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Abstract

Purpose – The purpose of this paper is to discuss the financial turmoil of 2008 that followed the collapse of the housing bubble in the USA which was the starting point of a global economic crisis. Huge costs are borne by every part of society. Much wealth has been destroyed. Millions of jobs have been lost. The crisis has tarnished faith in free enterprise, in the financial system, and in financial theory. Likely, the era of laissez-faire capitalism that started during the Reagan-Thatcher years is ending. We are entering a period of profound uncertainty. It is imperative that the moral dimension of capitalism be restored.

Design/methodology/approach – The paper is based on a review of theory and historical evidence relating to financial bubbles and financial regulation.

Findings – The author offers suggestions on how to rebuild the global financial system. We need: a systemic risk regulator, independent from business and political influence; higher capital requirements for all systemically significant financial service firms; restrictions on proprietary trading in commercial banks; transparency in derivatives; new ways to compensate bankers that reduce the incentive to take excessive risks; consumer protection against defective financial products; and the re-establishment of the principle of fiduciary duty.

Practical implications – The paper lists practical suggestions on how to reform the global financial system.

Social implications – Economic success is based on trust. After the 2008 crisis, regulatory reform is the best way to rebuild trust in the financial system.

Originality/value – The paper offers a unique perspective based in part on insights drawn from behavioral finance.

Keywords Regulation, Economic reform, Behavioural economics, World economy, Capitalist systems

Paper type Viewpoint

In October 1939, Winston Churchill said that "Russia is a riddle, wrapped in a mystery, inside an enigma." Perhaps, that quote can be profitably recycled as we analyze the details of the contemporary world economic crisis, a breakdown of a magnitude not seen since the Great Depression.

The crisis, still in progress, has been blamed on so many causes that it helps to list them alphabetically: accounting rules, bankers' bonuses, bank leverage, Basel II, business education, business ethics, consumer protection, corporate governance, credit rating agencies, deposit insurance, financial concentration, financial engineering, financial globalization, financial illiteracy, government bailouts, hedge funds, lobbying

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and influence peddling, macro-economic imbalances, misaligned exchange rates, modern finance, monetary policy, over-the-counter derivatives, proprietary trading, regulation, risk management, securitization, self-regulation, shadow banks, speculation, subprime mortgages, and systemic risk.

The list is far from complete. For instance, numerous individual people, institutions, and countries carry some responsibility. How do we apportion "guilt" among Ben Bernanke, Joseph Cassano, Richard Fuld, Timothy Geithner, Phil Gramm, Alan Greenspan, Bernard Madoff, Angelo Mozilo, Henry Paulson, John Paulson, Robert Rubin, AIG, Countrywide Financial, Fannie Mae, Financial Accounting Standards Board, Federal Deposit Insurance Corporation, the Federal Reserve, Freddie Mac, General Motors Acceptance Corporation, Goldman Sachs, Lehman Brothers, Northern Rock, Royal Bank of Scotland, the Securities and Exchange Commission (SEC), Union Bank of Switzerland, China, Dubai, Iceland, Ireland, Greece, the UK, and the USA?

Naturally, there is much bewilderment and confusion. It will take years to pin down the specifics of what happened. Alas, there is no time to waste. We are in the middle of a high-stakes policy debate. As we move from financial rescue to financial reform, it is crucial that economic analysis distinguishes what is more important from what is less important, that it winnows grain from chaff. Some pieces of the plot are familiar. Asset markets, the past shows, often go to excess[1]. The start of a boom is typically connected with a sensational technological advance like railways, radio, or the internet (This time around, it was the mass delusion that investing in residential real estate can produce wealth without risk. See, e.g. LeGrand (2004), or Roberts and Kraynak (2007)). A curious dance of rationality and irrationality ensues. Profitability declines as speculative fever and leverage mount. Eventually, the market plummets, investor and business confidence collapse, the economy falters, and the attendant social costs spur angry calls for regulation. This is where we find ourselves today.

In this paper, I discuss, first, the general macroeconomic background of the current crisis; next, its challenge for theory and policy. I also delve into various microeconomic aspects of the crisis. A list of seven financial reform proposals concludes the paper.

The context

Capitalism is not a field of study for economists alone. We cannot understand today's man-made catastrophe, I think, unless we allow for its historical context. That context is partly political, social, and cultural. Capitalism was born the eighteenth century. It has gone through three stages. During the first one hundred years, the prerogatives of the feudal state were rolled back. Market forces prevailed. In the second phase, big government became the risk manager *par excellence*, humanizing capitalism and protecting citizens from the risks of modern life. Next, during the Reagan-Thatcher years, the pendulum swung once more. A new era of global *laissez-faire* capitalism started. The state was in retreat. People were told to take ownership of their economic future. Individualism triumphed. However, as the supply of good-paying (high-benefit) jobs dwindled, as the cost of housing, education and healthcare rose, and as pension plans were cut back, the American dream faded. The incomes of four-fifths of the population stagnated[2]. Still, the hope of never-ending economic improvement was alive. For instance, middle-income families fought back by working more hours. Because their earnings were at a standstill, they also saved less and took on more consumer and mortgage debt. At the same time, social attitudes hardened. Many support programs were dismantled under the guise of making them fiscally sound. Even before the eruption of the crisis, the unmistakable effect of the Reagan-Thatcher revolution was more financial insecurity for America's middle class and more inequality[3]. Similar forces were at work in Europe but, with its tradition of social democracy, not on the same scale[4].

