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In this issue:

How should the collapse of the world financial system affect economics?
Part I

After 1929 economics changed: Will economists wake up in 2009?

Geoffrey M. Hodgson [University of Hertfordshire, UK]

We are all Keynesians again

A remarkable feature of the unprecedented financial crisis that erupted in September 2008 is the doctrinal shift among world leaders. The market is no longer seen as the solution to every problem. The state has to step in to save capitalism. The US Republican Party had been the champion of free markets and minimal state intervention, yet President George W. Bush became the exponent of a huge state bale-out of the banks with a massive extension of state ownership within the financial system.

Alan Greenspan, former chairman of the US Federal Reserve, belatedly declared that he had 'made a mistake in presuming that the self-interest of organizations, specifically banks' would protect 'shareholders and equity in the firms'. He had 'discovered a flaw in the model' of liberalisation and self-regulation (*Guardian*, 24 October 2008).

All UK Prime Ministers since Margaret Thatcher have promoted market liberalisation. Yet everything changed with the global financial crisis. Prime Minister Gordon Brown's package of measures including partial state ownership of banks became the global model. On 19 October 2008 the Chancellor of the Exchequer Alistair Darling announced massive government spending to kick-start the British economy. He said that the economic thinking of John Maynard Keynes was coming back into vogue.

Who were the prophets of the financial mayhem of 2008? On 7 September 2006, Nouriel Roubini, an economics professor at New York University told International Monetary Fund economists that the US was facing a collapse in housing prices, sharply declining consumer confidence and a recession. Homeowners would default on mortgages, the mortgage-backed securities market would unravel and the global financial system would seize up. These developments could destroy hedge funds, investment banks and other major financial institutions. Economist Anirvan Banerji responded that Roubini's predictions did not make use of mathematical models and dismissed his warnings as those of a habitual pessimist (New York Times, August 15, 2008).

In October 2008 the British sociologist Laurie Taylor asked listeners of his weekly BBC radio programme to find an economist who had predicted the 2008 credit crunch and financial crisis. The nominations were scrutinised carefully and most were rejected. On 15 October 2008 the radio host announced that the most prescient prophet of the outcome of international financial deregulation since 1980 was the relatively obscure British financial economist Richard S. Dale. In his book on International Banking Deregulation, Dale (1992) had argued that the entry of banks into speculation on securities has precipitated the 1929 crash, and that growing involvement of banks in securities activities resulting from incremental deregulation since 1980 might precipitate another financial collapse. Dale's book received a mixed review in the Journal of Finance in 1993 and slipped off the citation rankings.

Hyman Minsky (1919-1996) got some credit too. In a series of papers, Minsky (1982, 1985, 1992) argued that capitalism has an inherent tendency to instability and crisis. The key destabilising mechanism is speculation upon growing debt. Minsky gave a number of warnings about the severe consequences of global financial deregulation after 1980. Although championed by Post Keynesians, Minsky's ideas were never popular with the mainstream. Yet on 4 February 2008 the New Yorker noted that references to Minsky's financial-instability hypothesis 'have become commonplace on financial Web sites and in the reports of Wall Street analysts. Minsky's hypothesis is well worth revisiting.'

But does anyone read Keynes?

Chancellors, bloggers, newspapers and magazines may have noticed the relevance of such economists as Keynes and Minsky for today, but have they been rediscovered in departments of economics in the most prestigious universities? I eagerly await any signs of such an awakening. In the meantime we may record the neglect into which even Keynes has fallen. I tried without success to find the work of Keynes or Minsky on any reading list available on the Web of any macroeconomics or compulsory economic theory course in any of the top universities in the world. Indeed, reading lists themselves are hard to find for any of the most prestigious courses in economics. Instead, there is ample evidence of student proficiency requirements in mathematics.

Turn to the most prestigious journals in economics. By searching leading journals that have been in existence since 1950, we can ascertain how many times the aforementioned authors were cited in each decade. Table 1 shows the results. Keynes remains the most highly cited of the four authors, but his visibility in leading journals has dropped dramatically in each decade. The overall picture in leading journals of economics is one of the dramatic fall in any the discussion of Keynes' ideas, and a relative neglect of other authors who warned of the dangers of financial deregulation.

