest rates, and the activity of Fannie Mae and Freddie Mac, created an environment where mortgage loans were really attractive. This clearly had an encouraging effect on the borrowing activity on the macro-level, as loan applications became individually more rational, which fueled the housing-bubble, thus making the crisis more severe.

**Mortgage providers**

**Differences between ideal and past decisions**

Ideally a mortgage provider - just like any other corporation - needs to maximize its profit over the long term, which means that it needs to have a sustainable and profitable business activity. To achieve it, it needs to conduct due-diligence on the mortgage applicants and provide mortgages to debtors who are likely to pay back their mortgages and the interests. Obviously, it can chose to take risks by providing mortgages to riskier applicants for higher returns, but these risks should not exceed a certain level. In reality, several mortgage providers failed to keep their risks below this level because they provided too many risky subprime or Alt-A mortgages, which lead to the failure of these companies during the crisis when these mortgages defaulted.

**Non-rational elements in the decision making process**

It can be assumed that non-rational elements in the decision making process of mortgage providers are identical to the elements of the mortgage borrowers (not understanding the risk of
declining housing prices, increasing interest rates and greed). However, as these corporations are professionals in mortgage lending, the significance of these irrational decision-making factors needs to be lower, as their knowledge about finance and economics is inherently higher. On the other hand, it is important to mention that boards, and especially risk committees of the boards, failed to provide rational judgments in the oversight of companies’ risk taking activity.

**Incentive misalignment**

One of the main arguments of this paper is that the apparently irrational decisions in the lending activity of mortgage providers were actually partly rational because of the misaligned incentives. It is argued that wrong corporate governance created wrong incentives on the micro/individual level and securitization of mortgages with the activity of Fannie Mae and Freddie Mac created the wrong incentives on the macro/industry level.

On the level of the individual, compensation structures and promotion processes can be blamed, as they created incentives for excessive risk taking, instead of maintaining a sustainable risk exposure.

On the macro/industry level, the fact that mortgage providers could sell their mortgages to financial institutions that bundled them into mortgage backed securities drastically changed the business model, and thus the incentives of these companies. Kaplan (2009) argues that mortgage providers had less interest “to conduct due-diligence on loan applicants” (Kaplan [2009] p. 135.), and Jacobs (2009) claims that they were incentivized to limit the time spent on due-diligence and to lend as fast as possible to collect more revenues.
The dilemma of the executive team was the following. Either keep the risks low and spend valuable time and resource on due-diligence or increase lending activity aggressively, and then sell the mortgages to other financial institutions. The latter option was more attractive mainly because of four reasons. First, it was relatively easy to sell these mortgages, as the activity of Fannie and Freddie increased the demand for them. Second, part of the default risk could be shifted to the issuers and to the investors of the mortgage backed securities, which reduced the risks of the mortgage lender. Third, from the revenue of sold mortgages, new mortgages could then be issued. Fourth, the latter decision led to higher compensation for the executive team.

This change in the business model had serious effects on the market, as it incentivized mortgage providers to lend more aggressively, which decreased the average quality of mortgages and fueled the housing bubble.

**Investors of mortgage-backed securities**

**Differences between ideal and past decisions**

The optimal goal of financial institutions that invest in mortgage-backed securities is to achieve an attractive and sustainable profit level over the long term. To reach this target, these institutions need to find a balance between risky investment possibilities with higher returns and safer investment options with lower returns. In reality, several financial institutions invested too heavily in mortgage-backed securities and failed when mortgages started to default. For instance UBS announced a $10 billion write-down, “largely because of losses on subprime AAA rated tranches of CDOs” (Jacobs [2009] p. 64.) and Bear Stearns “was brought down by its $46 billion in mortgages, RMBS, and CDOs” (Jacobs [2009] p. 65.).
Non-rational elements in the decision making process

It can be assumed that the key non-rational decision making element was that these institutions failed to realize the hidden risks of mortgage-backed securities. It is often argued that diversification and subordination of RMBSs and CDOs created a false misconception that these securities offered low risks, and relatively high returns. Jacobs (2009) argues that the disconnect between the perceived risk and returns fueled the demand for these products.

However, when subprime mortgages started to default nationwide, the risks of these products were instantly realized. It is questionable whether these institutions truly did not understand the risk because of the lack of their capabilities, or were just eagerly looking for higher returns in the low interest rate environment. Either way, corporate boards failed heavily in monitoring these risks.

Incentive misalignment

It is argued that there were misaligned incentives both on the micro and the macro level, which distorted the decision making of mortgage-backed securities investors.

On the micro level, inappropriate corporate governance and severe competition enforced excessive risk taking which drove investments towards high return RMBSs and CDOs. For instance, Shefrin (2009) identifies several flaws in the pre-crisis compensation system of UBS. First, “UBS’s compensation structure barely took risk issues into consideration and made little to no adjustment for risk” (Shefrin [2009] p. 238.). Shefrin (2009) argues that it led to risk seeking behavior about positions involving subprime mortgages and their associated derivatives. Second, the compensation system emphasized short-term gains over long-term stability. (Shefrin, 2009)
On the macro level, ratings issued by the rating agencies on mortgage-backed securities fostered the misconception that these securities were safe.

If a company wanted to keep up with the competition, or if a CEO wanted higher compensation, they were incentivized to invest in these high-return securities, and the high-rating of these products encouraged these activities. These incentives drove the demand for these products which encouraged mortgage lending activity, thus fostering the growth of the housing bubble and decreasing the average quality of mortgages.

**Rating agencies**

**Differences between ideal and past decisions**

Ideally, credit rating agencies should maximize their profits through rating certain types of debt obligations in the sole interest of the investors. The better rating they provide, the better decision the investors would make. However, before the crisis credit rating agencies largely underestimated the risk of mortgage-backed securities which had a severe effect on investors.

**Non-rational elements in the decision making process**

Jacobs (2009) provides four reasons why credit rating agencies failed to make rational judgments in the process of rating mortgage-backed securities. First, “none of the credit-rating agencies examined by the Securities and Exchange Commission had specific written procedures for rating subprime instruments, as opposed to other MBS and CDOs.” (Jacobs [2009] p.61.). Second, credit rating agencies "were unprepared to handle the huge volume of subprime business they were asked to rate” (Jacobs [2009] p. 68.). Third, “they were not required to verify any of the
information given to them for rating purposes” (Jacobs [2009] p. 68.). Fourth, they underestimated the severity of the decline in housing prices.

Incentive misalignment

In the case of credit rating agencies, incentive systems were clearly distorted both on the micro and the macro level.

On the micro level, corporate governance can be blamed again. Shefrin (2009) argues that in the case of S&P the CEO and the Chairman established unrealistic profit goals for the organization which induced risk-seeking behavior in the rating of mortgage-related products, and cost cutting. It clearly explains why these agencies were unprepared to handle these types of ratings.

On the macro level, there was a more serious distortion in the incentives. Jacobs (2009) argues that as the entity which is seeking a rating is the one who pays for it, and as these issuers had a large say in choosing the rating agency, there was a clear conflict of interest. The rating agencies had to act not solely in the interest of the investors, but also in the interest of issuers, as their income was dependent on them. S&P’s decision about its rating models explained by Shefrin (2009) proves this argument. Shefrin (2009) explains that in 2004 “Moody’s unveiled a new credit-rating model that enabled securities firms to increase their sales of top-rated subprime mortgage-backed bonds” (Shefrin [2009] p. 239.) S&P had several meetings about the ongoing threat of losing deals, and then also changed the criteria for rating commercial mortgages. (Shefrin, 2009)

Recommendations
This part of the essay argues that the analyzed decisions of market participants could have been improved by several governmental and regulatory measures. It is also argued that improved decisions of these market participants could have at least significantly reduced the severity of the global financial crisis, if it could not prevent it happening. Based on the decision-making analysis framework of this paper, these decisions need to be improved in two ways simultaneously. First, market players’ rational decision making skills need to be improved by providing them with more and better information and knowledge. Second, their incentives need to be changed both in the micro- and macro-level in order to make them aligned with the interests of the whole market. This paper provides four possible measures to achieve these goals.