Economic insecurity, often related to the business cycle, is nothing new, of course. Schumpeter (1928) taught us that capitalism means turmoil, that it is a process of creative destruction. Entrepreneurship and technological innovation may cause instability, Schumpeter acknowledged, but they are key determinants of economic progress. Michael Jensen referred to the same trade-off between growth and insecurity in his 1993 address to the American Finance Association. He discussed the information age that we were entering, the fall of the Berlin Wall, and the consequences of deregulation and globalization. Hundreds of millions of low-cost workers in formerly centrally planned economies, Jensen warned, would soon join the world's labor force. He worried about the quality of governance in Western firms and society's resistance to corporate restructuring. A refusal to accept the new realities would only extend the pain and cause more job losses. In a subsequent article in the *Wall Street Journal*, Jensen and Fagan (1996) predicted world-wide surplus capacity in industry after industry and "dangerous times" ahead. Before recovering, the real wages of Western workers, they said, were likely to continue their sluggish growth or fall "as much as 50% in some sectors."

The abrupt financial turmoil of 2008 and the economic debacle that followed came as a shock to many. I believe, however, that only the exact timing, the flashpoint and the severity of the crisis were unforeseen. Our current quandary is in a significant way the predictable result of the new economic age we live in. Apart from many other urgent problems, the economic emergency is forcing our political leaders to confront, at last, massive macro-economic imbalances that have built up for two decades or more. With excessive private consumption and too much debt, the USA (as well as the UK) lived beyond its means. In contrast, in China, Japan, the Asian Tigers and Germany, wage restraint, job creation, exports, and competitiveness were the main priorities. The excess savings of these nations funded US spending[5].

How could this occur? The answer is that US policy makers, Democrats and Republicans alike, deliberately set out to transform the economy and make it more friendly to business interests (Again, a similar tendency was discernible in British politics.). Democracy in the USA is not about putting together a first-rate society with a common purpose and identity. There is a deep chasm in American society. With its private universities, gated communities, and cosmopolitan life style, the ruling elite is largely cut off from everyday life. The elite celebrates individual wealth and it devalues social obligation[6]. What matters most for our present discussion is that the moneyed class in America has momentously benefited from the new economy and that it does not want to put a brake on the fundamental transformation of the social order, let alone to reverse course[7].

Thomas Friedman, the pre-eminent globalization guru of our times, is one of the favorite spokesmen of the elite. He sings the praises of global capitalism. Friedman (2005) describes a new "flat" world "where all the knowledge centers on the planet [are connected] together into a single global network." The flat world "could usher in an amazing era of prosperity and innovation" (p. 8). Of course, besides winners, the flat world produces losers, above all among the less educated. However, the flat world is unstoppable, Friedman maintains. American workers have no alternative but to upgrade their skill set[8].

A different but related aspect of the economic transformation is the slimming down of the social service regulatory state. For half a century or more, government policy used to be about citizen rights, e.g. guaranteed access to good public schools, safe drugs, low-cost public transportation, and so on. Recently, public policy is often framed in terms of efficient resource allocation, i.e. as economic calculus. That is why deregulation, privatization, and globalization look like "the right thing to do"[9].

The trigger

The crisis itself began in real estate. In June 2005, the *Economist* warned that the rise in house prices in the US and the UK was "the biggest bubble in history"[10]. American consumption had escalated on the back of the illusion of wealth created by the real estate boom. For some time, the expanding demand put people to work, especially in construction, and it benefited China, the oil market, and the producers of capital goods. In the end, though, the folly triggered the most serious financial crisis in 75 years. As housing became unaffordable, prices stopped rising or fell. When in 2007 the credit boom ended and the bubble burst, it caused a banking crisis. A series of abuses, failures of risk management and overleverage led to the near collapse of Wall Street. Next, the uncertainty surrounding the financial system wrecked the economy. Perhaps, justifiably, early on, more government effort went into quick fixes, dealing with the symptoms, not the causes of the crisis. Recently, consumer, business, and investor confidence are in short supply. Some of the largest financial institutions in the USA and elsewhere have been rescued with the help of government. Aggressive action has been necessary to save the market system itself[11]. A synchronized global economic boom has become a synchronized bust (Faber, 2009). It is an ugly picture. Emotions are intense. There is much anxiety and despair. It will take years for people to digest the crisis.

The challenge

So what? To repeat, current events defy three decades of globalization, privatization, deregulation and financial sector liberalization – a set of policies that are sometimes referred to as the "Washington consensus." Robert Rubin (US Treasury Secretary during the Clinton Administration, Lawrence Summers (Rubin's successor, and now President Obama's main economic adviser), the International Monetary Fund (IMF) and the World Bank were its main architects[12].

Ironically, only a few years ago, a breakdown of the magnitude that we are experiencing now was inconceivable. At the 2004 meeting of the Eastern Economic Association, Ben Bernanke tried to explain the drop in macroeconomic volatility after 1984, dubbed the Great Moderation. Did it signal the end of the business cycle, or was it an aberration? Bernanke argued that better monetary policy contributed in a "major" way to economic stability[13]. This conclusion made him "optimistic for the future." In retrospect, Bernanke's, 2004 remarks raise awkward questions. (Besides, in October 2005, just before he was nominated by President George W. Bush to succeed Greenspan as chairman of the Federal Reserve, Bernanke stated that rising housing prices were not the product of a bubble but largely reflected "strong economic fundamentals.") Importantly, the severity of the recession that began in 2007 – Posner (2009) and others insist on calling it a depression – also suggests that the Great Moderation is over. What happened was not supposed to happen.

The crisis and the ferocious economic downturn that followed call for a reconsideration of economic theory and for changes in business education[14]. It looks as if the world crisis has invalidated the central beliefs of the neoclassical paradigm, i.e. that man is rational and that markets are efficient. Are market prices reliable? Wolf (2009) counts efficient markets among the "mistaken ideas that have brought the economy down." Many policy makers must be of the same opinion. If not, they would push banks to recognize losses on toxic assets without delay. Are markets self-correcting? Josef Ackermann, Chief Executive of Deutsche Bank, recently stated that he "no longer believes in the market's self-healing power." Are financial institutions self-regulating? In official testimony (October 23, 2008), Alan Greenspan spoke of his "shocked disbelief" at banks' failure to protect their shareholders[15].