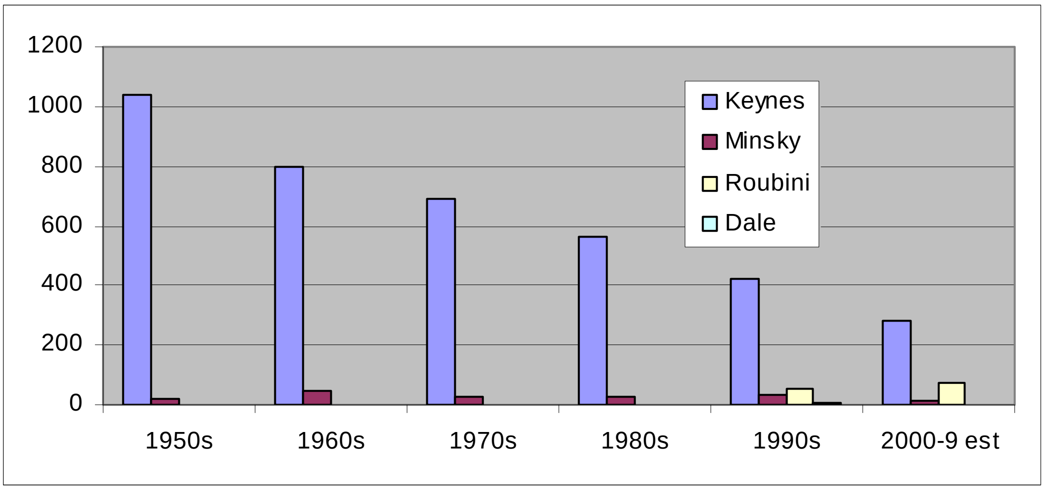

Table 1: Number of Articles or Reviews Citing Keynes, Minsky, Roubini and Dale in Leading Journals of Economics and Finance

Source: JSTOR. 2000-9 figures are estimated from extant results.

Journals used: American Economic Review, Econometrica, Economic Journal, Economica, Journal of Finance, Journal of Political Economy, Quarterly Journal of Economics, Review of Economic Studies, Review of Economics and Statistics.

The outsider may imagine that this is simply a matter of misjudgement or prejudice. Academic economists are simply citing the wrong people. Instead of citing Milton Friedman or Friedrich Hayek they should be referencing Keynes' General Theory. Such a perception of what has gone wrong would be mistaken. By citation measures, Keynes's classic antagonists do little better. Take Nobel Laureate Friedman: from 1950 he was cited by an average of only 344 articles or reviews per decade, in the same list of journals. Nobel Laureate Friedrich Hayek was cited by only 139 items per decade. Nobel Laureate Gerard Debreu, a mathematical economist and pioneer of general equilibrium theory, was cited by only 24 items per decade. Mainstream economists seem to have stopped citing anyone, except the most recent pioneers of mathematical technique.

Do economists learn?

As things stand, to get published in leading journals it is no longer necessary to read or cite any economist beyond the recent past. Instead of classic texts, most economists are interested in mathematical models. As Friedman (1999, p. 137) has complained: 'economics has become increasingly an arcane branch of mathematics rather than dealing with real economic problems.' A Commission of the American Economic Association on the state of graduate education in economics feared that 'graduate programs may be turning out a generation with too many idiot savants skilled in technique but innocent of real economic issues' (Krueger et al, 1991, pp. 1044–5). Other leading economists have expressed similar worries (Blaug 1997).

In the high temples of economics, mathematical technique now dominates real-world substance. Hence the tasks of reforming economics are very different from those that faced economists after the Great Crash of 1929. In both style and substance, economics was a very different subject then. Keynes' argument was that the assumptions behind laisser faire economics were inappropriate for the real work economic system. By 1945, the experience of the Great Depression and subsequent recovery had convinced the majority of the profession that Keynes was right.

It was not primarily a battle of economic models or econometric techniques. But ironically, the Great Depression helped to provide an impetus for more extensive use of mathematics in economics. A younger generation of economists, impatient with the failure of the older economists to find solutions, turned to mathematical models. Reflecting on this earlier period of his life, before he turned to institutional economics and became a critic of the neoclassical mainstream, Gunnar Myrdal (1972, pp. 6-7) wrote:

> Faced with this great calamity, we economists of the 'theoretical' school, accustomed to reason in terms of simplified macro-models, felt we were on the top of the situation ... It was at this stage that economists in the stream of the Keynesian revolution adjusted their theoretical models to the needs of the time, which gave victory much more broadly to our 'theoretical' approach.

