WHAT REALLY HAPPENED:

THE FINANCIAL CRISIS GUIDE

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Preface

For generations past, children have had to earn the right to be recognized as adults. Together with the normal process of aging, they were required to develop, and demonstrate, maturity in their behavior. Only then would they receive the designation, and its associated rights and responsibilities.

Now, at least in the United States, there is no longer a clear distinction. While some children are serious and studious and act as adults, many adults still behave like children: immature and irresponsible.

The wizards of Wall Street, while adults in age, are really only children. True adults would have understood that their behavior, an absolute obsession with personal selfishness and greed, was unacceptable. They would have restrained their appetites, and through this the global financial crisis would have been avoided.

The main problem with ending the crisis is that the people who caused it, because they are children, do not understand what occurred and what is at stake. They simply want things to return to "normal," so they can continue to play their games.

PART 1 - THE EVOLUTION OF THE CRISIS

Introduction

There has been an unprecedented financial crisis underway for the last two years. It began in the United States and then spread throughout the globe. The crisis has destroyed a large percentage of the stored wealth of the world. Hundreds of millions of people have seen their savings, which in many cases were accumulated through decades of hard work, depleted if not wiped out.

In news coverage of the crisis, it has been repeated again and again that the problem is so complicated as to be incomprehensible. This is not true. The crisis is complicated, because it has many different, and interwoven, parts. The following analysis distinguishes these varied elements, and their interconnections. It should clear up a lot of the confusion.

This is essential because there must be a proper response, to ensure that the problems are resolved and moreover that they can never occur again. To date, the governments of the world have been in crisis management mode, purely reactionary, to each new negative development. They have had little time to consider what is really taking place, why it is taking place, and then to design a new system of regulatory and other safeguards.

A common misconception with problem solving is that complex problems require complex solutions. This too is regularly untrue. The best solution to a complex problem is often a clear and decisive strike at its root cause.

For example, a clear problem in the financial crisis is that stock and related markets are no longer places of investment. Instead, they are dominated by the actions of speculators - they are now more properly casinos. Two simple regulatory actions would do much to reverse this change. First, the ability to buy financial instruments such as stocks on what is known as "margin," or to purchase a multiple, potentially ten times or more, of your current financial holdings, by taking out "margin loans," should be severely restricted if not eliminated. It is difficult to understand what legitimate economic rationale this ability - to place bets beyond your means - actually serves. Secondly, investments are by definition owned for a lengthy period of time. A key element of the crisis has been the trend of speculators holding their positions for shorter and shorter periods, in some cases even for only a few hours. This has nothing to do with investment, and it has driven the huge declines in market values and more generally the great increase in market volatility. A simple measure to end such short-term speculation and to return markets to an investment character would be to tax gains on stocks and other instruments at a rate of 90% if they have been held for less than a month.

That the financial crisis became so massive reflects the fact that it is the composite of a number of subordinate crises. Another way to look at this is to understand that the crisis has a variety of distinct dimensions.

The first of these is the behavioral dimension. The root cause of the crisis is that it has been driven, for all of its direct participants, by an obsession with personal selfishness and greed.

Secondly, there has been a failure by the government to fulfill its responsibility to promote alternatives to or otherwise to control such greed.

Thirdly, in practical terms the crisis began in the U.S. housing market. There is a crisis in U.S. housing, due to the fact that home prices underwent a period of extreme inflation, which bubble subsequently burst.

Fourthly, the housing crisis led to a credit crisis, as banks and other lenders, fearing that their housing loans and related instruments would not be repaid, reduced the amount of money that they made available to each other as well as to businesses and individual consumers.

Fifthly, this in turn led to the market crisis, as the problems at the banks and other financial institutions precipitated panic among the speculators and, on a global basis, an unprecedented market fall.

Sixth and lastly, all of the above combined to create an economic crisis, as people sharply cut back their spending and businesses cut back both their production and employment.

To address the overall crisis properly, all of these component elements must be carefully analyzed and resolved.

The role of human behavior

There is a range of human behavior regarding the characteristic of personal wealth. To many if not most people accumulating great wealth is of no importance. If you can ensure the satisfaction of your personal and your family's basic needs, and perhaps a bit more, that is enough. The benefit of this approach is that is generally gives you a lot of spare time, to spend with your family, for leisure activities, etc.

Some people, though, are so consumed with the desire to accumulate money that they are willing to sacrifice their time, and families, and anything else that they have, to get it.

There are a number of different explanations for having an obsession with wealth, but in general they can be divided into two categories. The first of these is genetic. Research has shown that our genes have behavioral as well as physical consequences, and in many different ways.

One aspect of this is that some people appear to possess a genetic predisposition to be independent. This trait can be equated with having higher personal confidence, and such individuals often become society's leaders, as they are not particularly concerned with the

risks of striking out on one's own. They also recognize that since other people have become extremely wealthy, this option exists for them as well. In making the decision to pursue such wealth, though, they rarely pay much attention to the related costs. The benefits appear so obvious that they find it difficult to imagine that there might be a downside.

Other people, though, are less independent, and attach more importance to having positive relationships within their respective social groups. They are less inclined to show initiative and to take the risks that great personal advancement requires.

These types of genetic predispositions set the stage for the second category of factors, which is social. There are all manner of social influences that promote the goal of extreme wealth, or, conversely, reinforce the view that - for some - its accumulation is impossible. The first of these is the circumstances of your parents. If they are wealthy, it is likely that you will view this as something to which you are also entitled, and further, they will do their best to try to bring it about (by helping you get the best start to your career, by leaving you an inheritance, etc.). Alternatively, if your parents are poor, you will be inundated with influences that suggest that this is also your lot in life, and from which you can never escape.

This factor is then reinforced by education. The children of the wealthy go to the best schools. This not only provides them with a quality education (which is a prerequisite to understanding what it takes to accumulate, and manage, great wealth), but which also offers them the opportunity to begin building their own networks of wealth interconnections (which such plans require).

Again, individuals with less munificent family backgrounds attend deficient schools, so they are unprepared to follow the road to wealth. Nor do they have the requisite personal contacts.

To combine the two categories, those who are most likely to become billionaires are individuals who have wealthy parents and a strong independence streak. While it is true that some of these individuals will pursue entirely different courses in their lives, most choose to follow the family way, and - just as the bell curve of statistics would suggest - a few become inordinately successful at it.

This still does not explain, though, why in societies such as the U.S. accumulating extreme wealth is considered the acme of personal achievement. One could imagine it might just as well be humanitarian or scientific or artistic excellence.

The explanation for this is again social. In American society wealth translates into power. If you are wealthy, this grants you power as well, and the tendency is to want more and more, of both, including by passing this attitude from generation to generation. In a sense, it becomes a closed or self-fulfilling cycle. Just as in Holland in the 17th century the desire to accumulate wealth by speculating in tulips rose to such a crescendo (the so-called “tulip

mania") that it precipitated a major financial crisis, so too has the goal of extreme wealth and power achieved greater and greater importance in the U.S., and with it, through the current crisis, a similar outcome.

A perfect symbol of this is the best selling rap album by 50 Cent: *Get Rich or Die Tryin*. If money is the only value, it is acceptable to do anything to obtain it.

This also explains why the obvious relief valve in the overall system, merit, is not working. Some individuals are so talented, and work so hard, that regardless of their backgrounds they achieve great success. Ordinarily, you would expect such people to be uniformly spread across the range of human endeavor. Because of the preeminence of the goal of wealth, though, a disproportionate percentage of these high achievers now choose careers where making money is the only goal. This is illustrated by the fact that a high percentage of such individuals enter business schools, study finance, and then get jobs on Wall Street. It is extremely telling that many mathematicians and physicists are also working in investments. Rather than devote themselves to expanding the frontiers of human knowledge, which is selfless and to which they clearly have a strong inclination, they have allowed themselves to be drawn into a world where the only measure of success is selfish: one's personal level of wealth.

The role of government

The financial crisis owes much to the negligence and incompetence of government, particularly in the United States. U.S. financial markets are subject to government regulation, and such regulation comprehensively failed. However, it is premature to discuss these failures at this point, because they are quite specific. We need to review the appropriate background, to put them into context. As the guide progresses, by considering the different financial markets and institutions that are involved, the associated regulatory failings will be identified.

Government, though, bears responsibility for the crisis in other, more general ways. For example, while there have been many distinct oversight failures, underlying all of them is a more essential unwillingness to regulate. Washington, particularly over the eight years under the Bush Administration, basically decided to let the financial industry pursue its various businesses with no controls whatsoever.

Part of this is ideological, reflecting a belief in free market capitalism, which ideology will be considered in the next section. But much of it is also due to corruption, to forms of corruption that are systemic in the United States.

The U.S. is a representative democracy, meaning that government leaders are elected, and charged with serving the people. Most of us would assume that this is limited to real people - ordinary Americans, but this is incorrect. Due to an 1886 Supreme Court decision (Southern Pacific Railway vs. Santa Clara County), companies are also considered to be "persons." They legally possess many of the same rights as ordinary people, including the

right to lobby government officials.

There is an ongoing interplay between the people and the government; elections are not the end of the discourse. We express our views in many ways through media and other forums and also by directly communicating with our representatives. A huge problem is that corporations, pursuing their rights as persons, do the same thing, but with the benefit of their great financial resources, which are astronomical compared to individuals. They open offices inside the Beltway in D.C., staff them with lawyers, and then set about contacting officials in ways that real people can never duplicate.

Why do they do this? It is an expensive proposition. The companies say that they are merely making their viewpoints heard, but this is disingenuous. They want to sway the officials to adopt laws and regulations that will benefit them, which they even offer to draft. In many cases, though, the laws and regulations that they propose are against the best interests of the general public.