The crisis and the economic downturn also call for a policy response. In his 2010 speech at the World Economic Forum in Davos, Nicholas Sarkozy, President of France, emphasized, as I did earlier, that what has occurred is more than a financial crisis. It is a crisis of globalization. Since the status quo is unacceptable, the international community should act in a determined and coordinated fashion. It should aim to restore stability, and it should keep in mind that "finance, free trade and competition are only means, not ends." Sooner rather than later, we need to develop a new financial architecture (Brown and Sarkozy, 2009). For Sarkozy, "purely financial capitalism is a distortion" and capitalism can only be saved "by rebuilding it, by restoring its moral dimension."

Policy advice should be based on theory, a correct diagnosis of the trouble at hand and suitable remedies. Of necessity, the foundation is an examination of the facts (Maybe we can learn from our mistakes.). In the remainder of the paper, I recapitulate what we can safely say about bubbles and systemic risk, I dig deeper into various micro-economic aspects of the crisis, and I list seven proposals for reform.

Bubble psychology

Behavioral research casts doubt on the informational efficiency of financial markets. It accepts the imperfections of human decision making, judgment, and choice. The root cause of market volatility is euphoria in the upturn, extreme optimism and confidence, excitement that leads to a high degree of speculative activity and pays little attention to risk. I can usefully quote Greenspan: "Bubbles are often precipitated by perceptions of real improvements in the productivity and underlying profitability of the corporate economy. But as history attests, investors then too often exaggerate the extent of the improvement" (August 30, 2002). Likewise, in the words of Malabre (1987, p. 101):

> [...] economic developments are deeply rooted in human nature. People tend to overextend themselves. Banks invariably will run down liquidity by bidding more and more aggressively for deposits, accepting lower-quality credits, and shaving loan charges. Corporations invariably will overexpand if they think they can accelerate earnings growth. Politicians invariably will mortgage more and more of the future.

An additional key aspect of market volatility is positive feedback trading or herding behavior. People watch prices and they watch each other. At first, demand increases because market prices are going up. Later, prices drop as demand slows because even lower prices are expected in the future. When social influence matters, individual bias gets amplified, yet the spiral dynamics of the process also bring about more capricious results[16].

The 2008 crisis came on the heels of a bubble in real estate but identical behavioral forces affect all asset markets. Past empirical research gives ample proof of bubbles, momentum and reversals, under- and overreaction in asset prices linked to investor psychology (Mackay, 1932; Kindleberger, 1978; Galbraith, 1993; de Bondt, 1995, 2003, 2008; Reinhart and Rogoff, 2009). Much of the evidence is for equity markets. Prices rotate around fair value. There is little that can be done about this since "the market can stay irrational longer than rational arbitrageurs can stay solvent." Soros (2008) takes the argument further. Widely shared, self-reinforcing misjudgments distort market prices, Soros says, but market prices in turn affect economic fundamentals. The current cataclysm, Soros asserts, is the end point of a two- or three-decade super-bubble. In sum, it is false that markets tend toward equilibrium[17].

Systemic risk

The signature event of the 2008 financial crisis, however, was not the end of the housing bubble *per se* but the panic in short-term debt markets. This panic put the survival of many shadow banks in danger and it compelled government to step in[18]. In principle, widespread instability in the financial sector, including vulnerability to default, defines systemic risk. Unhappily, we do not have a simple operational technique to define, measure or regulate systemic risk. The main characteristic of a systemic risk crisis is a contagious run on financial institutions that rely on short-term financing, e.g. deposits. (Davis (1995) surveys the literature.) A classic article by Diamond and Dybvig (1983) shows that without regulation banks are often subject to runs. This is what happened in the early 1930s and during the 19th century. Modern lines of defense include:

- deposit insurance;
- capital requirements; and
- direct supervision, e.g. for large exposures to individual borrowers.

In addition, the central bank can operate as a lender of last resort (perhaps at a penalty rate) but there should be no guarantee. If the central bank always provided assistance, short-term lenders would have less incentive to monitor the bank, and bank managers would assume more risk.

Guttentag and Herring (1984) present a simple model in the spirit of Minsky (1986) that generates endogenous instability. Guttentag and Herring assume a behavioral bias in the perceived likelihood of credit shocks. The subjective probability of a shock wanes with the length of time that has elapsed since the last shock. With disaster myopia of this kind, default premia shrink and the capital ratios of borrowers and lenders drop off. Yet, actual probabilities are unchanged. So, the economy becomes vulnerable to financial disorder during an expansion. A major shock reduces capital, boosts the subjective probability of further shocks, and causes an abrupt and counterproductive surge in credit rationing.

Much of what has happened is also captured by the debt-deflation theory of Irving Fisher (1933). Fisher worried about a state of overindebtedness which multiplies the chances of default if financial institutions do not have enough liquid assets to meet liabilities, or if they are unable to refinance positions. In this case, banks may be forced to liquidate assets. Distress sales may lead to falling asset prices, fewer bank loans, rising real debt burdens, and further distress sales.