Other economists reached a similar verdict (Hodgson 2004, pp. 383-6). A group of young and mathematically minded converts to Keynesianism, led by Paul Samuelson and others, developed some simple macroeconomic models. The attraction of this approach was partly its technocratic lure, and partly because it proposed apparent solutions to the urgent problem of the day. It appeared that increasing a variable called G could alleviate the problem of unemployment. The 'solution' was plain and beguiling and dressed up in mathematical and 'scientific' garb. Although Keynes himself warned of the limitations of mathematical technique in economics (Moggridge, 1992, pp. 621-3), he was championed by people who saw mathematics as the solution.

Although the Great Depression changed our discipline by establishing Keynesian macroeconomics, it also gave impetus to the process of mathematical formalization that took off in the post-war period. Although Keynes fell out of vogue from the 1970s to 2008, and the character of mainstream economics has changed in other respects in recent decades, its obsession with technique remains. The pressing question now is whether the financial crisis 2008, which is the most severe since the Great Depression, will reverse this fascination with mathematical technique over real-world substance.

We may remind ourselves of an incident eleven years before the 2008 credit crunch. In 1997 Robert C. Merton and Myron S. Scholes were awarded the Nobel Prize in Economics. Scholes had helped to devise the Black-Scholes equation, upon which a prominent hedge fund was based. However, following the 1997 financial crisis in Russia and East Asia, the highly leveraged fund lost in 1998 $4.6 billion in less than four months and failed. (http://en.wikipedia.org/wiki/Myron_Scholes, accessed 20 October 2008.) Did the myopic modellers wake up then? Alas no.

Do not adjust your model – reality is at fault?

Neither crashes, crises nor failures of prediction necessarily impel economists in the direction of realism. One likely reaction to the current downturn is that we should try harder to develop better models. Perhaps we should, but we must also learn the vital lesson that models on their own are never enough. A better understanding of our current predicament must also come from a much fuller appreciation of both economic history and the history of ideas in economics. What is required is a wholesale revitalisation of the culture within the economics profession.

The June 2000 protest of French students is as relevant as before. They objected to the use of mathematics as ‘an end in itself’ and dogmatic teaching styles that leave no place for critical and reflective thought. They petitioned in favour of engagement with empirical and concrete economic realities, and for a plurality of theoretical approaches.

To understand the current economic crisis we have to look at both economic history and the history of economic thought. To understand how economics has taken a wrong turning we have to appreciate work in the philosophy of economics and the relationship between economics and ideology. These unfashionable discourses have to be brought back into the centre of the economic curricula and rehabilitated as vital areas of enquiry.

Unless mainstream economics takes heed of these warnings and proves its relevance for the understanding of the most severe crisis of the capitalist system since the 1930s, then it will be doomed to irrelevance. My suggestion is that a world protest of academic, student and business economists be organised to drive home this point. To avoid dismissal as yet another heterodox whinge, this protest has to be led by high-ranking economists that are concerned about the direction of our subject. I would like to put this issue at the top of our agenda.

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The Economics of Collapsing Markets

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Big banks are failing, bailouts measured in hundreds of billions of dollars are not nearly enough, jobs are vanishing, mortgages and retirement savings are turning to dust. Didn't economic theory promise us that markets would behave better than this? Even the most ardent defenders of private enterprise are embarrassed by recent events: in the words of arch-conservative columnist William Kristol,

> There's nothing conservative about letting free markets degenerate into something close to Karl Marx's vision of an atomizing, irresponsible and self-devouring capitalism.[2]

So what does the current wreckage of the global financial system tell us about the theoretical virtues of the market economy?

Competitive markets are traditionally said to offer a framework in which, in the memorable words of the movie *Wall Street*, "greed is good." Adam Smith's parable of the invisible hand, the founding metaphor of modern economics, explains why the attempt by butchers, bakers and the like to increase their own individual incomes should turn out to promote the common good. The same notion, restated in rigorous and esoteric mathematics, is enshrined in general equilibrium theory, one of the crowning accomplishments of twentieth-century economics. Under a long list of often unrealistic assumptions, free markets have been proved to allow an ideal outcome – meaning that the market outcome is "Pareto optimal," i.e. there is no way to improve someone's lot without making someone else worse off.