Government purpose in the United States is conflicted. The people want one thing, the companies another. But the companies offer inducements that the officials find hard to resist. While the receipt of direct gifts has been outlawed, the companies offer or otherwise organize large sums for the officials' election campaigns, and also lucrative jobs in the private sector for when they leave office.

The role of capitalism and markets

Capitalism can be defined as any system of markets. Moreover, markets are the places (not necessarily tangible locations) where we satisfy many of our personal needs. We either produce something that we need, making as much as possible and then selling the rest - in markets; or we produce something else that others need, sell it to them, again in markets, and then use the proceeds to buy what we want. Furthermore, the prices for such goods and services are set through a process of auctioning or bargaining. Sellers try to get the most that they can, and buyers to pay the least.

The strongest proponents of capitalism, capitalist true believers or fundamentalists, argue that markets are able to satisfy all of our needs. If a need exists, a market will spring up to serve it. Conversely, needs for which markets do not develop are essentially unimportant.

In addition, they say that markets should be "free," meaning free of government regulation. They say that markets are able to take care of themselves with no outside intervention or control; that they are self-regulating.

This sounds good in theory, but as the financial crisis illustrates, it clearly fails in practice. The reason for this is the nature of the market participants. While markets have existed since the dawn of time, they have undergone an extraordinary level of transformation. Individuals no longer predominate; instead, they are controlled by corporations.

The basic objective in capitalism is to earn a profit. Corporations appraise our needs, and then focus on those that offer the best profit opportunities. Needs where there is little chance to earn a profit, or none at all, are ignored: such needs go unsatisfied.

If these needs are served at all, this occurs outside of markets, or with only a tangential relationship to them. The sources for these types of services include the government, and religious and other organizations (e.g., non-profits). But free market fundamentalists also typically argue that the government should be as small as possible, meaning that it will be unable to assist with these other needs, as well as do an effective job of market and corporate regulation.

The idea of self-regulation is now conclusively discredited. The free market capitalists of Wall Street could not control their greed, and for this the whole world has to suffer.

Risk and reward

Companies need money to produce goods and services. This money is also referred to as capital: investment capital. It is raised in two basic ways.

The first of these is through loans. In this case companies borrow money, from lenders, typically banks, for which they pay interest. (This is called the “cost of capital.”) The lenders' only return is this interest. At the conclusion of the loan term the principal, the underlying amount of the loan, is repaid as well. (If the principal is slowly paid down over the course of the loan, in addition to the interest, this is known as “amortization.”)

For the second technique, companies sell stock, to investors. Such investors do not receive interest on their holdings, although they may receive periodic payments called dividends. Instead, through buying stock they are effectively buying a share in the entire company, and as the company makes profit its overall value should increase and through this the value of their share. They can then capture this gain by selling their stock.

In the first case, for loans, which can also take a form known as bonds - corporate bonds - the risks to the lender include that the preagreed interest payments will not be made, or the principal repaid. Lenders conduct credit analyses of the companies that request loans, to evaluate their ability to repay. They then deny the loans where they think this ability is suspect.

Lenders also do the same with individuals borrowers, with people who want loans to buy such things as houses and cars. Only individuals who have good credit ratings are approved.

Provided the lenders do a good job with their credit analysis, and only lend to companies and individuals who demonstrate creditworthiness, the risk that they will not be repaid is minimal.

The situation is different with stock investors. They have not extended the companies loans. Therefore, they do not have a right to be repaid. Instead, they have purchased a share, which they hope will increase in value.

Companies engage in all manner of business activities, some of which are more risky, meaning less likely to earn a profit, than others (although the potential profit for risky ventures may actually be greater). Established businesses, where companies have well-respected brands and customer loyalty, generally have lower levels of risk. Their main challenge is to adapt to long-term developments in their markets and associated technologies. New ventures, though, which develop original products and services, or which target new markets, can have much greater risk.

Stock investors can choose the level of risk with which they are comfortable. They can limit their share purchases to the first group of companies, but the price for this is that the return on their investments will typically be quite low. The companies' profits, and hence the share values, grow only slowly from year to year. If the investors want a greater return, they have no choice but to buy shares in the more aggressive companies, and to bear more risk.

This is the basic trade-off - and law - of capitalism. If you want a greater return, you have to accept more risk. As we will see later, a fundamental cause for the financial crisis is that investors (and lenders) believed that they could make more profit, without bearing any additional risk. As the crisis has proved, though, they were wrong.

Also, loans in general are less risky than stock investments, because the lenders have done their credit analysis and have a reasonable expectation to be paid. (In addition, they are the first to be paid back from any money that the company makes.) Increases in value on stocks, though, are based on a wide variety of factors, including the ability of the company's management, the actions of competitors, and overall market conditions. This makes them more uncertain, and hence riskier. Such investors therefore demand a greater return than the lenders, since they must bear this additional risk. If a lender is charging 5% annual interest on a company's loan, investors in the same company might hope to see a 10% return on its stock.

Market efficiency

Another premise of capitalism, specifically of investments in stocks, is called market efficiency. This means that markets quickly process all new information that becomes available about a company's performance and prospects. Said another way, when new information that might affect a company (in any conceivable way) is published, all market participants learn it simultaneously, and it is immediately incorporated into the company's stock price.

Market efficiency implies that it is impossible to "beat the market." Since everyone has access to the same information, you cannot get an advantage. The only legitimate

exception to this is with "value investing," where through detailed analysis of the information you strive to develop original perspectives on the long-term prospects of a company, see things that other people have not yet realized, and position yourself accordingly.

The only other ways to beat market efficiency are to trade on information that is not yet public, so-called inside information, which in the U.S. and many other countries is illegal; or to find a way to manipulate the market such that it moves to your advantage, which too is - or should be - illegal.

An important aspect of the current crisis is not only that some participants tried to deny the existence of the risk/reward trade-off, others, specifically what are known as hedge funds, advertise that they can beat market efficiency. Their argument is similar to the premise of value investing. They say that through their investment analysis they can see opportunities in the market - even short-term opportunities - that others do not. A critical question is if this is true, if they have this ability, or if they are using the claim to disguise insider trading and market manipulation.

Company valuation

All of this raises another question. What is a company, and a share of its stock, worth? The latter is a simple calculation, if you know the former: the overall company value. You just divide this by the total shares outstanding, and this yields (or it should yield) the share price. But what about the former: what is a company - the complete enterprise - worth right now?

Companies exist to earn money, so you can calculate how much they are worth by estimating how much money they are going to make. This calculation, though, is complicated by the fact that they will earn the money in the future. It is possible to make reasonable projections of such future earnings, but you also need to determine how much they are worth in the present day.

Financial analysts solve this problem using a technique called Net Present Value analysis (NPV). They estimate future earnings year by year and then "discount" them back to the present using a "discount rate."

The idea of discounting can be explained like this. If you deposit money in a bank savings account, the bank agrees to pay you interest. For example, if you deposit $1,000 at 3% interest in one year you will have $1,030 (using "simple" interest). Discounting reverses this process. If you expect to receive $1,030 in one year, how much is it worth now, with the answer being (roughly) $1,000 if you use a 3% discount rate.

With stock investments, since the risk is greater - that the expected future earnings will not be attained - the discount rate is also correspondingly higher. It is set at a premium to the return on a safe investment like a bank deposit.

The challenges of NPV analysis include to make accurate earnings estimates and to use an appropriate discount rate. Further, both will change as company and overall market conditions develop. The fact that the financial crisis has made future corporate earnings less reliable means that discount rates are rising. This combination, reduced earnings expectations - companies are now making significantly less money, if not experiencing outright losses - and the use of a higher discount rate, compounds to drive down the NPV, which is reflected in the large falls that we have seen in stock prices.

Finally, different analysts will have different views on earnings and rates and hence company values and stock prices. These are all reconciled at the actual stock market, through an auction process where buyers and sellers reach agreement on what the value and price are right now.

Associated with this is the fact that investors do not make decisions solely on the basis of clinical valuations. They take other factors into account as well, which may be characterized as psychological. These include if there is momentum in the market up or down; and also if there are any noteworthy price points approaching, such as the Dow Jones Index nearing a 100 or 1,000 point level, since there is often resistance by buyers and sellers to break through such levels, either up or down.

One implication of the above explanation is that in most cases you would expect stock prices to move slowly. Barring dramatic market developments, tied to breaking general news, company valuations should not vary that much. But, the stock market and stock prices now experience great changes, day-by-day, which is referred to as a volatile market. The reason for this is that other types of factors are now driving the market. Foremost of these is the aforementioned speculation. Hedge funds are huge investment pools that in many cases are devoted to short-term speculation. Taken together, all such investment capital is known as "hot money," because it is moved from one investment to another, again and again.

Further, the final price-setting mechanism, the auction, reflects an additional supply and demand equation. If there are a lot of buyers for something, this will drive up the price regardless of the underlying value fundamentals. Conversely, with few buyers prices may plummet. The most notable example of this, from the crisis, was the market panic of early October 2008, when there were almost no buyers and the U.S. market fell 20% in a few days.

Mark to market

All investors, be they individuals or institutional funds, generally hold a portfolio of stocks, meaning more than one. The value of the overall portfolio then changes from day to day as the prices of its different components rise and fall. The process of determining specific values for the individual investments, and through this for the entire portfolio, is known as mark to market. For instance, if you buy 1,000 shares of a stock at $50 per share, you

made a $50,000 investment. If the stock price rises to $55, at that moment the investment is worth $55,000, for a $5,000 or 10% gain. The gain is only unrealized, though, unless you sell the stock to lock it in. Barring such a sale the gain may evaporate and even turn into a loss (an unrealized loss) if the stock price subsequently falls.