Financial education and easy-to-understand financial information for the public

The goal of this measure is to increase the rational decision making capabilities of the public. It has been argued in this paper before, that mortgage borrowers failed to understand the hidden risks of mortgage applications. It can be assumed that better understanding of these risks would have reduced mortgage applications, and would have increased the quality of these mortgages.

This proposed measure has two sub-measures. The first is compulsory financial education for high-school students to increase their financial/economic knowledge in the long-term. The second is to expand the duty of the regulatory authorities to include the role of periodically providing relevant and easy-to-understand financial and economic analyses. The idea of this measure is to provide an easy-to-understand, independent and reliable financial information and knowledge source for the public without any financial or economic knowledge.
If this had existed before the crisis, mortgage borrowers would have had better chances to understand the consequences and risks of adjustable mortgage interest rates and the effects of the changes in the macroeconomic environment (e.g.: FED interest rate decisions).

**Reform of corporate governance – risk monitoring and executive compensation**

The goal of this measure is to increase the quality of corporate governance, as its’ failures played an important role in the creation of the crisis. Corporate governance failed in two ways. First, it could not provide appropriate oversight of companies’ (mortgage lenders, investors, credit rating agencies) risk taking activity. Second, it failed to provide adequate incentives for the executive teams.

The first failure needs to be addressed by changing the regulation of the boards. The fact that they failed to understand the risks of these companies is a clear issue of non-rational decision making, caused by the lack of sufficient knowledge and/or information. It can be addressed by the following steps. First, determining what kind of information must be provided for the board and for the risk committee. This is crucial, as Kirkpatrick (2008) argued that information about exposure did not reach the board in several cases. Second, determining the required knowledge level for every risk committee member regarding financial risk, industry business models, industry trends and firm-specific issues. Third, a regulatory authority should periodically supervise whether boards meet these requirements or not. The recent events in J.P. Morgan highlighted the relevance of this argument. This summer (at the time of this writing) J.P. Morgan disclosed more than $7 billion in losses on its botched credit debt (nytimes.com, 2012). Meanwhile the risk committee included only one member with any Wall Street experience, who “hasn’t been employed in the industry for more than 25 years” (bloomberg.com, 2012).
The second failure needs to be addressed by changes in the compensation system of the companies. New compensation systems should incentivize executive teams to take less risk, make the business activity more sustainable, and focus on long-term profits. This can be achieved by the following measures. First, by introducing risk-adjusted performance measures. This means that a safer, lower-return investment opportunity would lead to higher executive compensation, than excessive risk-taking. Second, by introducing long-term performance goals for the executive teams.

If these measures had existed, boards would have had higher chances to realize the risks of excessive mortgage lending, or of RMBSs and CDOs, while executive teams would not have been incentivized for excessive risk taking.

**Reform of credit rating agencies**

The goal of this measure is to increase the rating quality of credit-rating agencies. As it has been argued in this paper, credit rating agencies failed to act solely in the interest of investors, because they were incentivized to act also in the interest of the issuers. To address this issue, reform of credit rating agencies need to change their misaligned incentives.

The proposed solution is to set up a new regulatory authority with the purpose of providing independent and reliable ratings of the credit rating agencies. This authority would have to provide databases and analyses about the historical performance of each type of debt obligations and their ratings. Based on this information, investors would have more information, and would be able to determine the quality of each agency’s rating activity. If a difference occurs between them, investors would start to prefer the ratings of the agency with better ratings quality. If
issuers want to sell their products, they would be incentivized to hire the rating agency which people trust most. This would lead to an increase in this agency’s revenues. Because of that, credit rating agencies in the new system would be incentivized to act in the interest of the investors, and not the issuers.

**System-wise incentive structure models to determine systematic risk**

The main argument of this paper is that rational market participants with misaligned incentives pose a huge threat for the market as a whole. Even if regulators succeed in identifying and fixing these misalignments of the past, there is a high chance that they are going to occur again. Unfortunately as markets are incredibly complex and constantly changing, it is impossible to identify and analyze incentives of each market participant. Because of that, trying to adjust them from the regulatory level is inherently impossible, and also might hurt the free economy. However, searching for possible serious misalignments in order to identify systematic risks might lead to valuable results. For instance, identification of the conflict of interest between issuers and credit rating agencies would be probable if a separate division or a separate team of an existing authority had the task of conducting researches with that purpose.

The suggestion is that a separate division or team of an existing authority should be set up. The role of it would be to identify trends in the economy which might carry the danger of systematic risk. Increasing housing prices, increasing mortgage lending and increasing securitization would probably have been identified as such trends. The next role of this division or team would be to identify the few key players and their most important incentives, and then to build models to identify whether their rational activity creates systematic risk in the long-term. If the answer is yes, regulations would need to be revised.
Conclusion

Imagine a world where people apply for loans only when they truly need one and can afford it. Imagine a world where banks provide mortgages only for these people. Imagine a world where financial institutions have a safe, sustainable investment policy. Does this seem unrealistic? The financial crisis proved that many market participants failed to act this way.

If we want to understand why it happened, we need to start with analysis on the level of the individual market participants. In this paper it has been conducted, and argued that many of these participants failed to make rational decisions, while their decisions were also distorted by serious incentive misalignments.

How can an economy recover if its market participants fail to make the right decisions? How can a new crisis be prevented if market players’ incentives are misaligned?

From the arguments of this paper the following conclusion can be drawn. If a government wants the best for the economy, it has to do everything to increase the quality of publicly available information, to increase the knowledge of their citizens, and to try to align individuals’ interest with the interest of the public, while maintaining freedom of the people and the freedom of the economy.
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Chapter 37

The Global Financial Crisis – A Failure to understand and learn from the similarities and
differences of past crises

Nicholas Yong Kai Liang

Introduction:

“A financial crisis unlike any other that we have ever seen before,” such are the widespread
perceptions that were prevalent at the time of the 2007 Global Financial Crisis. However, is this
really the case, or is this simply one of the many excuses that were given by those responsible for
the crisis, to shift the blame off themselves?

Background:

Past historical financial crises such as the Great Depression in the 1930s have the potential of
offering many valuable insights that are profoundly useful in preventing future crises. In fact
there are many parallels that can be observed, such as the similar warning signs observed in
periods leading up to financial crises. However, the trouble is that in times of economic
prosperity, we tend to neglect these signs. We usually end up releasing the brakes and removing
all safety self-checks to take full advantage of every profitable opportunity (Minsky and
Kindleberger, n.d. as quoted in Shiller, 2008). However, when we finally discover that we have
been moving on the wrong track and heading for a crash, it is too late to stop the inevitable. The
boom was just an illusion and the bubble has burst once again just like it did numerous times in
history.
As the situation in financial markets began to worsen over time, the effectiveness and relevance of financial theories have been largely questioned. Most noticeably, there has been an intense debate about whether Modern Portfolio Theory (Markowitz, 1952) still applies during the crisis. However, before embarking on this debate, investors need to question whether they themselves have done their proper due diligence in a timely fashion, and whether a portfolio that was once well-diversified in the past still remains well-diversified in future. A more in-depth discussion of these questions, and a thorough analysis of MPT in the context of the recent GFC will be covered in the second section of this paper.

In the aftermath of the crisis, the focus has once again shifted back to the various measures that governments have taken to bring the economy back on track, and prevent the occurrence of another financial crisis in future. While there were times in history, such as the Post-Great depression era, where revolutionary changes to the workings of the financial systems were made, a solution of such magnitude has not been seen in the aftermath of the recent global financial crisis. It is crucial to evaluate whether the solutions that are currently implemented are sufficient, whether they would have any profound long-term impact in preventing future crises, or are they merely short term fixes.