Although academic research in economics has moved beyond this simple picture in several respects, the newer and subtler approaches have not yet had much influence on non-academic life. Textbooks and mainstream policy analyses – the leading forms through which the economics profession influences the real world – still routinely invoke the imagery of the invisible hand and the notion that economic theory has demonstrated that market outcomes are optimal. Critics (myself included) have written volumes about what's wrong with this picture.[3] Broadly speaking, there are four fundamental flaws in the theory that private greed reliably creates social good. The financial crisis highlights the fourth and least familiar item in the list, involving access to information. But it will be helpful to begin with a brief review of the other flaws.

Four fundamental flaws

First, the theoretical defense of market outcomes rests on Pareto optimality, an absurdly narrow definition of social goals. A proposal to raise taxes on the richest five percent

[1] This is a work in progress (with most citations yet to be added); send comments and suggestions to Frank.Ackerman@tufts.edu

[2] William Kristol, "George W. Hoover?" *New York Times*, Nov. 17, 2008.

[3] See, among many others, Frank Ackerman and Lisa Heinzerling, *Priceless: On Knowing the Price of Everything and the Value of Nothing* (The New Press, 2004), and Frank Ackerman and Alejandro Nadal, *The Flawed Foundations of General Equilibrium: Critical Essays in Economic Theory* (Routledge, 2004).

and lower taxes on everyone else is not "optimal" by this standard, since it makes only 95 percent of the population, not everyone, better off. Important public policies typically help some people at the expense of others: pollution controls are good for those who value clean air and water, but bad for the profits of major polluters. The invisible hand won't achieve such non-consensual results; public goods require public choices.

Second, market competition only leads to the right outcomes if everything that matters is a marketable commodity with a meaningful price. Marxists and others have objected to the treatment of labor as a mere commodity; environmentalists have likewise objected to the view of nature as something to buy and sell. This is not a new idea: in the words of the 18th century philosopher Immanuel Kant, some things have a price, or relative worth; other things have a dignity, or intrinsic worth. Respect for the dignity of labor and of nature leads into a realm of rights and absolute standards, not prices and markets. It doesn't matter how much someone would be willing to pay for the opportunity to engage in slavery, child labor, or the extinction of species; those options are not for sale. Which issues call for absolute standards, and which can safely be left to the market? This foundational question precedes and defines the legitimate scope of market competition; it cannot be answered from within the apparatus of economics as usual.

Third, the theory of competitive markets and the proof of their optimality rest on the assumption that no enterprise is large enough to wield noticeable power in the marketplace. Adam Smith's butchers and bakers operated in a relentlessly competitive environment, as do the small producers and consumers of modern general equilibrium theory. In reality, businesses big enough to wield significant power over prices, wages, and production processes can be found throughout the economic landscape.

Big businesses thrive, in part, thanks to economies of scale in technology and work organization: bigger boilers and furnaces are physically more efficient than small ones; assembly lines can make labor more productive than individual craft work; computers are often more productive when they run the same software used by everyone else. Economies of scale are also important in establishing and advertising well-known brands: since no one ever has complete information about the market, as discussed below, there is a value to knowing exactly what to expect when you walk into a McDonald's or a Starbucks.

Bigness can also be based on unethical, even illegal manipulation of markets to create monopoly or near-monopoly positions. Manipulation constantly reappears because the "rules of the game" create such a powerful incentive to break the rules. The story of the invisible hand, and its formalization in the theory of perfectly competitive markets, offers businesses only the life of the Red Queen in *Alice in Wonderland*, running faster and faster to stay in the same place. Firms must constantly compete with each other to create better and cheaper products; as soon as they succeed and start to make greater profits, their competitors catch up with them, driving profits back down to the low level that is just enough to keep them all in business. An ambitious, profit-maximizing individual could easily conclude that there is more money to be made by cheating. In the absence of religious or other extra-economic commitments to play by the rules, the strongest incentive created by market competition is the search for an escape from competition, legitimately or otherwise.

Opportunities to cheat are entwined with the fourth flaw in the theory of perfect competition: all participants in the market are assumed to have complete information about products and prices. Adam Smith's consumers were well-informed through personal experience about what the baker and the butcher were selling; their successors in conventional economic theory are likewise assumed to know the full range of what is for sale on the market, and how much they would benefit from buying each item. In the realm of finance, mortgage crises and speculative bubbles would be impossible if every investor knew the exact worth of every available investment – as, stereotypically, small-town bankers were once thought to know the credit-worthiness of households and businesses in their communities.