Marking a portfolio to market means analyzing and then totaling the values of all your individual investments. You could do this following any schedule that you desire: daily, monthly, quarterly or yearly. Large investment funds have computer programs where they can mark their portfolios to market on a real-time basis, as the prices on individual investments change from one transaction at the exchange to the next.

An implicit assumption of the mark to market methodology is that you can actually realize investment gains or losses. This in turn requires that the investments be liquid, i.e., that there are always buyers and sellers in the market to take the other side of a transaction.

For the shares of large companies, this is normally not a problem, as there are generally many buyers and sellers. The actual price that you get, though, could be slightly different from your last mark to market valuation, as it will be set when the transaction is agreed.

The stock prices of smaller companies are less liquid. Shares in such a company may not even trade on a daily basis. In this case, the price for a new transaction could be substantially different from the last, if there have been noteworthy developments in the interim for either the company or the overall market.

In addition, we have been referring to investments that trade on recognized exchanges. But many investments, or more generally financial securities, do not have such an established clearinghouse. They trade directly between parties or through brokers. These types of securities can be quite illiquid, particularly in market downturns. As we will see, this has been a major factor in the current crisis, as a number of new types of securities that have been invented essentially froze - no one would buy them - as the crisis progressed.

Risk management

The forgoing implies that financial transactions (both stock investments and lending) always involve risk, and sometimes in great amounts. Participants in such transactions seek to understand and control their exposure, through a process known as risk management.

For lenders, we have seen that risk management comprises credit analysis as well as the related task of credit administration, where all loans and associated payments are tracked and evaluated. Lenders may also use, for a fee, the services of outside credit-rating agencies, such as Standard and Poors and Moodys, who promise independent appraisals of a borrowing company's creditworthiness.

Similarly, for stock purchases, investors evaluate the risk in their portfolios. They periodically mark their investments to market, and also anticipate future changes in such values based on assumptions about how the markets are likely to move.

The latter is particularly important for large investment funds and also the proprietary trading departments of stock brokerages, who trade again and again and accumulate large "books" of investment positions. Risk management evaluates the overall book, including through offsetting opposing positions. One trader at a firm might sell a company's stock while another buys it, and both positions can be settled internally.

Another part of risk management is what is known as counterparty analysis. When an investor makes a trade, agrees to buy or sell something, this necessarily involves someone else on the other side of the transaction. This other side is known as the counterparty, and an important part of risk management is an appraisal of whether such counterparties will actually fulfill their end of the deal.

Again, the ratings agencies like S&P offer independent counterparty analyses. In addition, investment analysts at stock brokerages forecast the performance of different companies, and their reports are available to investors who use the services of their respective brokerages.

The foundation of institutional risk management is known as fiduciary responsibility. Company management, be it an industrial company or a bank, has a responsibility to the investors in the company, which is twofold. First, they are obliged to try to make money, as much as possible. When banks accumulated huge portfolios of risky mortgages and new and exotic securities, they could argue that such risk taking was justifiable, due to this element of the fiduciary directive. But, their responsibility has a second side as well. They must be judicious, and work to minimize the potential for losses. Bank executives threw such caution to the wind, because their own motives were compromised. If the banks made billions, they would be paid millions in annual compensation. Their desire for extreme pay clouded their vision and they forgot their responsibility to be risk-averse.

Also, in a company there is a distinction between jobs that are "line" and those that are "staff." Line jobs, in one way or another, directly contribute to profits. For an industrial company, production and sales positions are line jobs. Staff jobs, though, are only indirectly involved in such profit-making, and include such things as the finance, legal and human resources departments. For a bank, traders are line and risk managers are staff. If top management forgets their fiduciary responsibilities, they tend to give the traders whatever they want (to approve any positions that they take), and ignore the warnings of the risk managers - until it is too late. (Given the common preferred status of line positions, many staff departments do anything they can to have a line function - to find a way to contribute to profits.)

Finally, another important and practical element of risk management is diversification. Industrial companies produce a variety of new products, since some will succeed while

others fail. Similarly, investors can diversify by buying different investments where if some lose value the others are likely to hold steady or even gain. (This can be accomplished in many ways: by buying companies in different industries, in different countries, etc.)

Hedging and derivatives

As we just saw, an essential element of risk management is diversification. A related tool in this process is known as hedging. Investors adopt secondary investment positions, to offset the risks in their main portfolio.

Investment hedges can be straight-forward, or extremely complicated, depending on what they are designed to do. They are also not without cost. A hedge is essentially a new investment, to protect another, and it costs money. This means that the return on the primary investment will necessarily be reduced, by the cost of the hedge.

Viewed this way, hedges are a form of insurance. Even if the risks on the primary investment do not materialize, the overall return is still reduced by the hedge cost. But, if the risks are fulfilled, if the investment declines in value, the hedge helps offset the loss.

There are a wide variety of potential hedges, and this makes them difficult to examine other than in an article or a book dedicated to the task. We can review a few simple examples, to illustrate the core points.

First, most hedges involve what are known as derivatives. These are financial securities whose value is tied to something else. For example, in addition to buying a company's stock, you can also buy, or sell, options to buy, or again, to sell, such stock. An option to buy a stock is known as a "call." An option to sell a stock is a "put." To sell an option, either a call or a put, is to "write" the option.

One element of options is that the purchaser is not obliged to do anything. That's why they are called options. In addition, they have a set term, e.g., 3, 6, or 9 months, after which the option expires. If you buy a call option, this grants you the right to purchase a set number of shares of a company's stock and at a set price, at any point during the term. If you decide not to exercise the option, it will expire once the term is concluded.

Writers, though, are obliged to act, if the respective buyers exercise the options. The writer must fulfill whatever action the option prescribes. For a call option, this means they will have to deliver the appropriate number of shares.

A basic hedge is to buy shares, and then to write call options on a portion of them. If the stock price goes up, the shares will increase in value, although you may have to deliver the portion that is linked to the options, if they are exercised. Alternatively, if the stock price declines, this loss is offset by the revenue on selling the calls, since in such a situation the options are unlikely to be exercised.

In this case, the hedge is a direct match to the underlying security. Many hedges, though, offer only an indirect connection, or less than perfect correlation, to the primary investment. For instance, through what are known as index options, you can bet that the overall market will fall. Again, if the market does fall, your primary investment is likely to decline in value, but this will be offset to some extent by a gain in the value of the option.

In addition to the world of financial investment, hedges are also used by other types of companies to protect their profits or otherwise to reduce their risk. For example, companies with operations in other countries can purchase foreign exchange hedges to protect the value of their foreign earnings against the risk of local currency declines. (One way to do this is to buy foreign exchange "swaps." There are interest-rate swaps as well.) Similarly, companies that use substantial energy resources can buy hedges to ensure that their costs don't increase if energy prices rise.

In recent decades, financial engineers at investment banks have invented a wide variety of new and complex securities. These can be used to create a dazzling array of hedges. But, a core element of the crisis is that in many cases these securities were poorly understood, with the result that hedges based on them failed. One aspect of this is that many of the securities were illiquid, and hence extremely difficult both to mark to market and to sell.

Also, it is important to recognize that hedge funds are not investment firms that specialize in the sale of hedges. Rather, they execute complicated investment strategies using these new securities, through which they hope to exploit perceived gaps in market efficiency.

Cultural shift

To understand the financial crisis, you have to return to its roots. The economy is cyclical. We periodically have crises, although the origins of each is unique. The real beginnings of the current crisis lie in the cultural shift that occurred in the United States starting in the early 1980s. This is when the idea of personal restraint was discarded and the modern quest for great wealth became paramount.

It is not a coincidence that this was during the presidency of Ronald Reagan. His trickle-down theory of economics gave the philosophical foundation for extreme wealth ambition. It became acceptable to accumulate millions and then billions of dollars, and to show it off through displays of conspicuous consumption, since in the process scraps would be created that would trickle down to the poor. This attitude was best symbolized in the statement of the antagonist in the movie, *Wall Street*, that "greed is good."

This was also the period that saw the rise of the yuppies, young urban professionals, who were obsessed with the accumulation of material goods from kitchen appliances to BMWs. Reagan bequeathed the world the modern version of the religion - or cult - of materialism, from which we are still struggling to escape.

It was in this era that the explosion of executive compensation began. Prior to the 1980s,

the pay of top company officers bore a logical relationship to the pay of the other levels of workers, with the differences reflecting the former's increased know-how, problem solving skills, and accountability. Furthermore, the economy grew gradually, company profits grew gradually, and executive and also worker pay grew gradually.

This changed in the 1980s, as a few notable examples illustrate. Ivan Boesky was a risk arbitrageur. This meant that he bet on whether companies might engage in mergers and acquisitions - arrange to buy other companies, to merge with them, or to sell all or part of themselves - including to take positions once such deals were announced.

Normal arbitrage involves the simultaneous buying and selling of an investment, in different markets, to take advantage of small price differentials. It is in theory without risk. Risk arbitrage, on the other hand, and as its name implies, is risky. The companies might not do anything, or even when announced, deals may fail. (A risk arbitrage investment takes place over a lengthy period of time.) It requires a very fine sense of a complex set of factors, and when done well it can be very lucrative. Boesky was good at risk arbitrage, and became wealthy. But, this still wasn't enough. He was able to obtain inside information about upcoming deals, traded on it, and was caught and imprisoned.

Similarly, Michael Milken was an investment banker who specialized in financing takeover deals - acquisitions of companies - using high degrees of leverage. Leverage means that you buy things using borrowed money. You put up a little of your own and then borrow the rest (e.g., the earlier described margin loans). To buy a company worth ten million investors might put up one and borrow nine. Such a highly leveraged deal is known as a leveraged buyout or LBO. Unlike normal bank loans, they can be very risky because there is so much debt. Milken was an expert in arranging this debt, in the form of bonds, which because of their risk had low credit ratings and were known as "junk bonds." Milken was Junk Bond King.