**Purpose and Structure of paper**

This paper asserts that the occurrence of the 2007 GFC is largely due to a failure in recognizing the similarities in financial crises, and a poor understanding of the differences in financial trends over time.
In the first section, the paper will discuss the important causes of the recent GFC, highlighting several similarities that have also been seen in past crises. In the second section, key changes and differences in financial trends that have radically impacted portfolio making decisions will be covered. An understanding of these issues prior to the crisis might have allowed us to avert the 2007 GFC and more importantly, prevent future economic crises that have yet to come. In the third and last section, this paper will explain why it is necessary to make radical institutional reforms like those seen during the post-great depression era, if we are committed to preventing future financial crises like this from devastating our economies.

Neglecting the similarities or parallels

There were several causes of the 2007 GFC that are also similarly observed in many past crises. These include the error of attribution, social contagion and information cascade effect, and the forecastability of housing prices. A failure in recognizing these important factors caused us to neglect important warning signs, ultimately leading to an unanticipated and severe recession in 2007.

Error of attribution:

The US property bubble of the 21st century was certainly not the first financial bubble that the world has ever seen. In fact, the first recorded occurrence of a major financial bubble was in year 1636-1637, and was known as the Dutch tulip mania (Dash, 1999). Another past crisis that possessed even greater similarities to the recent bubble was the California property bubble in the 1880s (Shiller, 2008).
The error of attribution in this context refers to the act of attributing an increase in home prices to incorrect factors. For instance, in the 1880s California property bubble, there was a mistake in attributing the surge in house prices to the increasing importance of cities in California, and the “rare beauty and climate of the area”. However, the truth is that unusual booms in house prices, like in many other cases of “bubbles”, are largely psychological in nature.

In the case of the recent property bubble in the 21st century, a similar error of attribution was also observed during the period of time when the bubble grew unknowingly. People were attributing the increase in house prices to improvements of economic fundamentals in the US. Key political figures such as Mr. Ben Bernanke shared such views in 2005, when he mentioned that housing price increases “reflected strong economic fundamentals”. If he were right about it, the property bubble and the resultant financial crisis would not have developed in the first place. However, the problem lies in the fact that he was wrong.

**Social contagion effect and information cascade:**

Having introduced the error of attribution, this paper now touches on an important catalyst that is responsible for setting the property bubbles of the past and present in motion – the social contagion factor. As Professor Shiller mentioned in his book *The Subprime Solution*, “the social contagion lends increasing credibility to stories – I call them ‘new era’ stories.” Basically the new era stories are referring to the reasons that were erroneously attributed to increase in house prices, such as an improvement in economic fundamentals in the recent GFC (Shiller, 2008).

The social contagion factor leads to a strong feedback loop, which largely reinforces the initial mindset that house prices will continue to increase. What is different in recent times however is
that the extent of feedback loops and the magnitude of the social contagion effects have been largely increased by news media and modern communication’ technology. Hence this naturally leads to the conclusion that bubbles that occur in recent times are likely to be far more severe than those in the past.

**Information cascade**

A related concept that further amplifies the social contagion effect is information cascades. Information cascades refer to a case where individuals tend to disregard their personal opinions in favor of conventional wisdom, as if not, this would otherwise mean that they are making a huge claim that they are the only one that is right and everyone else is wrong. Hence during periods of time where property bubbles are growing, the opinions of the minorities who may be wise and correct are often neglected, thus resulting in a decline in the quality of information over time, and a more delayed discovery of financial and economic problems (Shiller, 2008).

**Forecastability of housing prices**

Unlike stock prices, which generally follow a random walk, housing prices are generally easily forecasted even over long time horizons, as seen from Exhibit 1 below. The steady increase in house prices over numerous decades sends a convincing message to people that the housing boom would never ever end, and this further bid housing prices to unsustainable levels. This explains the exponential increase in housing prices over the years which are reflected in Exhibit 1.

**Exhibit 1**
The importance of drawing parallels from past crises

It is imperative that we learn to recognize and understand the above causes as these are common factors that are present in many past crises. By learning to be more sensitive and competent in identifying these causes, we would be able to pick up early warning signs of possible future crises, and avert them or reduce their impact through the implementation of early response measures. The claim that “this time is different” is usually a convenient excuse for some to brush off important warning signs that occurred in past crises. Understanding and becoming familiar with these warning signs gives us invaluable foresight into our economies’ future, ultimately reducing the incidence of future financial crises.

Did key differences in financial trends over time lead to the “death of MPT”?
Since the introduction of Modern Portfolio Theory by Mr. Harry Markowitz in the 1950s, investors have relied heavily on this theory to minimize risk in their investments. However, with the numerous changes in financial trends over the years there has been a huge debate of whether MPT is already dead and no longer applicable in the modern world of finance. This section of the paper argues that MPT is actually still highly applicable even during and after the 2007 GFC. The only reason why it appears to not work is because MPT has been largely misused during the rampant securitization of assets that occurred before the crisis. Also investors neglected to make proper portfolio adjustments to match the current economic climate.

**The Securitization Lie**

The primary purpose of securitization is to reduce total risks via diversification by combining a portfolio of assets that are lowly correlated. However, in an effort to maximize profits during the boom that occurred prior to the 2007 GFC, massive securitization occurred without proper due diligence. This took place so that more financial products could be sold to investors. This inevitably turned securitization into a risk-shifting tool instead of a total risk reduction tool, where mortgage lenders could simply remove risky portfolios from their balance sheet and push the risk to other investors (Jacobs, Tumbling Tower of Babel: Subprime Securitization and the Credit Crisis, 2009). This encouraged many irresponsible behaviors in the financial sector, and at the same time deceived numerous investors, especially the financially illiterate, into believing that the risks of these portfolios were low because they were diversified in accordance with MPT when they actually were not. As such, although portfolios with poor returns and high correlation in assets have been largely observed during the 2007 GFC, this is due to the formation of such poor portfolios that were not formed in accordance with MPT.
Adjustments in portfolio to match current economic climate

As the correlation of underlying assets in a portfolio is highly dynamic and constantly changing over different periods of time, it is vital to constantly revise portfolios from time to time to ensure that the benefits of diversification are still enjoyed by the investor under different economic conditions. As seen from the example (Exhibits 2, 3 and 4) of a portfolio that consists of two assets, Emerging Market Stocks (Vanguard) and Energy select sector fund below, the correlation between the two assets has changed rapidly over time. In this example, the correlation of the assets has moved from 0.59 to 0.94 and 0.27 for pre-crisis, during crisis, and post-crisis periods of time respectively.

Exhibit 2 (Source: Author)
Exhibit 3 (Source: Author)
It is also similarly noted in many other studies that correlations between many asset classes tend to rise significantly during periods of financial crisis, thus diminishing the positive effects of diversification. This however does not mean that it is impossible to find assets that have low correlations in challenging economic times. In fact, this is largely possible although it does take a greater deal of research to identify such assets.

Making good investment decisions in good times, and especially in bad times, require a great deal of flexibility and constant adjustments. Tools such as MPT are always readily available for
use in all phases of the economic cycle. However, when factors such as the increasing prevalence of unscrupulous practices in financial markets are taken into consideration, portfolio-making decisions become far more complex and tricky. Important financial trends such as these play a huge role in influencing our investment decisions and it is necessary to keep abreast of changes, as what happens to work in the past may not work today. While it is important for institutional and private investors to conduct due diligence on a personal level to ensure that their portfolio investments are sound, a more established system of checks and institutional reforms would have to be implemented across financial markets as well, in order to avert future financial crises (Shiller, 2008).

A Need for radical change

The measures and solutions that were taken in response to the 2007 GFC should not only be restricted to modifications of past financial crises solutions. Instead, the measures taken must be radically different. We need massive reforms, as the current checks and balances that are in place are clearly inadequate. As the complexity of financial markets and institutions increase, it is important to also have a commensurate improvement in general information infrastructure, and risk-management strategies.