The housing crisis

To repeat, the trigger of the world crisis was the bursting of the US real estate bubble in 2006. Generally speaking, there are two explanations of the real estate bubble: Stupidity and greed. Both are supported by facts. After 2002, a large quantity of real estate sales was based on unrealistic optimism, the presumption that flush times were to continue indefinitely. What was sustaining housing prices was "the expectation of continued price increases" (Posner, 2010, p. 29). The Federal Reserve kept interest rates low[19]. For several years, the boom was making speculators rich. Innumerable developers, construction companies, bankers and investors rushed in, oblivious to the dangers. Money grew on trees. Besides, President Bush promoted the democratization of homeownership. (In this regard, he was carrying on Clinton Administration policy). "We're creating [...] an ownership society [...] where more Americans than ever will be able to open up their door where they live and say, welcome to my house, welcome to my piece of property," Bush said in 2004[20]. Thus, in Washington, lawmakers from both parties pressured Fannie Mae and Freddie Mac to give subprime loans to low-income applicants that were unlikely to pay back the money[21]. (The politically connected executives of these government-sponsored entreprises were paid lavishly).

A good deal of the responsibility for the crisis should also be placed on regulatory failure. Consumers were not adequately protected. There was an epidemic of deceptive lending. A lot of victims were elderly. Not all mortgages were fraudulent, of course,. Many people were looking to make a quick profit with little money down. Nonetheless, specialty lenders such as IndyMac Bank of Pasadena (California) set out to make bad loans. Mortgage brokers and loan officers, compensated on sales volume, sold so-called liar or "no income, no job or assets" (NINJA) adjustable-rate loans with false or incomplete documentation. Homebuyers who took advantage of low interest rates often did not grasp what a rise in interest rates would mean for their monthly payments. It is debatable whether some types of mortgages (e.g. with no down payment and negative amortization) should have been allowed at all. What is evident is that many banks gutted lending standards. Internal credit controls were weakened. Because risky loans command higher interest rates, the business model promised profits in the early years. It was guaranteed to end in disaster. In that sense, it was calculated dishonesty[22].

The financial crisis

The mortgage market became a huge source of toxic assets. The bankers bundled good debt with bad debt and sold the securities to the world. The rating agencies, Moody's, Standard & Poor's (S&P) and Fitch, attached triple A ratings, as if there was zero credit risk (They had been intimately involved in the creation of the securities, e.g. the composition of pools of loans.). In retrospect, the ratings look like a deliberate fabrication (Yet, the conflict of interest was always in plain view.). At first, debt investors had faith that the likelihood of losses was low. Only after disaster struck did they find out the truth. Hundreds of billions of triple A rated mortgage-backed securities (MBSs) and collateralized debt obligations (CDOs) proved anything but bulletproof[23]. A big chunk of the subprime debt ended up in Western Europe and in oil-exporting countries, causing massive write-offs. The capital losses of European banks, Sinn (2010) conjectures, add up to $1 trillion, comparable to what the US has spent on the wars in Iraq and Afghanistan.

Why was there a financial panic? The blowup is easy to understand. Many firms faced a crisis of their own creation. Subprime mortgages were often held in fragile special purpose vehicles (SPVs) funded by rolling over short-term debt. Legally separate SPVs allow banks to buy certain assets without having to put up capital. The structures were designed to hide risk and to go around existing law (Here again, the regulators dropped the ball.). When the mortgages lost value, the short-term debtholders refused to renew their loans. This led to forced liquidations at depressed prices. Big trading losses brought on the credit crisis.

Securitization was supposed to reduce risk by spreading it. In fact, it became a way to speculate with taxpayers' money. The toxic assets were guaranteed by bond insurers like AIG. With credit default swaps, AIG took risk in the (unregulated) over-the-counter derivatives market by writing insurance against credit events. The insurance was mispriced. It was an error of colossal proportions. What exact role Goldman Sachs played in precipitating AIG's liquidity crisis remains unclear. Throughout 2007 and 2008, however, Goldman asked more and more cash collateral from AIG as it aggressively marked down the value of its mortgage portfolio. Eventually, AIG ran out of money and the Federal Reserve had to step in with a massive bailout. Many more financial firms failed to properly manage their risk exposures to illiquid securities[24]. The markets nearly shut down. The lack of transparency of credit derivatives kept everyone guessing which financial institutions were insolvent.

The big shakeout came in the autumn of 2008. The US financial sector will never be the same. While the policy response was forceful, much of it was improvised and had unintended consequences. Bullard (2009) reviews the status of 47 large S&P financial firms in December 2008 (These firms account for 95 percent of total assets held by the sector.). Many firms lost more than three-quarters of their stock market value. Under the auspices of the Federal Reserve, JP Morgan Chase acquired Bear Stearns and Washington Mutual; Bank of America acquired Countrywide Financial and Merrill Lynch; Wells Fargo bought Wachovia; and Goldman Sachs, Morgan Stanley and American Express converted into bank holding companies. A total of 22 of the 47 firms received capital injections under the US Treasury's Troubled Asset Relief Program. The government took over Fannie Mae and Freddie Mac (95 percent of US mortgages are now channeled through government institutions.). The bankruptcy of Lehman Brothers was especially traumatic. One reason it had such wide-ranging effects was that it contradicted the idea that the main banks were too big to fail.

The bailouts were not popular. For example, there is fervent debate whether the AIG bailout was used secretly to assist Goldman Sachs and other favorite banks. On the whole, the consensus is that "taxpayers got robbed." Private losses were socialized. Many voters see what happened as crony capitalism. The political machine in Washington depends on Wall Street for campaign contributions. The nation detests both (O'Driscoll, 2010). The essential problem is that government provides commercial banks (and other large financial instutions) with a safety net. The implied moral hazard must be balanced by regulation and close supervision. It cannot be that deposits are put at risk in the search for speculative profit rather than in response to customer needs. Unfortunately, large sections of the public no longer trust the regulators[25].

Foolishness and greed, poor regulation and over-expansionary monetary policy also destabilized economies other than the USA. For example, there were housing bubbles in the UK, Ireland, and Spain. The troubles in Iceland, Greece and the Baltic countries, and the Burj Dubai are monuments to easy credit.