Through fees for issuing the bonds, he became extremely wealthy, earning in 1987 some $550 million. But, like Boesky, this amount, which was unheard of at the time, apparently was not enough. Milken also engaged in illegal business practices, and was found guilty of securities fraud and imprisoned.

Young people around the country were amazed at the money that could now be earned on Wall Street. More and more people went to business school, studied finance, and got jobs in lower Manhattan. In the business world, getting a job with a large industrial or service company was no longer the preferred choice.

The top executives at such companies also observed these developments. Many no doubt wondered why, when they were running companies with tens of thousands of employees, and operations around the world, they should be paid less that the bankers of Wall Street. They actually produced something tangible; surely they should be paid as much or more.

Note: I worked in executive compensation at the time, and prepared a private survey of

the pay levels for the top two officers at twenty-five of America's largest companies (Exxon, General Electric, General Motors, etc.). Prior to this period, there was restraint in the executive suite. The top managers at the largest companies and the companies with the best performance were paid a bit more than everyone else. Salaries ranged from a few hundred thousand up to a million, and bonuses were the same. Annual stock option grants, which enable the executives to buy company stock at a fixed price, the price of the stock in the market on the day the option is issued, and for a fixed term, usually ten years, were in the range of 20,000 to 50,000 shares. (For a 20,000 share option, if the price subsequently rises $10 per share, the executive could exercise the option and realize a $200,000 gain. The idea of stock options is to link executive pay directly to stock price performance.)

A third individual, Lee Iacocca, was also a notable personality of the time. He agreed to lead Chrysler, when - as now - it was close to bankruptcy, for a nominal salary of $1 per year. What was not widely noticed is that he also had Chrysler's Board award him a series of huge stock option grants (beginning with a 400,000 share grant in 1979).

Company Boards of Directors have Compensation Committees, which are supposed to be independent, and which are responsible for appraising executive performance and then rewarding it accordingly. While working in this field, though, I always remarked that such committees were not independent. The CEO was clearly able to get the committee to approve whatever he wanted, for himself and his immediate subordinates. (All CEOs, certainly at large companies, were male.) You could tell who was greedier and who longed for best-paid status. Still, as noted, overall there was a common practice of self-restraint. With the explosion of pay on Wall Street, though, and the issuance of Iacocca's grants, executive pay began to increase rapidly, and diverge from company performance. This situation still exists today.

Since the 1980s, hyperbolic pay has become routine, including through the Internet bubble and now with hedge funds and private equity firms. (The latter are simply LBO shops - they rebranded themselves to eliminate the negative connotation.) Executive pay is completely out of control. There is no good reason that anyone, including media and sports celebrities, should be allowed to earn (or to keep) tens or hundreds of millions or even billions of dollars a year.

Financial engineering and structured finance

To reiterate, this guide is about problems with investment capital, and which developed in the capital markets. Such markets in turn broadly comprise credit markets, for loans and related securities such as bonds, and which pay interest; and stock markets, where the standard investor motivation is to buy company shares in the hope that the price will rise.

In the last thirty years, there has been a dramatic increase in the complexity of these markets. Also, where formerly they were to a large degree separate, they are now closely linked.

For the first, the credit markets, their leading participants, commercial banks, are constrained in the amount of money that they are able to lend. They must have a capital base, a pool of their own money, the traditional sources of which are the proceeds of stock sales and accumulated earnings, to serve as the foundation for the loans that they extend. The reason for this is clear: If you have no money of your own, how can you give some to others?

Banks, though, do not need 100% capital, meaning that if they lend one million they must have an associated one million on hand. Rather, they serve an economic role where they "create" money. They are legally allowed to loan above and beyond the amount of their capital.

Bank capital requirements are set by government regulators - in the U.S., the Federal Reserve Bank. To be “adequately capitalized” requires 4% in Tier 1 or “core” capital (stock sales plus retained earnings, as a percentage of “risk-adjusted” assets). To be “well capitalized” requires 6%. There is also Tier 2 or “supplementary” capital, and to be adequately capitalized requires 8% in Tier 1 plus Tier 2 and 10% for well capitalized. The Leverage Ratio is Tier 1 divided by total assets, 4% for adequately capitalized and 5% for well capitalized. This means that in the U.S., well capitalized banks can lend approximately twenty times their core capital. (This is their maximum leverage.)

Each time a bank extends a loan, it earns interest and related fees. The more loans it makes, the more interest and fees it accumulates. Banks therefore have an incentive to leverage as much as possible, but they are limited by their capital requirements.

In the last few decades, they have devised clever ways to bypass these requirements and also to increase their fees. To increase their leverage, the most important technique has been asset securitization. (For a bank, a loan granted to a company is an asset, a source of interest earnings. To the company, though, it is a liability, an obligation to repay.) Banks grouped their loan assets into pools, and then created financial securities which owned shares of the pools. They then sold these securities to investors.

This created a new link between credit and investment markets. Investors, who could already buy stocks and government and company bonds, could now purchase bank securitized debt, and which paid interest above the rates on most such bonds. (Another aspect of diversification is to keep part of your portfolio in stocks and the rest in investments that earn interest. For the latter portion, you want to maximize the interest, to earn as much as possible. By offering interest rates above those generally available, securitized loans had a ready market.)

In securitizing their loans, the banks lost the right to receive the interest, but they kept any fees associated with their origination (as well as with the creation of the new securities); and, they freed up their capital to extend new loans. Where formerly banks would extend and then hold loans up to the amount allowed by their capital base, now they could extend

such a loan total, securitize it and sell it, and then repeat the process again and again. (Economically, the bank money creation role became multiplied.)

Asset securitization was first applied to mortgages, both residential and commercial, which yielded mortgage-backed securities. The fact that banks could increase the amount of money available for mortgage loans was a clear factor in the inflation in housing prices (at least as important as the availability of low mortgage rates). Subsequently, asset securitization was applied to other types of loans, including student loans, car loans, and credit card debt. All such securities as a class are referred to as Collateralized Debt Obligations (CDOs).

The above techniques are part of a process known as financial engineering or structured finance. Bank structured finance (and related) departments also developed and sold a wide variety of other financial engineering products, including leases on expensive capital equipment, such as planes; and project finance, for such things as factories, power plants, dams, pipelines, and even Hollywood films. In the process, they expanded the use of something called off-balance sheet finance.

We saw earlier that different companies have varying degrees of creditworthiness, depending on their financial strength - how much money they have made in the past and accumulated - as well as their prospects. This creditworthiness serves as a limit on the amount of money that they are able to borrow, and it also determines the interest rate that they are obliged to pay (their cost of capital). When a company has exhausted its credit limits, it cannot borrow any more money without greatly increasing its cost of capital.

Banks created new ways to help companies reduce their cost of capital, of which off-balance sheet financing is one of the most aggressive. Under this technique, the company that is the bank's customer sets up a new company to receive the loan, which company is structured to be legally separate from the parent, so it does not have to be fully incorporated into its financial statements. This company then receives the loan, which is often designated for a specific business purpose, e.g., a project. In the process, the parent is able to increase its leverage beyond what its financial strength would suggest is reasonable. Further, it is able to do this without greatly increasing its cost of capital, as the interest rate is tied solely to the creditworthiness and prospects of the "special purpose entity."

In addition, the originating bank in some cases creates a connection to the new company, whereby it can piggy-back on the bank's own strong credit rating (“credit enhancement”), thereby reducing the cost of capital even more (and for which service the bank earns large fees). This relationship is then an off-balance sheet item in the bank's own financial statements. In summary, a new company is established that benefits financially from its links to its parent and to the bank, but both seemingly are not obliged to bear the business risk associated with the venture.

This is how this particular structured finance idea was meant to work, but it failed with

spectacular results. Enron, World Com, etc., were pyramids built on off-balance sheet companies and debt, and when the ventures failed the parent companies also collapsed, and the originating banks were held liable for tens of billions of dollars in losses. It turned out that they could not create such a new structure, and earn huge fees in the process, without accepting some of the risk.

There were similar patterns of innovation in stock markets, where many new investment products were invented, among them a slew of different types of options, futures and warrants, including on market indices, as well as auction rate securities, exchange-traded funds, etc. These products were created by the investment banks and brokers that dominate these markets (and which also had a role in the origination and sale of CDOs).

Critically, in many cases the markets for these products were not transparent. Information about the investments and their prices was not readily available. This created a gap in market efficiency that aggressive investors, which became known as hedge funds, rushed to fill. They could now execute complicated trading strategies, for example, what are known as quantitative strategies, which statistically unearth and then exploit small price differentials between different investments or markets. (This is normal, supposedly risk-free arbitrage.) If done on a large scale, meaning with borrowed money - margin loans, these strategies can yield extraordinary profits. The new opaque securities also created a world where it was much easier to trade on inside information, or to manipulate investment prices, without getting caught.

To give an idea of the scale of hedge fund compensation, such funds typically charge an annual management fee of 1-2%, and a performance fee of 20% of investment gains (either raw, on any gains at all, or on the portion in excess of the performance of a recognized market index, such as the Standard and Poors 500). A fund that in one year grew 10 billion to 12 would earn, with a 2% management fee and 20% of raw returns, approximately 420 million. Hedge funds use a lot of computers, but have few employees. The pay for directors is astronomical.

This explains the aforementioned shift to speculation. Many investors, certainly hedge funds, no longer "buy and hold," waiting for companies to create new value which over time will be reflected in increased stock prices. Instead, they trade frequently if not continuously, to try to exploit such price differentials. While in capitalist theory there is nothing that says this behavior should be forbidden, in practice it has so affected the markets that they have lost their investment character. Through this a core underpinning of capitalism, the existence of an orderly conduit for investors to provide funds to companies, has been subverted.