A New Information infrastructure

It is imperative that we provide a brand new information infrastructure to people for the main purpose of protecting the investing public and educating them to make well-informed decisions in their investment activities. Examples of strategies include, greater disclosures required from credit rating agencies, pooling of financial databases to give customized information and
recommendation of financial products to individuals, and also introducing new systems of economic units of measurements to encourage the general public to think of money in real terms, so as to prevent any formations of future bubbles that could be devastating to economies (Shiller, 2008). Once a good information infrastructure is in place, people would be more equipped with better information to make better investment decisions, which ultimately provides more opportunities for entrepreneurship and innovation to flourish, and drives economies towards greater success.

**Improved risk-management strategies**

As more and more new financial instruments are introduced, and as financial markets grow increasingly complex over time, it is important that we develop the right infrastructure to handle new and more complex risks as they arise. Firstly it is important to develop highly liquid markets for real estate to ensure that they are more correctly priced in future and prevent future property bubbles, which are one of the primary causes of financial crises. Secondly, it is important to have new risk-management institutions, to increase the coverage of insurance to new risks that are increasingly significant in recent times. One of the challenges for these new institutions is the need to structure their products in a way that minimizes moral hazard.

With the new and improved risk management strategies in place, people would be willing to take more insurable risks, and invest more on innovation and entrepreneurship, which are the main drivers of economic growth.

**Conclusion**
For every financial crisis that has yet to occur, there are always similarities and differences that we ought to examine in past crises. The common response to a growing bubble, “this time is different”, has always been a careless remark that has brought us way too much trouble in many past financial crises. We need to be deeply aware and sensitive to the parallels and changes in order to fully identify and understand the warning signs of different financial crises in their early stages. This would enable us to make an accurate diagnostic of the root cause of the crisis, and generate a timely response that would help us to cushion the impact of the impending crisis, or even avert the entire crisis altogether.

There are no easy solutions if we truly wish to see long-term results in the prevention of future financial crises. If we are basing our solutions on old strategies that were used in past crises, the effects would most likely only be felt in the short-term. In fact, a massive remodeling of the financial systems, or institutional rebirth, like those seen in the post-depression era is what we truly need now. As mentioned by Shiller, no matter how technologically advanced a train is, it is only as good as the track that it runs on. Hence, it is time for our leaders to courageously conduct an overhaul by completely changing the tracks, and pushing for reforms at the highest level, if we truly want to see long term solutions for financial crises.

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Chapter 38

Dead in the Short Run: the Global Financial Crisis and the Failure of Keynesian Policies

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Abstract:

The paper analyses the economic policy followed by the developed Western economies in the years leading up to the Global Financial Crisis, as well as the responses of governments and monetary authorities to the turmoil in the financial markets and the subsequent recession.

The analysis provides evidence suggesting that the previous more or less successful economic interventions gave the policy makers a false idea of a significant reduction of macroeconomic risks and of their ability to implement effective economic policies. Furthermore, under the current extremely difficult macroeconomic conditions, characterised by official nominal interest rates reaching their lower zero bounds together with the rising public debt levels, popular Keynesian intervention policies adopted by the governments are ineffective, thus proving that an overreliance on the economic ideas of John Maynard Keynes has led to a situation whereby the economy is dead in the short run.
Introduction

In 1923, in his *Tract on Monetary Reform* John Maynard Keynes famously stated that “in the long run we are all dead” (Keynes, 1924: p. 80). Although he was referring primarily to the fact that contrary to the beliefs of classical economists macroeconomics and its tools should principally focus on short-term economic fluctuations, his idea proved to be truly revolutionary and groundbreaking as it opened an entirely new chapter in the history of economic thought.

Thirteen years later, with the publication of *The General Theory of Employment, Interest, and Money*, Keynes sought to tackle yet another notion underpinning classical economics – he argued that free markets are exceptionally prone to failure and incapable of restoring economic equilibrium, and thus a state intervention is necessary to foster economic growth (Keynes, Collected writings, 1973).

The idea that by adjusting its economic policy, be it in a form of a fiscal or a monetary intervention, a government is capable of steering the economy, suppressing recessions and prolonging the periods of economic expansion, has proven to be particularly popular in the decades leading up to the worldwide meltdown of financial markets in 2007. The extremely difficult economic conditions sparked by the Global Financial Crisis and the subsequent recession, however, serve as a proof that an overreliance on Keynes’s ideas can actually have adverse effects on the economy, as many of the conventional economic policy tools have since become ineffective and useless. Because of that, I believe it is fair to paraphrase the quote mentioned at the beginning of this paper by saying that right now we are *indeed dead in the short run*.

The deflation of the asset bubble in the U.S. housing market has given rise to a crisis followed by a recession that have been extremely costly thus far – apart from trillions of dollars lost due to the
decline of the stock markets, as well as the extensive bail-out and stimulus programmes carried out in the most endangered economies, the turmoil in the financial markets has cost millions of people their jobs, their homes, and their future prospects (Financial Crisis Inquiry Commission, 2011). And yet, in spite of the six years of tremendous efforts of the governments and the peoples of the countries most affected by the Global Financial Crisis, economic recovery still remains very fragile and weak (Sullivan, 2009; Siegel, 2009).

The academic and political debate that has followed the Crisis addresses a number of important issues ranging from the question of whether the Crisis could have been predicted and avoided, through the one of identifying optimal economic policy aimed at curbing the recession and fostering growth, to the regulatory and policy changes that have to be adopted in order to prevent such a devastating event from reoccurring in the future. It is a confrontation between various schools of economic thought, supporters of left-wing and right-wing political policies, and even between the rich and the poor of the world.

Over the past few years, many of the world’s greatest economics and finance academics and professionals have devoted their time to identify the causes of the Global Financial Crisis together with the factors contributing to the amplification of its effects. Among many others, the most important factors identified by the Financial Crisis Inquiry Commission (2011) are:

- Declining mortgage-lending standards and mortgage securitisation associated with the originate-to-distribute lending model;
- Failure to provide adequate credit worthiness assessment by credit rating agencies;
- The impact of over-the-counter financial derivative products;
– Combination of excessive borrowing, risky investments, and lack of financial transparency;
– Inconsistent response of the governments, which fuelled the uncertainty and panic in the financial markets.

A detailed discussion of all the factors listed above would go far beyond the scope and the objectives of this paper, therefore the presented analysis focuses primarily on government policy, offering an examination of the pitfalls of the policy followed prior to 2007 and of the effectiveness of the policies adopted in the post-Crisis environment. The next section of the paper presents an insight into the pre-2007 macroeconomic policies and their weaknesses, whereas the third section provides an assessment of the fiscal and monetary stimulation programmes adopted throughout the Western developed economies. Finally, a brief summary of the arguments presented in this essay concludes the paper.

Pre-Crisis Economic Policy

The beginning of the Global Financial Crisis in 2007 brought an abrupt end to the Great Moderation – an episode in the history of the developed economies characterised primarily by a very low volatility of the business cycle (Barnett and Chauvet, 2008). The magnitude of the decline of the volatility of the business cycle was very significant as it decreased by a factor of three during the period associated with the Great Moderation, due to a smarter countercyclical economic policy, and to lower output and inflation volatility that occurred in the same time, both associated with better monetary policy (Blanchard and Simon, 2001).

Figure 1 below provides an overview of the post-Second World War gross domestic product growth rates in the United States, with the period associated with the Great Moderation reflected
by the shaded area. Indeed, as suggested above, sometime in the early 1980s the pattern of behaviour of the data changed significantly, as the amplitude of the business cycle decreased dramatically.

**Figure 1:**

![Graph showing the Great Moderation in the United States](image)

**Figure 8: The Great Moderation in the United States**

Interestingly enough, in her paper Romer (1986) provides evidence that suggests that the Great Moderation never really occurred and that it can be associated with a data error. Having identified the sources of the inconsistency between the historical and the modern economic data collection

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178 All the charts depicting financial and economic data are the author’s own work based on data obtained from Bloomberg Database, unless indicated otherwise.
methods, in particular data on industrial production, unemployment, and gross national product, Romer analysed the post-war data using the older methodology and found that there was no significant reduction in the volatility of cyclical fluctuations of economic growth.