The economic crisis

The economic slide that began in the summer of 2007 destroyed many trillions of dollars of wealth. It was caused not only by the collapse in real estate or the disruptions in finance but also by the uncertainty surrounding continual government intervention. With the irrational exuberance behind us, many people now feel disoriented. Pessimism inhibits economic activity. The danger is that it becomes a self-fulfilling prophecy. Posner (2010) focuses on this line of argument, historically associated with John Maynard Keynes.

Huge costs are borne by every part of society. First and foremost, however, the emergency is about jobs. The Obama stimulus package that added a great deal to the federal budget deficit was intended to put a floor under an economy that was contracting by 6 percent or more. The US employment situation is worrisome. At least 16 percent of the workforce is unemployed or underemployed. More than 15.3 million Americans are out of work. A total of 8 million jobs have been lost since March 2007. The ratio of Americans of working age in the labor force, 65 percent, is the lowest since 1985. At the end of 2009, the average duration of unemployment surpassed six months. The weight of the recession falls most heavily upon men and adults younger than 25. A whole generation of young people may see its life chances permanently diminished (Their joblessness rate is about 20 percent.). Youth unemployment leaves lasting scars. Many young adults are moving back in with their parents. Christina Romer, the chair of Obama's Council of Economic Advisers, does not expect unemployment to fall significantly until 2011.

Because of overbuilding, many jobs have been lost in construction. The collapse of the MBSs market is very unfortunate. It will be difficult to revive securitization because trust was lost. With its purchases of MBSs, the Federal Reserve is trying to prop up the housing market. As many as a quarter of all mortgages are currently under water. Interestingly, at this point, most homeowners do not strategically default. People want to avoid the shame of foreclosure as well as anxiety about the consequences (White, 2009). It is uncertain how much longer homeowners will shoulder a disproportionate part of the burden of the collapse of real estate.

The financial industry, surely, is unlikely to regain its former share of the economy. The balance sheets of thousands of small US banks remain weak. The bursting of the property bubble has left them holding innumerable housing developments and shopping malls that have lost value. The profits of the big banks, in contrast, have soared. The money-center banks are wards of the state, however. The Federal Reserve showered them with subsidies and pushed short-term interest rates to zero. Thus, retirees who depend on interest income to supplement their pensions and other savers are helping to rescue the banks (Stockman, 2010).

In 2010 presents deep challenges. It is a decisive year. We are beginning to see a rebound from the recession. The recovery is fragile, however. Will it last? There remains much spare capacity. While the Morgan Stanley Capital International world index of share prices is 70 percent higher than its low in March 2009, many observers fear that, with the possible exception of the Brazil, Russia, India, and China countries, the world is facing a long period of slow growth. The US is no longer in a position to be the consumer engine for the global economy. Until the crisis hit, rising stock portfolios, and home equity were the basis for spending. American consumers have learned a bitter lesson. Increased consumption, they understand now, will have to come from income, not borrowing.

The economic slump is also straining the fiscal limits of government. This is typical. As a rule, financial crises develop into fiscal crises (Reinhart and Rogoff, 2009).

The crisis of 2008 resurrected Keynes. The 2010 projected US federal deficit is 11 percent of output. The buildup of public debt, surging to 100 percent of gross domestic product (GDP), is unsustainable. America is in a bind over its public finances. Alas, a long-term solution is not in sight[26]. It is silly to run away from the fiscal realities although various American states are trying to do just that. In truth, California, Illinois and several other states are broke. Voters demand programs they are unwilling to pay for. Over time, tax hikes and severe spending cuts are inevitable.

The Obama Administration aims to modernize health care, education, and energy policy, as well as social security and other entitlement programs. What may be even more pressing than these structural reforms is an industrial strategy. If America wants to remain prosperous, it must lay the groundwork for a new era of growth. People hope for green jobs, an improbable revival of manufacturing, and investments in infrastructure. The nation's infrastructure has decayed to the point that it is threatening its competitiveness. Highway bridges in Minnesota and elsewhere need repair. New Orleans was ruined for want of adequate floodwalls.

Outside of the USA, the fiscal situation and the employment outlook are grave in Britain, Greece, Iceland, Ireland, Italy, Japan, Spain, Portugal, and much of Eastern Europe. The British pound has lost much value. The euro is under pressure. The budget deficit in Greece results from a large public sector and declining tax revenue. An austerity budget would boost the jobless rate. Since it sets a precedent, a European bailout is politically sensitive. The silver lining of the Greek drama is that it pushes European Union integration forward (Attali, 2010). For example, the Belgian Prime Minister, Yves Leterme, proposed the formation of a European Government Debt Agency (2010). On a comparative basis, Benelux, France, Germany, and Scandinavia have weathered the storm well. In 2009, the voters confirmed Angela Merkel as chancellor of Germany. Soon, Nicholas Sarkozy and Gordon Brown will face more dissatisfied electorates.

Restoring financial stability

Psychologists tell us that there is release from anguish in action. According to Charles the Bold, "it is not necessary to hope in order to undertake, nor to succeed in order to persevere." So, it is not surprising that early on in the crisis the Federal Reserve and the Obama Administration were full of nervous energy. I mentioned the fiscal stimulus package as well as the bailouts and other give-aways to the financial sector[27]. Many commentators give the government credit for its swift action. Soft budget constraints carry risk, however. The danger is that reckless spending becomes the norm; that entitlements replace responsibility; that subsidies replace efficiency; and that the political class, even more so than today, gets into the habit of picking economic winners and losers.