The failure of regulation

The last thirty years has also seen a failure of government protection, which culminated in the Bush Administration's complete unwillingness to regulate. The creation of new and risky securities, combined with ever-decreasing government oversight, was the

institutional foundation on which the crisis was built.

Following the Great Depression, the Glass-Steagall Act was passed, which separated the activities of commercial and investment banks. Commercial banks, because they take the deposits of ordinary people, were prevented from participating in the more risky activities of the stock and bond markets. In addition, the Federal Deposit Insurance Corporation (FDIC) was established, to provide additional guarantees for bank deposits.

Over the years, commercial banks became staid institutions, with their business concentrated on lending to companies and consumer banking. The investment banks, though, were the major participants in the stock markets, and they also originated some forms of corporate debt - company bonds and related products. The latter were improved to the point where they offered a reduced cost of capital, and through this they undercut the commercial banks' company loan business. These banks then argued that they were losing market share, and needed relief. They also envied the huge profits of investment bank stock and bond trading and underwriting.

The Glass-Steagall Act was repealed in 1999, and commercial banks immediately established or acquired investment bank counterparts. This in turn triggered the formation of huge financial conglomerates, which is the norm today. In the process, the concern for protecting consumer deposits (other than by the FDIC) was forgotten.

There are a number of basic challenges with market regulation. The first of these is that financial engineering is effectively the creation of new technology. Government itself tends to be staid and bureaucratic. It rarely demonstrates the flexibility to react quickly to new technologies and the threats that they might represent. As such things as new pharmaceuticals, genetic engineering and nanotechnology illustrate, regulators are often a step or more behind. As a result, serious if not critical problems can be seeded which the regulators must later struggle to control.

Associated with this, the inventors of new technology, be they pharmaceutical companies or banks, lobby government officials extensively not to regulate their activities. As it stands now, since such lobbying is not banned, nor are elections solely publicly-funded, their campaigns have worked. Officials favor company views, and government regulations are weakened even further.

For the financial markets, there have been a number of specific regulatory mistakes, including: the reversal of Glass-Steagall; the failure to impose regulations on the new derivatives that were invented; and the failure to control, as discussed below, the aggressive marketing by lenders of risky mortgages, many of which are now in default. All of these mistakes were also due, in part, to lobbying by the financial industry, as was a blockade of regulation in early 2008 for hedge funds. (The largest hedge fund lobbying group is the Managed Funds Association. For a short period of time, in 2006, hedge funds were required to file public disclosure forms.)

As another example, accounting regulators (the Financial Accounting Standards Board - FASB) and also independent auditing firms, failed in their supervision of financial statement preparation, leading to the problems that developed from off-balance sheet financing.

A final and related regulatory problem has been the collapse of self-regulation by many of the key participants in the crisis. As we have seen, banks de-emphasized risk management. The large government-backed buyers of mortgages, Freddie Mac and Fannie Mae, abandoned their core mission to support an orderly home loan market (which also dates to the Depression), to participate in the housing bubble. And, the rating agencies and auditing firms threw away their independence, as they too sought to board the fee gravy train.

The current crisis

The above describes the exceedingly complex set of factors that prepared the ground for the economic crisis which has so devastatingly shaken the entire world. As noted, the actual triggering event was the bubble in United States housing.

With the development of asset securitization, lenders had an easy means to dispose of more and more mortgages (to get them off their books). But since there were (and always will be) only a limited number of creditworthy mortgage borrowers, this created a huge incentive to relax credit standards. Lenders also became more creative with their mortgage designs. They began to offer adjustable rate mortgages (ARMs), where the interest rate and hence the monthly payment can vary from year to year, in addition to standard fixed rate mortgages.

With time, a huge variety of different ARM structures were created, and then marketed, by mortgage brokers and consultants, including to increasing less creditworthy customers. These included “Alt-A ARMs,” to borrowers with acceptable credit ratings but who had other lending issues, such as unverifiable employment or income; and “Subprime ARMs,” to people with deficient credit scores. Many of these ARMs also had low “teaser” rates, which meant their monthly payments would rise, to perhaps double or more, once the mortgages began to reset. (There were even “Option ARMs,” where the monthly payments were so low that the principal actually increased, a situation known as negative amortization.) Further, all of these mortgages were grouped into pools, securitized, and sold to investors.

Not surprisingly, many of the less creditworthy customers began to default on their mortgages (particularly with the advent of their first resets). Since the borrowers could no longer make their payments, the asset pools received less than the expected interest. This in turn was a shock to the investors, since one of the reasons they bought the securities was that the credit-rating agencies had said they were investment grade, giving many of the pools their highest AAA rating.

The investors for securitized mortgages included investment funds, pension plans,

insurance companies, and the issuing banks. As the interest payments on the securities declined, they were faced with a problem. The securities clearly were worth less, because they were receiving lower interest, but how much less? No one, apparently, had thought through how difficult the securities would be to value in the event that the borrowers defaulted in a significant way.

To take a simple example, assume a $2 million pool of ten $200,000 mortgages. As defaults started to rise, the investors had to predict both how many of the mortgages would go bad, and how bad they would become. Some borrowers would pay late, but others would default completely. For the latter, the originating banks would then foreclose, seize the homes, and sell them at a loss. This meant not only that they would receive less interest; there was a loss to the principal as well.

The valuation problem was further complicated by the fact that the real pools might include thousands of mortgages, and of different grades.

Under accounting regulations, the investors had to mark the securities to market (on a quarterly basis), but they could only estimate what the decline might be. For investment funds, the declines represented unrealized losses in their portfolios. But, when the fund participants saw the declines, many demanded redemption, meaning the return of their money, however much might be left. This in turn forced the funds to try to sell the securities, in a completely illiquid market.

Meanwhile, investors such as banks and insurance companies, even though the losses were unrealized, had to deduct them from their capital. This is the standard practice according to the accounting rules for such institutions. In many cases this meant that their capital fell below required levels, forcing them to try to raise more.

It is also important to recognize that this is where the crisis began to spread from the United States to the world. The mortgages and related securities were from U.S. housing, but they were bought by investors around the globe.

Credit-default swaps

A final twist is that the problems lay not only in the mortgages and associated securities. Financial engineers also created another type of product, called a credit-default swap. A CDS gives you the right to transfer the losses associated with a default to the issuer of the swap. For instance, returning to the $2 million mortgage pool, if all the investors in the pool had credit-default swaps for their investments, for a default rate of up to 50%, and such a default rate occurred, they could demand $1 million from the issuers.

Credit-default swaps were a form of insurance, or hedge, which made the purchase of the securitized mortgages more attractive. An investor could buy the securities, and earn a premium interest rate, which would be offset but only to a small degree by the payments to buy the swaps, which were renewed annually.

This structure made business sense, but the problem was that the swap issuers, including banks and insurance companies, demanded too low a charge. They assumed that U.S. housing prices would continue to rise and that default rates, even on subprime, would be minimal. The annual charge for the swaps therefore was set correspondingly low.

Unfortunately for them, the U.S. housing bubble burst. Many people had taken out mortgages that they simply couldn't afford (including low income individuals who bought homes beyond their means, and real estate speculators who bought many properties). They began to default at higher rates that anticipated by the swap issuers (specifically, in the computer models on which the swaps were priced). The demands for payment by purchasers of the swaps therefore started to rise.

This created such a mess that it is difficult to fathom completely. (The mavens of Wall Street have been trying to figure it out, to determine who owes how much and to whom, for going on two years.) The CDS market had exploded, reportedly to a level of some $70 trillion dollars outstanding. Issuers of swaps were also buyers. No one knew how much the related mortgage securities were worth, therefore how much the swap payments should be. Issuers that needed to make large payments simply didn't have the money - the capital - to do it. Buyers, realizing that the issuers couldn't pay, and that their insurance was worthless, had to take unexpected losses on their portfolios, threatening their survival.

This triggered a full-blown financial crisis. Major players in the financial industry, including banks like Citigroup and Union Bank of Switzerland, investment banks including Bear Sterns, Lehman Brothers and Merrill Lynch, bond insurance specialists Ambac and MBIA, the insurance giant AIG, quasi-governmental U.S. mortgage companies Freddie Mac and Fannie Mae, and countless investment funds, were close to failure. Some, such as Bear Stearns and Lehman Brothers (and many funds), did fail. Others were bailed out by the U.S. and other governments around the world, and are still struggling to survive.

The financial crisis hammered the stock market, driving a roughly 50% fall in all of the different exchanges worldwide, and resulting in losses that have been estimated at fifty trillion dollars. While it is true that for many investors these losses are unrealized, others, certainly the large funds, were forced to sell. Also, even for the former, it is likely to be a long and hard multi-year slog before corporate performance and hence company stock prices return to pre-crisis levels. (The losses were so consistent and widespread that most forms of portfolio diversification, e.g., international, failed.)

One reason for this, as mentioned in the Introduction, is that the financial crisis also precipitated a credit crisis. Banks and other lenders, bearing huge losses and with depleted capital, simply lost the ability to lend, to anyone - individual or company, no matter how creditworthy they might be. Further, consumers, witnessing the financial crisis, seeing any investment portfolios that they had plunge in value and their savings washed away, and unable to get credit, stopped buying, initiating what has now become a global recession.

The United States Government response - 1

There are many government entities in the U.S. that work to relieve financial crises, but of these the Federal Reserve Bank is the most important. The Fed lends to commercial banks and ensures that there is enough liquidity in the banking system to allow it to function normally. If money and credit tighten, the Fed can lend more and also reduce the interest rate that it charges. Beyond banking, the Fed oversees the performance of the entire national economy, to ensure steady growth and that prices do not rise too rapidly. The Fed can also use interest rates here, to keep inflation under control, by raising rates to contract credit and through this to tamper economic growth (cool down an "overheating" economy, and related price gouging and speculation).