Although Romer’s (1986) findings provide a solid foundation for a greater dose of scepticism, business press and the majority of economists called the Great Moderation a triumph of modern macroeconomics. Blanchard and Simon (2001) concluded their paper with a rather remarkable statement that one could be confident about the steadiness and permanence of the increased periods of economic expansions, implying a much lower likelihood of recessions. Furthermore, Lucas (2003) went as far as to suggest that the central problem of macroeconomics, prevention of depressions, had been solved for all practical purposes. The boom and the bust cycle was supposed to be finally dead, with a new era of growing wealth and prosperity awaiting ahead.

As pointed out earlier, academics generally accept the fact that it was the improvement of monetary policy and its tools that ultimately created the environment in which the volatility of business cycle could have been dampened.

Summers (2005) points out that the most significant development associated with monetary policy was the decision to make controlling the inflation a central bank’s top priority. Low and stable inflation generally contributes to a more stable economic environment, as firms’ uncertainties about the future are reduced, and so are nominal distortions associated with taxation, and finally
low and stable expected inflation provides policy makers with much more flexibility in responding to unforeseen events such as banking crises (Summers, 2005).

The new monetary policy framework adopted in the early 1980s is broadly known as conventional monetary policy. As Joyce, *et al.* (2012), explain, it was based on inflation targeting, a policy aimed at achieving low and stable inflation by changing the short-term interest rate at which central banks provide money to the interbank money market in a manner that can be approximated by Taylor Rule.

With the changes in the rate of inflation associated primarily with the extent of the output gap, that is the difference between the current and the equilibrium level of output, under this new monetary regime, a central bank would raise its official rate of interest when inflation was predicted to increase above a fixed target level, and would lower the interest rate if inflation rate fell below the target - all of the aforementioned variables are incorporated into Taylor Rule, which in practical terms underpinned the interest rate setting framework of monetary authorities (Goodhart, 2010).

Despite its theoretical elegance and simplicity, and success in achieving low inflation, as pointed out by Joyce, *et al.* (2012), conventional monetary policy suffers from one significant setback – it does not prevent asset market bubbles from occurring, and while it is true that it is difficult to identify and contain an asset bubble *ex ante*, the soundness of the policy to allow a bubble to burst and then contain its negative effects rather than to attempt suppressing its development remains highly questionable.
Goodhart (2010) points out that conventional monetary policy led to a popular assumption that as long as central banks maintain macroeconomic stability, the efficient financial markets will ensure financial stability, however, as pointed out by Minsky (2008), more frequently the former may have inverse effects on the latter, as overconfidence in periods of stability may provide additional incentives to take on more leverage and risk. Because of that, central bankers tend to be very sensitive about the fact that, at least in the past, their solution to a market crash was to cut interest rates aggressively and persistently, thus encouraging a formation of a new asset bubble in the future (Goodhart, 2010).

The appropriate question to ask at this point of the analysis is whether the policy followed by the monetary authorities actually reflected the optimal official nominal interest rates determined by the framework described above. The model presented below is very useful in providing an answer to it. It is derived from the basic Taylor Rule equation represented by Equation 1 below:

**Equation 1: Taylor Rule Equation**

\[
i = \pi^T + \pi^A + \alpha(\pi^A - \pi^T) + (1 - \alpha) \times (\bar{Y} - Y),
\]

where: nominal official interest rate; target inflation level; actual level of inflation; long-term level of output; current level of output; a positive coefficient.
Following the approach based on Keynes’s (Collected writings, 1973) *General Theory of Employment, Interest, and Money* described by Dickens (2011), Equation 1 is transformed to reflect the long-term equilibrium position as being characterised by the natural rate of unemployment. The relationship between inflation and unemployment was developed further by Friedman (1968), and was defined as the non-accelerating inflation rate of unemployment, that is the rate of unemployment required to stop the inflation rate from increasing.

The final element required to complete the transformation of Equation 1 is the relationship between changes in unemployment and changes in output. This relationship, investigated thoroughly by Okun (1970), is based on an empirical observation of a decrease in output associated with an increase in unemployment (Prachowny, 1993). Applying the theories described above allows transforming Equation 1 into Equation 2:

**Equation 2: Modified Taylor Rule Equation**

\[ i = \pi^T + \pi^A + \alpha(\pi^A - \pi^T) + (1 - \alpha) \times c \times (NAIRU - U) \]

where: nominal official interest rate; target inflation level; actual level of inflation; Okun factor; non-accelerating inflation rate of unemployment; current level of unemployment.
The model relies on a number of assumptions reflected in some of the input values. First of all, it assumes that the target level of inflation is equal to 2%. Second, the value of Okun factor is assumed to be equal to 2, implying that a 1% increase in unemployment is associated with a 2% decrease in output. Third, as suggested by Taylor (1993), the value of the coefficient is assumed to be equal to 0.5. Finally, the value of the non-accelerating inflation rate of unemployment for the United States is assumed to be 5%. The aforementioned assumptions allow transforming Equation 2 into its final form, Equation 3, used in the modelling process:

**Equation 3: Taylor Rule Equation Used in Modelling**

\[ i = 2 + \pi^A + 0.5(\pi^A - 2) + 0.5 \times 2 \times (NARIU - U) \]

The output generated by the model (Figure 2) suggests that putting a significant proportion of the responsibility for excessive credit growth on the monetary authorities is quite appropriate, as the official nominal interest rates were consistently set below the optimal rate since 2002, only to move closer to their optimal values in the run-up to the Global Financial Crisis, when it was already too late to contain the problem.
Although formulated in the late 1930s, the argument that the government-regulated monetary systems tend to perform rather poorly (Smith, 1990) seems to be still relevant. This issue was raised many times by F. A. von Hayek, most notably in his *Prices and Production* (2008), where he argued that central banks have a natural tendency to suppress the nominal interest rate below its natural level contributing to inflationary credit expansion, proving that an overreliance on a central bank’s ability to intervene in the economy can indeed, as suggested in Introduction to this paper, cause significant damage to the soundness of the economy.
Siegel (2009) presents an argument that goes even further, suggesting that the whole economic system established after the conclusion of the Second World War provided a widespread misperception about the responsibility and the ability of the government to foster economic growth, occasionally intervening to counteract a recession. He explains this using four examples of government intervention policies, including two that have already been mentioned in this analysis, i.e. the ability of the government to foster the Great Moderation by skilful manipulation of the money supply, and its ability to counteract the painful consequences of an asset market crash by flooding it with liquidity.

The other two examples are those of the Great Depression, and the Great Inflation. Friedman and Schwartz (1963) pointed out that the Federal Reserve bears a significant proportion of the blame for turning the Black Tuesday Wall Street Crash of October 1929 into the Great Depression by severely restricting the money supply between 1929 and 1933, pursuing a policy of cripplingly tight money in the time of collapsing real output. An extensive programme of Keynesian deficit spending policies, introduced by the Hoover and the Roosevelt administrations, as part of the New Deal came to the rescue of the economy (even though economic historians agree that the New Deal might have worsened the Depression, and it was the Second World War that brought the United States out of it), and so, many people believe that if the government managed to get the economy out of the Great Depression through fiscal stimulation, it is capable of fixing any other significant economic problem (Siegel, 2009).

As far as the Great Inflation is concerned, it was caused primarily by an oil embargo imposed on the United States by the Organisation of Arab Petroleum Exporting Countries in 1973. With oil being an input to the U.S. economy of such a crucial importance that a significant increase in its
price would push it into a deep recession, the Federal Reserve decided to rapidly expand the money supply to avoid it, which resulted in inflation rates reaching 13.3% (Siegel, 2009). The Great Inflation came to an end with the appointment of Paul Volcker as the chairman of the Federal Reserve – although it pushed the economy into a recession in 1979 and another one in 1981 – 1982, his decision to sharply increase the interest rates brought the inflation down to the manageable level of 3.9% (ibid.). Once again, modern macroeconomic policy proved that it is capable of dealing with yet another threat to the stability of the whole economy.