It is most appropriate therefore that attention is shifting from financial rescue to financial reform, from the short term to the long term. "Management is doing things right; leadership is doing the right things," said Peter Drucker. However, reform requires courage and diplomacy as well as careful thought. Bashing Wall Street is easier than trying to reorganize it. There is a risk that nothing substantive will be done. Doing nothing would be a disgrace since it generates the conditions for another world-wide financial meltdown[28]. No matter what they say in public, chances are that most bankers long to return to business as usual. Even so, the banks may be interested in cutting deals. They will try to advance the political fortunes of individual lawmakers in exchange for sympathetic treatment (In 2009 alone, America's commercial and investment banks contributed $150 million to political campaigns.). In addition, viable reforms require international coordination. If not, a race to the bottom takes regulatory standards apart. Certainly, regulatory competition promoted world-wide banking deregulation during the 1980s and 1990s (Calomiris, 2000). It is imperative to ask: what kind of financial system do we want? In Europe, the majority of interested parties would answer: "Let the market run free but do not let it run wild." Policy makers in the USA probably take the opposite stance (We cannot close our eyes to the fact that the committee charged to redesign the financial system includes Summers, Geithner and other protégés of Rubin, all architects of the Washington consensus).

How do we rebuild a functional financial system? Below, I catalog seven reforms that I think desirable. The reforms may not be politically achievable. They are intended for the USA and for the private sector. Evidently, many more ideas for reform have been put forward, matching the ostensible causes of the crisis listed in the opening paragraphs of this paper. Therefore, my list of reforms is selective:

- We need a systemic risk regulator, preferably the Federal Reserve, that is independent from Wall Street and from Washington. The responsibility for managing systemic risk is a natural complement to the Federal Reserve's role in monetary policy. The government must have the motivation as well as the authority to break-up any financial institution that is too-big-to fail. (In October 2009, Greenspan agreed that "if [the banks] are too big to fail, they are too big.") Decades of too-big-to-fail policies are the principal reason why we are in an ever-increasing cycle of risk taking. The systemic risk regulator must also have the motivation and the authority to merge or to unwind in an orderly way any financial institution that is failing. The bankruptcy process is not well-suited for complex financial firms in the midst of a crisis.
- We need higher capital requirements for all systemically significant financial service firms, including hedge funds, private equity funds, etc. The amount of leverage a firm can take on should be limited. One option is to require (shadow) banks to issue long-term debt that is converted into equity if the bank gets into difficulty. Another possibility is countercyclical bank capital reserves (All entities that belong to one financial firm should be consolidated. Otherwise, with large off-balance sheet assets and liabilities, capital requirements become meaningless).
- As proposed by Paul Volcker, large commercial banks should be restricted from engaging in proprietary trading unrelated to serving their customers.
- We need transparency. While profitable to the banks, complex financial instruments are often used in a destructive manner, e.g. Goldman Sachs concealed Greece's fiscal deficit. Many esoteric derivatives, e.g. credit default swaps or synthetic CDOs, have little social utility and are sold in the dark. Instead, standard derivative contracts should be traded on a open exchange and routed through a clearing house (Soros, 2010).
- We need a new way to compensate traders. It is reprehensible that those who contributed so much to destroying wealth and jobs walk away with mega-bonuses based on gambles with fancy derivatives. People feel outrage. Wall Street compensation packages are simply excessive, e.g. the average bonus is ten times the annual income of most Americans.

- We need a consumer financial protection agency that regulates products like mortgages or credit cards. The agency should enforce product design and/or performance standards. The agency should be run by people who care first and foremost about consumers, not about the interests of the financial institutions they regulate.
- The principle of fiduciary duty should be re-established (Douglas, 1940; Bogle, 2005, 2010). Where possible, conflicts of interest should be eliminated. For example, financial intermediaries should have a duty of care to their customers or beneficiaries. As a second example, the revolving door between the legislative branch of government, Wall Street, the US Treasury, the SEC, and other federal agencies should be closed. As a third example, the bond rating agencies should not be paid by the banks. It would be far better to have investors pay for ratings or even to nationalize the agencies.

Conclusion

The crisis of 2008 has tarnished faith in the world financial system and in free enterprise. What is the capacity of democratic capitalism to reform itself? We will find out over the next few years. Mere pragmatism obliges us to ponder the odds that capitalism will commit suicide; that the events of 2007-2010 are only its next-to-last crisis. Economic policy is partly about politics, a game of give-and-take, locally, nationally, and internationally. A war of words, deadlock and impasse are common in complex negotiations. To be sure, money matters. Yet, justice is the bond that keeps society together and that makes the continued existence of global capitalism feasible. At this point, a great deal of effective action as well as symbolism are needed to restore the moral dimension of capitalism. This requires leadership.

I conclude with two quotations from Adam Smith. The first one speaks to the notion of self-interest:

> A man ought to regard himself, not as something separated and detached, but as a citizen of the world, a member of the vast commonwealth of nations.. and to the interest of this great community, he ought at all times to be willing that his own little interest be sacrificed.

The second quotation links empathy to the survival of the market system:

> Markets could not flourish without a strong underlying moral culture, animated by empathy and fellow-feeling, by our ability to understand our common bond as human beings and to recognize the needs of others.

Notes

1. For a record of asset price bubbles in times gone by, see Kindleberger (1978), Chancellor (1999), or Reinhart and Rogoff (2009).
2. In 2009, median household income, adjusted for inflation, was the lowest since 1997. Also, according to a January 2009 survey conducted by the Employee Benefit Research Institute, only 13 percent of US workers were "very confident" about being able to retire comfortably. Nearly half (44 percent) were "not too confident" or "not at all confident."
3. Sennett (2006) describes how the new ever more mutable version of capitalism requires human beings who prosper in unstable, fragmentary institutions. For systematic empirical evidence

of insecurity based on US data, see Myers (2000), Moss (2002), Warren and Tyagi (2003), Hacker (2006), and Saez (2009). Elliott and Atkinson (1998) present evidence relating to Britain.