Faced with the financial, stock and credit crises, the Fed began to lower rates. And even though Bear Stearns had failed and there was still great uncertainty about how much housing prices would fall and mortgage securities default, by early 2008, after an unprecedented series of Fed interventions, the situation seemed to be stabilizing. The U.S. economy had survived the winter of 2007-2008, and with Spring housing might pick up and we could get out of the mess without even a technical recession (two successive quarters with declining national production).

It was at this point that hedge funds and oil companies threw a wrench in the works and blindsided the world.

The oil price bubble

Hedge funds speculate wherever there is an opportunity. In recent years prime targets have been the currency markets - foreign exchange, and the commodities markets, for such things as oil, minerals, and agricultural products.

Some of the most famous hedge fund barons built their reputations and fortunes around foreign exchange. George Soros, for example, bet against the British pound in 1992, putting the currency under so much pressure that it collapsed. (He reportedly made a billion dollars.) In such a situation, it is difficult to determine where speculation ends and manipulation begins.

Following his lead, hedge funds bet against a series of other currencies, helping to precipitate crises in Mexico (1994), Asia (1997), and Russia (1998). There was still a limit to what they could do, though. The U.S. dollar is effectively the reserve currency for the world. The volume of dollars in circulation is staggering. Even colluding together, the hedge funds could not find a way to manipulate the U.S. currency.

Because the dollar is the reserve currency, many commodities are priced in its terms. This includes oil: the standard price per barrel is quoted in U.S. dollars. In addition, the strength of a currency is directly related to its associated interest rate (the national rate set

by the Central Bank). When the Fed began to cut rates in the Summer of 2007, this led to a weakening of the dollar and a rise in oil prices.

Hedge funds saw the decline in rates. Indeed, they helped bring it about through a process akin to extortion. With so much pressure in the financial system, the market - meaning hedge funds - was demanding an interest rate cut. On August 17th, with stock prices collapsing, the Fed blinked and cut rates.

(When financial commentators use the phrase, "the market," as in the market liked something or did not, this is a direct reference to hedge funds and the other big participants that dominate daily trading. "The market" is not individual investors, who have taken positions for the long-term. "The market" means speculators, and what is good for them is often bad for investors.)

When the Fed yielded, and paid blackmail in the form of a rate cut, the hedge funds realized, like all extortionists, that there was no reason to settle for only one payment. They could force the Fed to give them a series of cuts, and which, in normal circumstances, would be good for stock prices. (All bond interest rates are linked to the national rate. When it falls - or is lowered - this makes bonds relatively less attractive compared to stocks. This leads to a shift of capital from bonds to stocks, causing the prices of the latter to rise.)

The hedge funds also saw that reduced rates would weaken the dollar, leading to an increase in oil prices, and that there was an opportunity for speculation there.

They had never been able to manipulate the dollar directly. Now, they had a proxy, the oil price. They could force interest rate declines, leading to a weakening dollar and a skyrocketing oil price, both of which they could bet on.

As mentioned, in the Spring of 2008, Fed efforts to resolve the financial crisis seemed to be working. There was a chance that the housing market and through this the stock, credit and derivatives markets would right themselves. But then a bubble was inflated in oil prices, with speculators driving the price to close to $150 a barrel. The resulting increase in gasoline prices shook consumers, their spending and the housing recovery stalled, and the crisis entered its second, and longer and deeper stage.

Ironically, many of the brokerages and hedge funds that profited from the oil price manipulation were devastated by the related fallout in stocks, securitized mortgages, and credit-default swaps. To this one can only comment: good riddance.

The United States Government response - 2

The oil price bubble was also linked to another regulatory failure. Historically, only parties with a direct business interest in energy products (oil companies, airline and shipping companies, etc.) could buy derivatives and hedges on such products. Speculators argued

against their exclusion, and, beginning in 1991, the Commodity Futures Trading Commission, the industry's regulatory authority, began to let them in. (The CFTC granted a Goldman Sachs' subsidiary a "hedging exemption," the first of many.) This was followed, in 2000, with the Commodity Futures Modernization Act, aka the "Enron Loophole," which allowed the private trading of energy derivatives, outside of regulatory review. Through these changes, hot money flooded the market, ultimately resulting in the 2008 bubble, and which killed the financial market and economic recovery.

Further, oil companies played their own role as well. The FBI is investigating a pattern of false reporting of inventory stocks by these companies, which led to immediate spikes in prices, and which the companies then exploited through product sales.

A critical question is how the Fed and the government in general have behaved during the crisis. It seems clear, firstly, that the Fed should not have yielded to hedge fund blackmail and cut rates. (It should have started to cut rates much earlier, and of its own accord.) Secondly, the Fed should have anticipated the oil price speculation, and working with the Administration and the CFTC, acted to prevent it. And thirdly, the Fed and Treasury bailout programs should be designed to help as many people as possible keep their homes (excluding the real estate speculators who flipped properties), not only buy the securities and supplement the capital of the banks that helped cause the problem. (The logical way to accomplish this is to create a means to modify the securitized loans, such that "loss-sharing," by all the parties involved, is enabled.)

Finally, there was the problem with Lehman Brothers. After minimizing the impact of the Bear Stearns collapse, the Fed decided to let Lehman go. But Lehman had 600 billion in liabilities, with huge amounts in securitized debt and credit-default swaps. Its failure caused severe problems for all of its many counterparties, with devastating ripple effects across the entire financial world.

PART 2 - PREVENTING FUTURE CRISES

Introduction

It is not within the scope of this guide to evaluate the extraordinary range of measures, worldwide, that have been used to combat the crisis. This will undoubtedly be the subject of many books and dissertations in coming years. Suffice it to say that the crisis, at some point, will come to an end. The financial systems and the economies of the different countries of the world will regain their vitality.

The guide has two objectives: to reveal the component elements of the crisis, so everyone, particularly all the people who lost their homes, jobs and savings, can understand what happened; and to lay out a plan by which it can never occur again.

The common view is that it all began with the housing bubble, and in a way this is correct. People got caught up in the idea that they could have larger and larger homes, far before

their normal career progression - their life progression - would support it. This reflected the go go nature of the times, that some people, company CEOs and hedge fund managers, were becoming unbelievably rich, so why shouldn't they be able to get a piece of the pie, too? Such a belief was inculcated by mortgage brokers and housing developers, who spread the idea that the goal of a home under the American Dream was now a right, and that we should all have McMansions at that.

The housing bubble, though, was only the most obvious of many bubbles. (A bubble is simply an extended period where the change in the price of, return on, or sheer number of something significantly exceeds a reasonable inflation rate - a few percentage points a year.) There were related bubbles in asset securitization, leverage, and credit-default swaps. There were bubbles in the number of bankers employed, in executive and Wall Street pay, and in the prices of luxury goods. There were also bubbles in consumer credit, and in the prices of many other goods, including cars, appliances and food, as well as the commodities on which they are based (energy; metals; wheat, rice and corn). There were even bubbles in local government, in the number of officials hired and their compensation. (As residential sprawl spread, and tax revenues rose, local governments became bloated. The prospect of having larger jobs and higher pay is of course why the officials approved the sprawl, even though it caused environmental devastation and a decline in local qualities of life.)

These bubbles need to deflate, which process is now underway. It is painful to experience, but there is no way to avoid it. While again it is beyond the scope of this guide, there is an inherent economic value for our work efforts and the various things that we produce. A CEO should not receive 5,000 times the pay of a janitor. A car should not cost the equivalent of 100 years of work for farmers in developing countries. When these types of relationships arise, it means the economy is out of balance. This may be sustained for some time, at great cost, but ultimately it will collapse.

Underlying all of the specific bubbles has been a more fundamental and collective bubble in greed. And just as the political system of democracy requires checks and balances on government, so too our overall society needs checks and balances on greed.

Greed checks and balances

Human behavior includes a latent tendency towards extreme greed that manifests itself cyclically. (This precipitates the cyclical return of economic shocks.) The crisis now in progress is the latest high water mark of such a cycle. The state of human society, certainly American society, reflects complete acceptance of the idea that greed is good.

This is the first element of the crisis that needs to be addressed - its all encompassing cultural dimension, including the fact that in the United States wealth and power are everything. (This is also a common feature of political dictatorships around the world.)

To confront such a problem is therefore by no means an easy or short-term task. It

requires realignment in cultural values, and consistent educational standards and opportunities. As most Americans now appear to accept this status quo, it is difficult to see how it might be changed. The fact that Barack Obama was elected offers some hope, both because of the number of people who voted for him, and since he appears to grasp that this is where the real problem lies. But, it still will require massive change, in attitudes and also society's institutions, starting with the government. Further, since the problem now exists across the globe, such change must occur - to some degree - in other countries as well.

One option is simply to prevent the accumulation of extreme wealth, and an established mechanism is already in place to accomplish this: progressive tax rates. We need to adjust our tax rates, to reduce the huge disparities that have developed in income and wealth. In addition, there should be no distinction between earned income and investment income, for the latter meaning capital gains. Further, attempts at tax evasion should be subject to severe criminal penalties.

Sample benchmark rates for total annual income should be:

$100,000: 30%, leaving $70,000
$200,000: 50%, leaving $100,000
$500,000: 70%, leaving $150,000
$1,000,000: 80%, leaving $200,000
$5,000,000: 95%, leaving $250,000

The tax proceeds from this approach could be used to help pay down the federal deficit, to fund the social security plan shortfall, and to fund a single-payer universal health care system.

Also, we need to reinvigorate estate taxes, and apply high tax rates to large estates, e.g., $5,000,000 or more. The outcome of all of this would be a gradual reduction of extreme wealth imbalances, and a return to economic equality.