To summarise, the misguided lesson that seems to have been learnt from the four aforementioned events is that the government has the ability and the means to solve almost any economic problem through either fiscal or monetary intervention (Siegel, 2009). Kaplan, et al. (2009) pointed out that greed and misaligned incentives, so typical of human nature, lie at the heart of all asset bubbles. The erroneous perception of the disappearance of fundamental macroeconomic risk factors associated with business cycle fluctuations and inflationary threats, as well as the financial innovations designed to reduce risk were, rather ironically, the means by which the risk of the occurrence of an event as disastrous as the Global Financial Crisis was greatly magnified (ibid.).

After the Storm

In 2008 the world was forced to choose between two equally painful alternatives of either allowing its financial system to collapse, or injecting trillions of dollars of taxpayers’ money into the system to provide emergency funding to an increasing group of companies (Financial Crisis Inquiry
Commission, 2011). Some decisions were a necessary evil that provided short-term stability but had undesirable long-term effects, turning one problem into another. For example, the decision to bail out or nationalise the most endangered institutions might have improved the short-term stability of the financial system, however, it has also contributed to the rising levels of public debt in the United States, and in the United Kingdom, forcing those countries to adopt severe austerity measures in order not to default on their sovereign debt – a problem which thus far has cost them both their highest AAA credit ratings.

Barrell and Holland (2010) provide a very concise, yet accurate explanation of the main source of the current extremely difficult monetary and fiscal environment – as the liquidity crisis in the banking sector grew in scale to the extent that it finally transformed into a large-scale solvency crisis, it became increasingly clear that the central banks would not be able to act as the lender of last resort, due to their inability to lower their official interest rates any further. That meant that the government would have to step in, increasing its budget deficit in order to provide emergency funding for the banking system. Furthermore, as pointed out by Reinhart and Rogoff (2009a), the inevitable collapse of tax revenues that the governments suffer from in the wake of deep and prolonged crises, and the ambitious countercyclical fiscal policies that they have adopted, were the additional drivers of increasing national debts.

Figure 3 portrays the rise of the levels of public debt in several European economies between 2000 and 2011, proving how dire the situation of some countries has become.
Ghosh, *et al.* (2013) point out that the currently observed public deficits and primary balances of the advanced economies have reached their highest levels in the last 40 years, and furthermore, that the sharp increases of their borrowing costs, from essentially risk-free rates to the levels considered prohibitively costly implying an increasing risk of possible insolvency, should serve as a warning sign to other countries at risk of exhausting their fiscal space.

Typically, a responsible government increases its primary surplus in response to rising debt service in order to maintain a constant debt-to-GDP ratio at a reasonable level, however, a large economic
shock, for example a war or a financial crisis, may force it to temporarily abandon the aforementioned policy, only to increase the primary surplus again in the future to offset the higher interest bill (ibid.).

Increasing the primary balance enough to offset the interest bill, however, may not be possible under certain circumstances, as at sufficiently large levels of debt, the primary balance would have to exceed the gross domestic product – if the primary balance displays fiscal fatigue, that is it fails to keep up with the increasing debt service, there is the possibility that the government will have to default having reached sufficiently high debt level (ibid.). The main problem is that the risk premium a government has to pay on its debt increases together with its indebtedness, so after reaching a certain level of debt, the risk of government default becomes self-propelling, as higher levels of debt imply higher risk premium, which in turn increases the borrowing costs leading to even higher levels of debt, etc. (ibid.). Once a government finds itself in this loop, as suggested by Arellano (2008) and Mendoza and Yue (2012), it faces a decision of whether or not to default, which is ultimately based upon the balance of gains resulting from avoiding at least a proportion of its debt service obligations, against the costs of output losses and restricted access or even exclusion from international credit markets.

As mentioned in the opening paragraph of this section, the governments of the Western developed nations were forced to introduce bail-out and stimulus programmes aimed at stabilising financial
markets and curbing the recession. This serves as a classic example of a state intervention regarded so highly by Keynes. As explained by Begg, et al. (2008) the starting point of the analysis of a Keynesian intervention is the following basic equation:

\[
\text{Income} = \text{Expenditure}
\]

Income levels portrayed on the horizontal axis of Figure 4 are associated with aggregate supply, whereas expenditure levels on vertical axis, with aggregate demand (Begg, et al., 2008).

Figure 4, known as the Keynesian Cross diagram, provides a graphical representation of the equation above – aggregate expenditure, represented by the 45º line, links the points where the relationship mentioned above holds. The next component of the analysis is the value of planned expenditure, that is the amount that equals to the sum of consumption, investment, net exports, and government spending for a given period – economic output is therefore defined as the point at which aggregate expenditure is equal to planned expenditure (Begg, et al., 2008).

To assess the effects of higher government spending, one should compare two planned expenditure schedules, \(E_1\) and \(E_2\) in Figure 4, with both representing the same level of consumption, \(C\), investment, \(I\), and net exports, \(NX\), but different levels of government spending \(G\) (in case of Figure 4, \(G_2\) is greater than \(G_1\)).
Figure 11: Keynesian Cross – Effects of Higher Government Spending on Output

The Keynesian Cross highlights the apparent effects of higher government spending, showing that an increase in planned expenditure schedule, associated with greater spending, results in an even greater increase in economic output. Keynes (1973) attributes this to the multiplier effect, that is the fact that a $1 increase in government spending brings an at least $1 increase in income.
The stimulus programme introduced by the Obama administration in January 2009 was the most extensive one among the economies affected by the Global Financial Crisis, amounting to $500 billion in 2009 and further $700 billion in 2010 (Hall, 2010). Given the fact that Hall estimates the current value of the multiplier to be equal to more or less two, the expected results should indicate that a $1 increase in government spending brings a $2 increase in output. Unfortunately, it seems that apart from contributing to an increase in public debt, fiscal stimulus failed to achieve its main objective, as the recovery of the U.S. economy remained persistently weak.

With the increasing risk of exhausting their fiscal space, understood as the scope that policy-makers have to calibrate fiscal policy without facing the risk of reaching unsustainable debt levels (IMF, 2012), governments had to abandon their fiscal stimulation programmes, and adopt austerity measures and consolidation efforts aimed at bringing their debt-to-GDP ratios back to manageable levels, particularly given the pressure from the financial markets reacting particularly badly to even the slightest hint that yet another country might be facing insolvency.

The main problem for monetary policy in the period following the Global Financial Crisis stems from the fact the official interest rates controlled by the monetary authorities are constrained in their value by zero, as individual agents can always hold on to non-interest bearing cash, even though the Taylor Rule approach might suggest setting negative nominal interest rates (Joyce, *et al.*, 2012). This particular problem renders conventional monetary policy ineffective at the moment, as given the fact that the nominal interest rate in the United States is set at the level of
0.25% since December 2008, the monetary authorities simply cannot lower their official interest rates any further to provide more liquidity to the market and ease the credit conditions in order to facilitate economic recovery.

The neoclassical synthesis theoretical framework assumes that the economy is Keynesian in short-term and classical in the long-term (Farmer, 2012), therefore applying the IS–LM model to analyse some of the ongoing macroeconomic problems might prove particularly helpful. Representing the relationship between Investment – Saving and Liquidity preference – Money supply, the IS – LM model portrays a short run general equilibrium in the goods and services market and the money market.