4. The gap between the English-speaking countries and continental Europe is wide. For example, in December 1993, the *Financial Times* quoted Edouard Balladur, the Conservative Prime Minister of France at the time, saying: "What is a market? It is the law of the jungle, the law of nature. And what is civilization? It is the struggle against nature." Alesina *et al.* (2001) and Phelps (2010) discuss the differences between capitalism in the US and Europe from an American perspective. Albert (1993) and Tony Judt (2009) address the same question from a European perspective. Galbraith (1958) and Okun (1975) offer broad discussions of the trade-offs between growth, insecurity and inequality.

5. Caballero and Krishnamurthy (2009) offer a stylized model that links global imbalances, financial fragility, asset bubbles, and foreign demand for safe debt.

6. America is not unique in this regard. Margaret Thatcher said that "there is no such thing as society, merely individuals." Brittan (1995) argues "that this is one of the best things the prime minister has said."

7. See, e.g. Phillips (2008). I am not suggesting wickedness. Much of the American elite earnestly believes that this is the best way forward for the country (Anyhow, the Reagan-Thatcher experiment has not been concluded. Thus, its ultimate effect on the trade-off between growth and security will remain unknown for years to come.). The elite also thinks of itself as destined to lead, "the best and the brightest," a meritocracy that purportedly owes its privileges to its own efforts (Lasch, 1995). These opinions are reinforced by the *New York Times* and other media outlets. Readers of David Brooks will recall countless sympathetic references to "the educated class" as well as countless stern remarks directed at the plebs.

8. Is it possible to raise or to preserve living standards in this way? Buchanan (1998) answers no. Social justice, he says, has been sacrificed "to the gods of the global economy." Klein (2007), one of the intellectual leaders of the anti-globalization movement, and Chua (2003) develop similar arguments but from the perspective of developing countries. Both believe that global capitalism worsens economic inequality and breeds ethnic hatred.

9. Yet, the economy is not inevitably threatened by smart regulation, public enterprises, or government intrusion. Indeed, when people suffer, witness or suspect the reckless pursuit of self-interest, they become both less trusting and less trustworthy themselves. The very concept of the "mixed economy" suggests that government can improve well-being (On the other hand, an activist government may chill the private sector. Intensive regulation may also create a lopsided playing field.). Tawney (1920), Lippmann (1937), Schumpeter (1942), von Hayek (1944), and Rand (1967) are classic discussions of the role of the state in a market economy.

10. John Cassidy sounded the alarm even earlier in 2002. Conversely, in 2005, various prominent economists denied that home prices were soaring unsustainably (Kim, 2005).

11. For a while, it all but looked as if the materialistic conception of history, expounded by Karl Marx and Friedrich Engels, was coming true. Engels (1880), writing during the sixth general economic crisis since 1825, predicted that eventual state ownership of all large enterprises was "economically inevitable."

12. The premise of financial globalization was that open markets benefit both the US and the rest of the world (Rubin and Weisberg, 2003; Rajan and Zingales, 2003; Mishkin, 2006). Rajan and Zingales (2003, p. 312) believe that access to capital "is slowly redressing [...] the evils of capitalism" in developing countries. All the previous authors concede the danger of financial crisis. Their views on the policy implications of asset price bubbles are far from uniform, however (For more discussion, see Hunter *et al.*, 2003). Stiglitz (2002, 2003) takes a dim view of how a range of pro-globalization reform policies were implemented. The Washington

consensus, Stiglitz complains, does not stem from economic analysis but from ideological conviction. He is especially critical of the way the IMF handled the Asian crisis.

13. Bernanke suggested that good luck and structural factors (e.g. deregulation and the increased openness and sophistication of financial markets) also played a role.

14. See, e.g. the debate between Brooks (2010), Cochrane (2009), Eichengreen (2009), Krugman (2009), Posner (2010), Wolf (2009) and others. American business schools teach the virtues of capitalism. Did MBAs ruin the economy? Many people seem to think so (Di Meglio, 2009). Rakesh Khurana, a professor at the Harvard Business School, says that American business education presents "the unbridled free market as the answer to all problems." Kaufman (2009, p. 192) argues that business schools should teach financial history:

    For too long, business schools have fashioned their course offerings to suit the near-term needs of financial markets – quantitative risk analysis, model building, spread sheet analysis, and so on. Is it little wonder, then, that too many graduates of such programs have contributed to a culture that favors quick profits and financial buccaneering?

    Large segments of the public in France, Germany and Switzerland also hold American-educated managers accountable for the crisis in European banks.

15. Greenspan only changed his mind in 2008. As late as 2007, Greenspan (2000, p. 489) wrote that:

    [. . .] markets have become too huge, complex, and fast moving to be subject to 20th century supervision and regulation [. . .] Today, oversight [. . .] is essentially by means of individual-market-participant counterparty surveillance. Each lender, to protect its shareholders, keeps a tab on its customers' investment positions.

    Calomiris (2006) extols Greenspan's legacy of deregulation, labelling the ratification of the Gramm-Leach-Bliley Act (1999) his greatest triumph. This act, also known as the Financial Services Modernization Act, repealed part of the Glass-Steagall Act (1933) which separated commercial banking from securities underwriting. Glass-Steagall "was based on faulty history," says Greenspan (2007, p. 375).

16. For a psychological experiment that demonstrates this point, see Salganik *et al.* (2006). Mackay (1932), Chancellor (1999), and Bonner and Rajiva (2007) offer wide-ranging discussions of crowd behavior.