Corporate subversion of democracy

Corporate influence on government is a severe flaw in the system of American democracy. It must be rectified if the government is every truly to be “for the people.”

A few concise steps would go far to eliminate this failing. First, the 1886 Supreme Court ruling that granted "corporate personhood" needs to be reversed. There is a large activist movement dedicated to this end. One way to accomplish it is judicially, through a new Supreme Court judgment, although this would probably require a different set of justices than those who currently comprise the court. (The Supreme Court has a historic pro-business bias, which continues today through the appointments made by President Bush.) The issue can also be addressed legislatively, through a ban on corporate lobbying and assistance to election campaigns, in any form, although since such a plan would likely be

challenged in the courts, the legislative route would probably end up requiring an amendment to the Constitution.

The passage of such an amendment - even when there is widespread public recognition of the need - will be a long and arduous process. We should therefore get the process started, by instituting a ban on company lobbying, and also by shifting to wholly publicly funded elections (as is common already in Europe).

The corruption implicit in the offers of employment by Wall Street (and other industries) is particularly problematic, since the solution involves placing restrictions on individuals. At present, officials in financial regulatory agencies receive low government salaries, but with their inside knowledge and connections they are able, upon leaving government, to secure jobs paying millions of dollars a year. This has become a standard career track in recent years. One official after another leaves the government and then joins a bank or an investment fund. It is difficult to see how this can be addressed, other than by banning such employment for a period of years. Such a move would be similar to the non-competition agreements that are common in industry, where employees in a company sign contracts saying that they will not join a competitor until a specified time frame has elapsed following their departure. Otherwise, the officials will continue to support the positions of Wall Street, to curry favor and secure their future employment and largesse. (Under this idea, the regulatory agencies may be viewed as competitors of the companies that they regulate.)

The ethical flaw of capitalism

The obvious solution for the financial crisis is to institute a new system of regulation, elements of which will be considered later. But such a need derives not only from the disruption of current events. There is a deeper disconnect, between capitalism and society, which can only be resolved by the government.

We have a number of goals for our society, including that it be at peace, that everyone is equal - at a minimum in terms of opportunity, and conversely, that no one is subject to discrimination. These goals in turn are based on a collection of ethics, or behavioral rules, for how we should treat each other, beginning with the idea of respect. The problem is that capitalism is incompatible with these goals. In capitalism, the only objective is to make money. Indeed, anything is acceptable in the pursuit of this end. Without a system of restraints, companies will engage in all manner of unethical behavior as they strive to make a profit. This includes actions that undermine social peace and equality, and which promote discrimination.

The government oversees or otherwise controls society, to ensure that its overall goals are attained. In addition, for the government to be successful at this, it must be democratic. Capitalism, however, is incompatible with such government. The capitalist system's dominant participants, corporations, inevitably seek to influence political officials, and undermine democracy, to get complete freedom of action, meaning without any ethical

constraints, as they pursue more and more profit.

This is the basic argument for government regulation, of any business or industry. Companies can never be expected to control their own behavior. Such self-regulation is alien to their premise, even in conflict with it. Government therefore must intervene to ensure that as companies go about their affairs, they do not at the same time damage society.

The role of the Board of Directors

Holding senior management accountable is the fiduciary responsibility of a company's Board of Directors. In general terms, the Board must shape the company's internal culture, by ensuring that it has an appropriate balance between staff and line, and risk and reward. Specifically, the Board must ensure that credible risk management practices are followed, and that executive compensation is structured to block excessive risk-taking and unwarranted levels of pay. The basic prescription is that management should be well paid, when company performance is strong, but have much lower compensation, and even be fired, when it is not.

Boards of Directors at one company after another have failed at this, as multi-million dollar annual compensation is now the norm, even in years when the companies lose money. The top officer, the CEO, often earns a multiple of 100 times or more the average worker's pay, which is completely unjustifiable.

The reason for this is that the top executives of one company sit on the Boards of others. It is a tight and incestuous network, with a single motivation: to see that they are all paid as much as possible.

There must be government regulation to offset this, and the potential steps include: the requirement that Boards have truly independent directors, from labor unions and non-profit organizations; to increase the exposure of Board members to shareholder lawsuits if they fail to fulfill their fiduciary responsibilities; and to impose limits on compensation, either directly or, as discussed earlier, via the imposition of high tax rates.

The end of speculation

One of the primary manifestations of greed that drove the crisis was market speculation. This speculation needs to be eliminated, which will require a number of steps. First, and as described in the Part 1 Introduction, there should be a high tax rate, say 90%, for any gains from investment positions that are sold with a less than one month holding period. While this might restrict the use of some legitimate short-term hedges, the benefits from ending speculation are so great that there should be a blanket approach. In addition, this would be an exception, ideally the only one, to the basic tax structure of adding all income together, from work, pensions and social security, and investments, and then applying a single tax rate.

The fallout from speculation is so severe that it - the speculation - must be stopped. It is important to be clear about what has happened. Billions of people around the world were working hard, to improve their lives. The global economy was humming along. Then, everything blew up, stopped dead in its tracks. It is only a mild exaggeration to say that the financial engineers and speculators who caused all of this were financial terrorists. (Many people have died due to the manifold consequences of the crisis.)

To repeat, capitalism is about making money, period. Capitalists sold seats to hangings in the past, and they would do it again, including on pay per view TV, if allowed. Hedge funds would even bet on how long it took the condemned to stop kicking.

The speculators in the oil market drove prices up until "demand destruction" occurred. This was their goal, to manipulate the price until oil products became so expensive that companies and consumers simply had to cut back. The idea is that you push the price up as far as it will go, and then be the first to get out. It is like the children's game of Musical Chairs, to get a seat, i.e., to be the first to sell, when the music stops.

The goal of such speculators was to cause a recession, which they achieved. There are even funds that are betting on, and hoping for, an economic depression. They have bet that prices will continue to fall, and the worse things get, for us, the better it is for them (the more money they make). Some hedge funds also asked banks not to modify home mortgages, to prevent foreclosure, since saving homeowners ran counter to their interests.

(Viewed this way, speculators are the blood brothers of arms merchants, who profit from war, death and destruction.)

Another element of speculation is the scourge of "profit-taking." When the daily economic news turns positive, and the markets advance, hedge funds sell out (particularly “leveraged exchange-traded funds”), often in the last half hour of trading, driving the market back down. This sabotages investor, and economic, sentiment, and it has made it much more difficult to sustain positive news and trends.

All of this has worked together to increase market volatility to levels not seen - in the U.S. - since the Depression. But, it is important to grasp that such volatility is a sign of a primitive market - one that services position gambling, like red or black on a roulette table, in this case up or down, not the orderly transfer of capital from savers to producers. Hedge funds are gambling syndicates, and their actions are identical in effect to that of a parasite, keeping its host, the underlying market, perpetually ill.

This has to end. For example, it is quite likely that speculators will drive up the oil price again, at the first sign of recovery. This will lead to yet another dip, back down into recession. While in subsequent sections we will review a number of specific regulatory changes that need to be made, it is essential that this goal be achieved. Speculation in stocks, oil, mortgages, and related securities, should be banned.

Capital requirements and leverage

The crisis, from another angle, derives from unjudicious lending, for risky mortgages, consumer spending, and also through the availability of excessive margin loans. This problem area can be controlled simply by increasing capital requirements, to reduce the quantity of loans that lenders may extend.

Interestingly, there are calls now for the opposite, for reduced capital requirements, to relieve the current burden on financial institutions. These calls should be resisted. As the financial system regains its strength, increased requirements should be phased in, over a period of years. At the start of the crisis, some banks, certainly investment banks, were leveraged up to thirty times. Taking the inverse, this means their capital was roughly 3% of their overall obligations, which was an extremely small cushion. This was the reason why Lehman Brothers and Bear Stearns failed, and why many other companies would have collapsed as well, had they not been rescued.

A sensible target for Tier 1 or core capital would be 15% - 20% (approximately three times the current level), to limit leverage to 5-7 times. The existence of such a limit would in and of itself end such things as subprime mortgages, short term speculation (i.e., hedge funds), and leveraged buyouts. Furthermore, there should be a significant effort undertaken to impose such requirements worldwide, in one country after another. (The crisis has also demonstrated that capital should be standardized internationally.) Such requirements should be applied to all financial institutions (banks, brokers, insurance companies, and investment funds); and for all types of debt and financial insurance obligations (mortgages, CDOs, credit-default swaps, margin loans, and company and consumer loans).

The major stumbling block in the imposition of this basic, protective structure will be the use of asset securitization. Before the crisis, banks lent and relent the maximum amount that their capital allowed, thinking they were divorced from the credit risk when in fact they were not. The securitized asset market for the moment is dead, and we need to ensure that it does not revive. CDOs are actually one of the worst problems holding back the housing market recovery. Formerly, when a bank extended and then held a mortgage, it had the ability to restructure its terms - by reducing the interest rate or even the principal - if the borrower experienced financial difficulties. Now, the banks no longer hold the mortgages. They have been securitized and sold to investors. The banks, who are still responsible for servicing the mortgages, therefore are unable to modify them to prevent foreclosure. They no longer have this right, and if they choose to modify the mortgages anyway, they can be sued by the security owners.

The crisis has revealed a series of structural faults with CDOs. They prevent the orderly functioning of the loan market on which they are based. And, they are difficult to value and to sell.

Financial industry lobbyists are saying that the real problem was poor computer modeling, of the different investment and economic scenarios that might occur. However, the crisis was so severe and widespread: you cannot blame it all on a model (and the lower level analysts who prepared it).