The IS side of the model captures the effects of changes in interest rates on aggregate demand, whereas the LM depicts the equilibrium in the money market for a given level of money supply (Begg, et al., 2008). As lower interest rates increase both aggregate demand and output, the IS schedule line has a negative slope – changes in the rate of interest cause movements along the IS line, whereas any other changes in aggregate demand shift the line in one direction or another (ibid.). As far as the LM schedule is concerned, it has a positive slope, as, given that money supply is assumed to be fixed, only an increase in interest rates can counteract the effects of greater quantity of money demanded resulting from higher income, bringing the money market back to equilibrium state (ibid.).
As explained by Mankiw (2010), the interest rate is a variable linking the two halves of the model by plotting the relationship between income in each of the markets and the interest rate. The following chart (Figure 5) provides a graphic representation of the two equations that have been developed from Hicks’s ideas.

\[ IS: Y = C(Y - T) + I(r) + G; \]

\[ LM: \frac{M}{P} = L(r, Y); \]

where: \( Y \) – income/output, \( C \) – consumption, \( T \) – taxation, \( I \) – investment, \( G \) – government spending, \( M \) – money supply, \( P \) – price level, \( L \) – liquidity preference, \( r \) – interest rate.

**Figure 5:**
One particular problem exhibited by the model was described by one of its authors, merely a year after it was finally formulated – Hicks (1937) noticed that under severe economic distress conditions, the $LM$ schedule line will become flatter near its left-hand end, which means that shifting it by increasing the quantity of money supplied will have no effect on equilibrium interest rate and income, as shown in Figure 6.

Figure 6:
This particular problem is known as the liquidity trap – the fact that, in words of Hicks, turns the “General Theory of Employment’ into Economics of Depression” (Hicks, 1937: p. 155), as monetary policy becomes completely ineffective. Krugman (2000) explains the problem using a simple example – if we assume that bonds and money are effectively assets that can be considered perfect substitutes, which they become if interest rates are very close to zero, then conventional monetary policy, in which bonds are swapped for money in open-market operations, does not change anything.
Although monetary authorities can no longer employ the conventional policy tools in liquidity trap conditions, they can still opt for a policy which has the potential to solve the problem – a credible commitment to achieving inflation rates higher than the target-rate under normal economic conditions, which will lower the real interest rate and stimulate the economy out of liquidity trap despite the nominal interest rate remaining at a near-zero level (Jeanne and Svenson, 2007). The problem, however, is that making a credible commitment to higher future inflation rates may be difficult to achieve, as investors may expect the central bank to change its policy target rate back to the initial one once economic conditions improve (*ibid.*). To overcome this problem, Jeanne and Svenson (2007) recommend a strategy of central bank’s capital management, in which capital levels are reduced to the minimum that would be consistent with a future exchange rate associated with the desired higher inflation rate, thus providing a more credible commitment to increasing inflation. This approach, however, has been criticised by Sims (2004) for minimising the central bank’s potential to avoid a self-fulfilling hyperinflation threat.

In the midst of the Crisis, the lending in the interbank markets as well as lending to consumers came to a sudden halt, as banks began accumulating cash on their balance sheets having they lost their confidence about the future, pushing the economy into a liquidity trap (Skidelsky, 2011).

The Austrian School of Economics, on the other hand, provides an alternative explanation of the lack of any significant impact on output that monetary policy displays under near-depression conditions. Mises (1996) suggests that artificially induced periods of economic boom encourage
overconsumption and mal-investment, which leads to a misallocation of the scarce factors of production with a simultaneous reduction of available stocks. In his view, a recession, or in the worst-case scenario, a depression always follows an economic boom, so consumption can return to its natural state, and factors of production can be reallocated back to the industries which use them the most efficiently (Mises, 1996). In essence, economic downturn brings about forced saving and forced liquidations, which ultimately restore the initial economic balance (Garrison, 2004). Mises (1996) points out, however, that a government intervention aimed at aiding the failing industries, which benefited from the mal-investment the most, will only prolong the period of economic downturn, as it protects them from liquidation, thus not enabling the market to return to its equilibrium state while enforcing the cost of this prolonged agony on the taxpayers.

This line of thought suggests that lowering interest when economic growth slows down results only in allowing the firms that are bound to fail, as the market attempts to correct mal-investments, to avoid liquidation for much longer than necessary – ultimately, by lowering its official interest rate as much as it can, a central bank prevents the market forces from restoring the balance, creating liquidity-trap-like conditions, in which it cannot conduct its conventional policy anymore, while the economy still remains in recession.

The countercyclical monetary policy, described in more detail in the previous section, relied heavily on its ability to flood the market with liquidity in times of financial crises and recessions in order to first stabilise it and then stimulate economic recovery and growth, however, having
sharply lowered the official nominal interest rate from 5.25% in 2007 to 0.25% in late 2008 in the United States, to little or no real effect, the monetary authorities found themselves in a situation, whereby they were simply unable to stimulate the economy any more, due to the fact that the official interest rates could not be decreased any further (Buckley, 2011). Conventional monetary policy had to be abandoned in favour of credit easing and quantitative easing.

The term “unconventional monetary policy” is defined largely by what it is not, rather than what it actually is – it might involve setting negative official nominal interest rates, just like in case of Denmark, or expanding the central banks’ balance sheet through a series of asset purchases (Joyce, et al., 2012). Although explicit quantitative monetary targets were the main policy tool underpinning the monetary framework until the early 1980s, when it was abandoned in favour of conventional monetary policy and its inflation targeting-based tools, following the failed attempts to stimulate the Japanese economy in the late 1990s, the Bank of Japan was forced to revert back to the regime of targeting quantitative monetary aggregates, giving it a new name – quantitative easing (Lyonet and Werner, 2012).

Essentially, as explained by Joyce, et al. (2012), quantitative easing focuses primarily on expansion of central bank’s balance sheet through asset purchases – with its ability to create unlimited quantities of acceptable means of payment, the central bank is able to buy a pre-specified amount of assets, be it government bonds or other types of assets issued by the private sector. These purchases change the composition of the portfolio of assets held by the private sector, with
the final outcome resulting in a smaller proportion of previously owned assets, now purchased by the central bank, and a higher proportion of claims on the central bank, i.e. money (ibid.). Ultimately, both assets and liabilities of the central bank, the latter most likely held in form of reserves of the banking system, increase by the same amount.

There are two main channels through which quantitative easing operates – the portfolio substitution channel, and the bank funding channel. Figure 7 below provides a graphical representation of those channels.

**Figure 7:**

![Diagram of Quantitative Easing Operations Channels](image)

Figure 14: Quantitative Easing Operations Channels

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179 Joyce, et al. (2012), p. 278
In the case of the Bank of England, as explained by Joyce, et al. (2012), the portfolio substitution channel works in the following way:

1. The Bank purchases gilts, reducing their free float and increasing its reserves held by commercial banks, as most of the proceeds from those sales show up in bank deposits; since gilts and bank deposits are not perfect substitutes, the exchange of assets affects the duration of portfolio held by investors, as the swap of gilts for deposits is equivalent to trading a long-dated asset for a short-dated one;

2. In order to rebalance the duration of their portfolios, some investors will use the proceeds from the sale of their assets to buy another type of long-dated assets;

3. By reducing the stock of privately owned long-dated assets, the Bank of England lowers the duration risk which should result in lower premium requirements, which combined with portfolio duration rebalancing result in increases in prices of long-dated risky assets, most importantly, corporate bonds and equities;

4. Higher prices of the assets mentioned above allow companies to raise funds more easily, and also result in capital gains for households, increasing their wealth, which in turn should lead to higher consumption or other form of spending, ultimately increasing aggregate demand and output in the economy.

The other channel through which quantitative easing operates, bank funding channel, is significantly less complicated and much easier to understand – as the central bank purchases gilts owned by private investors, the amounts of money deposited at banks increases, reflecting the
proceeds from sales, as do the reserves held at the central bank – once the level of reserves exceeds the demand for liquidity, banks will become much more willing to expand their lending (Joyce, et al., 2012).

Having explained the design and transmission mechanisms of quantitative easing, the analysis will now focus on assessing the impact that the policy had on the real economy thus far, although taking into account the effects of quantitative easing on stimulating growth in Japan, it is natural to be very sceptical about the potential for stimulation the policy displays.