17. See also Cooper (2008). Other commentators who insist that capitalism is inherently unstable include Karl Marx and, in the twentieth century, Polanyi (1944), Bell (1976) and Gray (1998). Minsky (1986) is a classic reference on the fringe of mainstream economics. Minsky credits John Maynard Keynes, as do Akerlof and Shiller (2009). Akerlof and Shiller assess the evidence that psychology plays a crucial role in economic performance.

18. "Shadow banks" are investment banks, hedge funds, insurance companies, and other highly leveraged firms that are functionally equivalent to a bank. Hereafter, the word "bank" refers to shadow banks as well as traditional banks.

19. Taylor (2009) mainly blames sloppy monetary policy for the housing bubble. Total credit grew much faster than nominal GDP after 2001. Housing starts rose sharply in 2003-2005. If Greenspan had raised short-term interest rates during those years, Taylor believes, housing starts would have peaked at lower levels. At the time, Greenspan did not worry about the housing market. In an October 2004 speech at the annual convention of America's Community Bankers, he said that "it would take a large, and historically most unusual, fall in home prices to wipe out a significant part of home equity," and that short of that (or a large drop in household income) "debt servicing [was] unlikely to become destabilizing." Greenspan (2010) argues that the flaw in Taylor's reasoning is that since 2002 the Federal Funds rate and mortgage rates do not move in lockstep. What led to the housing bubble in the US and other

countries was a decline in long-term interest rates brought on by a savings glut in export-oriented economies, above all China.

20. The ownership society was a political project pioneered by Margaret Thatcher in the UK. She let residents buy their council estate flats. New owners tended to vote Tory.
21. This was one of many failures of risk management. In April 2005, Greenspan said:

    The financial services sector has been dramatically transformed [. . .] Technology has enabled creditors to achieve significant efficiencies [. . .] Where once more-marginal applicants would simply have been denied credit, lenders are now able to quite efficiently judge the risk posed by individual applicants and to price that risk appropriately. These improvements have led to rapid growth in subprime mortgage lending.

22. William Black (who became well-known with his 2005 study of fraud in the S&L industry) has been adamant on this point in television interviews with Now (with Bill Moyers) and the Public Broadcasting Service Newshour. In Black's estimation, the latest scam is "100 times worse" than the savings and loans crisis of the 1980s. The giant fraud became widely known in 2004. Most of the fraud was initiated by lenders.
23. See, e.g. Lowenstein (2008). Barnett-Hart (2009) compiles many relevant statistics. Morgenson (2008) tells the story of Merrill Lynch, a major player in synthetic CDOs, and the world's biggest underwriter of CDOs in 2006. In 2005-2006, Merrill made 12 key purchases of mortgage-related assets and firms to build a mortgage assembly line (i.e. loan origination; loan formalities; CDO packaging and sales). Many of its mortgage bets were unhedged. When mortgages began to fail, the business crumbled and Merrill's chief executive officer (CEO), Stan O'Neal, was replaced by John Thain who sold Merrill's CDOs "for whatever price he could get,“ at times only "22 cents on the dollar." Merrill Lynch's stock price fell approximately 80 percent. O'Neal received an exit package worth $161 million (in addition to $70 million in pay during his four-year tenure.)
24. Critics tell us that "economics is history trying to be physics" but this lighthearted comment seems very pertinent in the case of mathematical finance. The failure of risk management stems from the complexities of investment securities (Schwarcz, 2009) and from models that are:

    - poorly engineered, hence defective, e.g. the models ignore "fat tails" (Mandelbrot and Hudson, 2004);
    - models that are estimated with too little data; and
    - models that are relied upon unthinkingly, without judgment.In an important sense, the models do not manage risk; they create risk. Eichengreen (2009) argues that research and textbooks about Value at Risk and other risk management tools have provided "intellectual justification" for aggressive investment strategies. Wall Street CEOs do not truly understand the ways that traders make money and "are hostage to their cleverest employees" (Lewis, 2008). Similarly, Partnoy (2003) thinks that regulators have lost control over financial intermediaries. Sometimes, a small number of traders dare to go against the crowd (Lewis, 2010). John Paulson, the hedge fund manager who shorted subprime, emerged from the crisis a billionaire (Zuckerman, 2008).

25. Free market enthusiasts, needless to say, constantly remind us of "the essential villainy of government" (Frank, 2010). Beyond that, however, the trust deficit reflects:

    - the underfunding of the regulatory agencies;
    - ineptitude (consider, e.g. the missteps in the Bernard Madoff scandal);
    - ineffectiveness because of overlapping responsibilities;
    - the revolving door with Wall Street; and

- political meddling (as in the case of Brooksley Born, Chairman of the Commodity Futures Trading Commission, who wanted to regulate credit default swaps but was forced out by members of Congress with the support of Greenspan, Rubin and Summers) (Roig-Franzia, 2009). According to a Pew Research Center poll in April 2010, only 22 percent of Americans say they trust government all or most of the time; 56 percent are "frustrated" with government and another 21 percent describe themselves as "angry" (Robinson, 2010).

26. Until now, Japan and China have helped to finance US deficits and war spending. The day may come that they are saturated with US Treasury paper. Lawrence Summers has pointedly asked: how long can the world's biggest borrower remain the world's biggest power?
27. With the bailouts the government wound up insuring the bondholders and creditors of financial institutions. It would be worthwhile to quantify the value of implicit and explicit government guarantees.
28. Conversely, there is a potential danger of overreaction. For example, Calomiris (2000, p. xviii) believes that the history of US banking regulation demonstrates "the importance of transient events." This argument ignores that, while political entrepreneurs do seize windows of opportunity to pass laws, the regulatory changes may be long overdue. Economic shocks can serve as catalysts. They may make it possible to finally push through what many always understood to be necessary.

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