The financial industry also says that it wants to establish clearinghouses, to standardize the securities and to make them more liquid. While from one perspective - Wall Street's - this can be viewed as a positive step, it does not address the fundamental flaws with the product engineering, including their basic design to evade reasonable capital constraints.

It is also uncertain if such steps will revive CDOs. Now that investors understand their true nature, they may be beyond resurrection. In any case, we should never again allow them to balloon out of control. Securitized assets must be closely regulated, subject to strict procedures for disclosure and regulator examination, and be kept on the issuing banks' books and supported by their capital.

Regulatory changes

Establishing and enforcing strict capital requirements will go a long way to ensuring that a financial crisis of this magnitude can never recur. Still, a number of other regulatory steps would give us additional assurance.

The end of securitized loans will delink the credit and investment markets, but this should be formalized as well. The Glass-Steagall Act should be reinstated, to once again separate the businesses of commercial and investment banks. If the crisis has taught us anything, it is (like the lesson of the Depression) that the basic banking system, and the deposits of individuals, must be guarded at all costs.

Reinstating Glass-Steagall will also lead to the breakup of the financial conglomerates, and from which many positive outcomes will accrue. Foremost of these is that no institution will be "too large to fail." If a financial company's management, through poor oversight or even outright fraud, engages in practices that result in insolvency, the company can and will fail, without causing a systemic effect that threatens the entire economy. Free market capitalists will once again get the accountability that they so ardently demand.

These types of regulations cover structural issues and liquidity. Additional government regulation is required to ensure transparency and market efficiency, and legal enforcement in cases of fraud.

For the first, the crisis has revealed many ways in which credit and investment markets are now less than transparent. Steps must be taken to ensure that they are all addressed, and that accurate and timely information is once again publicly available.

New regulations need to be imposed to reduce the complexity of mortgage products, and the ability of mortgage lenders to disguise predatory terms, as well as their ability to earn

large up-front fees for origination. The last gives them a disincentive to ensure that the borrowers and the mortgages are properly matched. (Regulations such as these were actually proposed in 2005, but then shut down by the Bush Administration.)

For the problems caused by opaque securities, CDOs and credit-default swaps, these can be resolved by the elimination of these securities and, for any small, residual markets which survive, through the imposition of product standards, position disclosure, and the establishment of clearinghouses. Regarding disclosure, all investment funds must be forced to register with regulators, and be subjected to regular filing requirements and examination. In the U.S., stock, commodities and insurance regulators must oversee this transition. As part of this, a credible system of mark to market valuation must be maintained.

The Securities and Exchange Commission should further impose new regulations to dampen destructive "bear raids" (trying to force prices down), by credibly enforcing the ban against "naked shorts," where traders sell stock that they don't actually own or contractually arrange to borrow (and similar complex positions that are designed to mimic this ability). Further, the uptick rule, where the stock in a company can only be sold short immediately following a rise in its price on another transaction (an "uptick"), must be restored. (The uptick rule was repealed by the SEC in 2007, yet another example of pro-speculation deregulation.) And lastly, regulators must more aggressively investigate and prosecute the purposeful spreading of rumors, to manipulate investment prices.

In addition to the imposition of new capital requirements, and their satisfaction by all of the different types of financial institutions that now exist, banking regulators such as the Fed should closely monitor the restructuring of Freddie Mac and Fannie Mae; and, together with the FASB and auditing firms, increase their supervision of all forms of off-balance sheet finance. (This includes insuring that the provisions of the Sarbanes-Oxley Law, which was passed in response to Enron, are verifiably applied to all new off-balance sheet innovations.) One other important step is to oversee company treasury department funding practices, for both financial and industrial companies, to restrict the use of mismatched assets and liabilities.

Yet another element of the crisis is that many banks, and also investment funds, "borrowed short and bought long." This means they financed their operations for only a brief period, rolling over their loans every few months. But, when credit dried up (or, alternatively, when interest rates rise), they were unable to fund their operations (or run them at a profit).

Standard funding practice is to match payments and receipts. The fact that so many companies failed to do this reflects another type of speculation (on future interest rates), which helped contribute to the crisis. For example, companies that buy expensive equipment, which will be used to generate profits for many years, generally fund such purchases with long-term loans or bonds. Many companies also take out short-term loans, in the form of "commercial paper," to finance upcoming cash requirements (e.g., for the

next employee payroll). Short-term rates are generally lower than long-term, and the companies started to use commercial paper, which they rolled over again and again, to finance their capital expenditures. But, when the credit crisis erupted, they could no longer sell the paper. (The Fed had to intervene and support the commercial paper market.)

This is a regulatory issue, and also a fiduciary responsibility of the company Boards of Directors. Together, regulators and Boards need to monitor company management, to stop it from engaging in such financial tricks as a means to inflate profits artificially (which profits are then used as the justification for higher executive compensation).

The same type of problem developed with investment funds. The SEC, and its counterparts in other countries, should closely monitor fund position financing, and also the size and components of portfolios of derivatives.

Lastly, the rating agencies, which provide independent oversight of all of this, and for which they are well paid, arguably should be sued into bankruptcy. On their remains, new agencies should be constructed, and which are independent and honest. (Agency income is linked to the number of securities that they rate. This gives them an incentive to rate more and more, which can undermine the integrity of their analysis. This needs to be addressed structurally, by imposing strong "Chinese Walls," between the agency sales staffs and their ratings analysts.)

In summary, capitalists, because they have no ethical imperative, need to be treated like babies - watched over twenty-four hours a day and seven days a week. And, when they do break the law, they need to be prosecuted vigorously. The enforcement staffs of the regulators, particularly the SEC and CFTC, but also state regulators and the FBI, need to be expanded to a level where they match the amount of wrong-doing that exists and which they are charged to investigate.

(The financial industry says that the real blame lies with investors, including individual investors, arguing that they should be able to ferret our instances of fraud. This is a specious position.)

Oil market regulation

A final regulatory need is to reestablish the restrictions on trading energy product securities (and other commodities) to firms that have a direct business interest in such products. And, the CFTC, together with the FBI, in the full awareness that oil companies will misstate inventory levels to manipulate prices, needs to develop monitoring systems to catch and effectively prosecute such fraud. (Oil companies have also stored excessive quantities of oil offshore, to make supplies in land storage depots appear low. Further, there is evidence that oil companies collude to reduce the production of specific petroleum products, to drive up prices. The companies function as a cartel, and such behavior is, or it should be, subject to anti-monopoly regulation.)

Also, energy price manipulation was clearly one of the goals of Russia, Iran and Venezuela, when they expressed belligerence and rattled sabers over this or that political issue. The Obama Administration needs to recognize such posturing for what it is, and engage in both public denunciations and behind the scenes diplomacy, to keep the manipulation to a minimum.

Without these controls, oil prices can be pushed back up to $150 per barrel, or higher, and at any time.

Conclusion

All of the above, at least in the U.S., will require the leadership of the Obama Administration. President Obama, in his election campaign, touted the need for real change. But real change, meaning "global system change," requires chaos. There must be fundamental structural adjustments, from one type of system to another, and which adjustments constitute a phase transition, and further which transition is characterized by chaos and turbulence.

Unfortunately, a period of chaos does not ensure real change, if the system in question is allowed to revert to its prior structure. The people of the world are now experiencing economic chaos. It would be a shame, to say the least, if we don't grasp this an an opportunity to bring real change, to government, banking, and the economy.

For real change, we require real leadership. President Obama needs to work on many different problems, few of which are being mentioned in commentaries about the crisis. (He should also be judicious in following the counsel of Lawrence Summers, lately a hedge fund managing director, and who has also had a number of ethical black marks during his career.)

- The need to pop the greed bubble, and help the American people regain a reasonable set of wealth and consumption expectations.

- The need to implement fundamental tax reform, to eliminate gross wealth and income disparities.

- The need to create a new approach to regulating balance sheet capital, including by requiring much higher levels of such capital, and by revitalizing market, banking, insurance and accounting regulation. (Cheap lending by the Fed, on which some people place the blame for the housing bubble, is not the real problem. Low interest rates are acceptable, if they are accompanied by stern oversight.)

- And, the need to put corporations in their place, and defend democracy. Corporations should lose their "personhood," and be banned from lobbying. Even more, U.S. elections should be publicly funded: even individuals contributions - the contributions that helped the President win office - should be forbidden.

The basic problem with contributions is this. If you allow private money to influence elections, you have to decide which private money is acceptable and which is not. The solution is obvious: don't accept any. Candidates should compete on the basis of their ideas, not their ability to raise money and buy TV advertisements.

In conclusion, "free" markets are not free. Wall Street committed suicide, and forced everyone to participate, with investment bankers and hedge fund managers playing the role of Jim Jones. The economy should be based on productivity and saving, not professional gambling, debt-fueled consumption, and unsustainable levels of growth (and, for developing nations, which are based on export earnings).

Fortunately, the situation can be corrected, and the crisis even has a silver lining as well. The banking Masters of the Universe have been put in their place. They value one thing and one thing only - money - and they lost a lot of it. (For the most committed capitalists, markets are the religion, the temple to *mammon*, at which they spend their days, and most of their nights.)

In addition, the oil-fueled autocracies, Russia, Iran and Venezuela, now have problems with restive populations at home, and less resources available to destabilize the world. China, the world's largest dictatorship, is increasingly susceptible to a popular, democratic revolution.

In the U.S., the crisis has given us an opportunity to strengthen our democracy, by clearing out the corrupt power brokers in Washington, and also by shrinking bloated, development-driven local government. Moreover, by stopping the growth of sprawl, and more generally commercial development worldwide, the natural ecology is experiencing its first real relief from the human onslaught in decades. The International Conservation Union has predicted that 25% of the mammals of the world will go extinct. The crisis is a breather for nature, and the chance for humanity to rethink its priorities and to get things right, to stop this from happening.