At this point, however, it is worth mentioning what the scale of the quantitative easing in the United Kingdom and in the United States has been since the programmes were initiated. In total, the Bank of England created additional £375 billion in three rounds of quantitative easing (Bank of England, 2013). It is much more difficult to assess the amount of new money created by the Federal Reserve, as its credit easing programme has explicit monthly quantity targets, unlike the British one with target amount specified for each round of stimulation. Nonetheless, during the first round of quantitative easing, the Federal Reserve bought $2.054 trillion of assets, followed by additional $600 billion during the second round, continuing to spend $40 billion a month, increased to $85 billion a month in December 2012, over the period of duration of the third round (Fawley and Neely, 2013).

The results of research carried out to estimate the effect of the large-scale asset purchases programmes on macroeconomic conditions suggests that the programme had rather modest but persistent effects on the real economy. Chen, et al. (2012) estimate that the effects on gross domestic product growth are unlikely to exceed a third of a percentage point, with little to none inflationary consequences. The more positive effect, however, is reflected by the fact that the
observed effect of asset purchases on gross domestic product growth puts upward pressure on the interest rate, suggesting that the monetary authorities may be able to return to the previous framework under which they operated in the foreseeable future (ibid.). They also report that the commitment to of monetary authorities to keep the official nominal interest rate at the zero lower bound for a prolonged period has the potential to magnify the effects of a large-scale asset purchases programme (ibid.).

Kapetanios, et al. (2012) report that without the application of quantitative easing, real gross domestic product would have fallen even more than it did in 2009, and inflation would have reached low or even negative levels. They do, however, emphasise the fact that due to the relative uniqueness of the policy, the use of counterfactuals in modelling is largely uncertain, and thus the presented results are subject to a significant degree of precariousness (ibid.).

Furthermore, the estimates provided by D’Amico, et al. (2012) suggest that the two rounds of large-scale asset purchases carried out by the Federal Reserve amounted to a substantial monetary easing, equivalent to the effect that reducing the interest rate by 140 basis points as far as the first round is concerned, and by 180 basis points during the second round, under the conventional monetary policy framework would have had.

Interestingly enough, another study into the effects of quantitative easing on the gilt market found that the programme might have had diminishing effects on the market, as once market participants learnt more about the operations of the asset purchase programme, both the importance and the
effects of the gilt auctions carried out by the Bank of England have decreased (Joyce and Tong, 2012).

The results of research carried out by Lyonnet and Werner (2012), on the other hand, yielded conclusions that stand in direct opposition to the ones presented above. Their study found no empirical evidence that the changes in the Bank of England’s balance sheet have had any impact on nominal gross domestic product or any of the intermediary targets specified by the Bank, such as interest rates or maturity structures of its outstanding operations (ibid.). Furthermore, the authors criticise other studies, including some of the mentioned above, for defining the effectiveness of quantitative easing not in terms of its final economic outcome, but in terms of the impact that the policy may have on some of the intermediary targets, which may display a rather tenuous connection with the ultimate objectives of the policy (ibid.).

As far as the impact of large-scale asset purchases programmes on the financial markets is concerned, Bean (2011) emphasises the importance of the £185 billion Special Liquidity Scheme introduced by the Bank of England in April 2008 allowed banks to swap the toxic mortgage-backed securities and other illiquid assets for Treasury bills, whereas the Discount Window Facility provided financial institutions requiring financial aid with access to short-term liquidity.

Similarly, D’Amico, et al. (2012) highlight the importance of the decision of the Federal Reserve to purchase significant quantities of debt securities from the Government Sponsored Entities, Fannie Mae and Freddie Mac, together with a large proportion of mortgage-backed securities guaranteed by the two agencies, amounting to $1.25 trillion, promoting greater stability in the hugely distressed markets.
As any other economic policy, quantitative easing exhibits certain risks. First of all, there is a good chance that the central bank will make losses on its purchases, a cost that will ultimately have to be borne by taxpayers either by paying a higher tax rate or due to an increase in inflation rate (Giles, 2013). Second, too much quantitative easing may result in higher future inflation, or even hyperinflation, destroying the value of currency (ibid.). This issue is fairly similar to the one concerning fiscal consolidation – too much of quantitative easing may have adverse effects on the economy, whereas not enough may not yield any results, which puts the monetary authorities in a situation whereby a correct estimation of the scope of the programme becomes hugely important. Finally, given that various unconventional monetary policies are in a way the last resort of monetary authorities, applying quantitative easing over a really long horizon can be counterproductive, as it may destroy confidence in the economy (ibid.).

It seems that the comparison between quantitative easing and the Apollo 13 lunar mission used by De Vita and Abbott (2011) might be quite appropriate at this point – application of quantitative easing represents an anti-crisis rescue mission that, just like Apollo 13 failed to achieve its main objective of landing on the Moon, fails to stimulate consumption and economic growth, however, the policy has certainly allowed the banks to repair their balance sheets damaged so severely by the Global Financial Crisis and encouraged growth in the stock market, becoming a ‘successful failure’ (the term was used by Captain James A. Lovell, commander of Apollo 13, with reference to the fact that despite failing to achieve their main objective due to a significant malfunction of their spacecraft, the astronauts managed to get back home safely).

Bearing in mind, however, that the recovery in advanced economies still remains weak and fragile, it remains to be seen how the effects of quantitative easing will be assessed once the period of
instability and low growth associated with the Global Financial Crisis is over. With the benefit of hindsight, however, particularly taking into account the Japanese experience with unconventional monetary policy, the author of this paper is rather sceptical about the policy’s true potential and its ability to foster economic growth.

Summary

The historical examples of how the previous crises had been dealt with provided the governments and the citizens of the developed nations with false confidence that implementing Keynesian fiscal and monetary policies in order to approach any kind of an economic problem would bring a successful resolution (Siegel, 2009). The Global Financial Crisis and the Sovereign Debt Crisis, however, allowed verifying this misconception, by showing that running large budgetary deficits and landing in a liquidity trap make the Keynesian policies virtually ineffective. Even though Keynes was highly skeptical about the long-run economic performance, the policies he suggested provide only a temporary solution to the problem leading to further costs in the future. As pointed out by Claessens, et al. (2010), generally speaking, sound economic conditions, like current account surpluses and the capability to run a fiscal deficit when needed, allow to absorb shocks better and to grow out of a crisis faster – maintaining healthy and balanced economic environment may be much easier and less costly than basing the economic growth on a series of asset bubbles requiring expensive state intervention in their aftermath.

It seems that the words of F.A. von Hayek (1989) said during his Nobel Memorial Lecture in 1974 might be particularly relevant to the current economic situation: “The economists are at this
moment called upon to extricate the free world from the serious threat of accelerating inflation which, it must be admitted, has been brought about by policies which the majority of economists recommended and even urged governments to pursue. We have indeed at the moment little cause for pride: as a profession we have made a mess of things” (Hayek, 1989: p.3). Although he was talking primarily about the problems the world faced during the period of the Great Inflation, it seems to me that the exact same argument can be made with reference to the threat of the excessive debt growth.

The arguments presented in this essay can be summarised by a quote from Reinhart and Rogoff’s book *This Time is Different*:

“Debt-fuelled booms all too often provide false affirmation of a government’s policies, a financial institution’s ability to make profits, or a country’s standard of living. Most of these booms end badly.” (Reinhart and Rogoff, 2009b: p. xxv).

The paper also makes it quite apparent that the top–down approach to economic recovery, despite some success that cannot be denied, is not enough to foster economic growth. In spite of this, abandoning it completely would prove infinitely costly and counterproductive, however, perhaps what the world economy is in need of at this point is the introduction of more bottom–up initiatives – after all, we, the people, are the economy.

It is the author’s hope, that the ideas and issues examined in this paper have been presented in an interesting and engaging manner, and will encourage further research into this extremely fascinating and hugely important topic that had such a tremendous impact on the world over the last six years and still continues to shape the present times as well as the future.
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