So many choices, so little time

The assumption of complete information fails on at least two levels, both relevant to the current crisis: a general issue of the sheer complexity of the market; and a more specific problem involving judgment of rare but costly risks. In general terms, a modern market economy is far too complex for any individual to understand and evaluate everything that is for sale. This limitation has inspired a number of alternative approaches to economics, ranging from Herbert Simon's early theories of bounded rationality through the more recent work on limited and asymmetric information by Joseph Stiglitz and others. Since no one ever has complete information about what's available on the market, there is no guarantee that unregulated private markets will reach the ideal outcome. Regulations that improve the flow of information can lead to an overall improvement, protecting the unwary and the uninformed.

When people buy things about which they are poorly informed, markets can work quite perversely. If people trust someone else's judgment more than their own – as, for instance, many do when first buying a computer – then decisions by a small number of early adopters can create a cascade of followers, picking a winner based on very little information. Windows may not have been the best possible microcomputer operating system, but a small early lead in adoption snowballed into its dominant position today. Investment fads, market bubbles, and fashions of all sorts display the same follow-the-leader dynamics (but without the staying power of Windows).

When people have to make excessively complex decisions, there is no guarantee that they will choose wisely, or pick the option that is in their own best interest. Yet in areas such as health care and retirement savings, individuals are forced to make economic decisions that depend on detailed technical knowledge. The major decisions are infrequent and the cost of error is often high, so that learning by experience is not much help.

The same overwhelming complexity of available choices exists throughout financial markets. The menu of investment options is constantly shifting and expanding; financial innovation, i.e. creating and selling new varieties of securities, is an inexpensive process, requiring little more than a clever idea, a computer programmer, and a lawyer. Such innovation allows banks and other financial institutions to escape from old, regulated markets into new, ill-defined, and unregulated territory, potentially boosting their profits. Even at its best, the pursuit of financial novelty and the accompanying confusion undermines the traditional assumption that buyers always make well-informed choices. At its worst, the process of financial innovation provides ample opportunity to cheat, knowingly selling new types of securities for more than they are worth.

Information about the reliability of many potential investments is ostensibly provided by bond rating agencies. One of the minor scandals of the current financial crisis is the fact that the rating agencies are private firms *working for the companies they are rating*. Naturally, you are more likely to be rehired if you present your clients in the best possible light; indeed, it might not hurt your future prospects to occasionally bend the truth a bit in their favor. The Enron scandal similarly involved accounting firms that wanted to continue working for Enron – and reported that nothing was wrong with the company's books, at a time when the top executives were engaged in massive fraud.

Preparing for the worst

There is also a more specific information problem involved in the financial crisis, concerning the likelihood of rare, catastrophic events. People care quite a bit about, and spend money preparing for, worst-case outcomes. The free-market fundamentalism and push for deregulation over the last thirty years, however, have rolled back many older systems of protection against catastrophe, increasing profits in good years but leaving industries and people exposed to enormous risks in bad years. These risks occur infrequently or irregularly enough that it is difficult, perhaps even literally impossible, to discover their true probabilities. Nonetheless, responding correctly to rare, expensive losses is crucial to many areas of public policy.

In the U.S., the risk that your house will have fire next year is 0.4%. In effect, the average housing unit has a fire every 250 years; the most likely number of fires you will experience in your lifetime is clearly zero. Does this inspire you to cancel your fire insurance? You could, after all, spend the premium on luxuries that you have always wanted – an excellent plan for raising your standard of living, in every year that you don't have a fire. Life insurance, frequently bought by parents of young children, addresses a similarly unlikely event: the overall U.S. death rate is less than 0.1 percent per year in your twenties, 0.2 percent in your thirties, and does not reach 1 percent per year until you turn 61. The continued existence of fire insurance and life insurance thus provides evidence that people care about catastrophic risks with probabilities in the tenths of a percent per year. In private life, people routinely spend money on insurance against such events, despite odds of greater than 99 percent that it will prove unnecessary.

For catastrophic risks to individuals, demographic data are readily available, making the frequency of worst-case outcomes predictable (which is why insurance companies are willing to cover individual losses). For the most serious crises in agriculture, industry, or finance, there is no such database; the public events of greatest concern are very rare, and are dependent on complex social forces, making it virtually impossible to predict their timing or frequency.

There is, however, a strong desire to protect against potential crises, frequently through the accumulation of reserves; it is striking how often the same word is used in different contexts. Storing reserves of grain to protect against crop failure and famine is an ancient practice, already known in Biblical times and continuing into the twentieth century in many countries. Electricity regulation, as it existed throughout the United States until the 1980s (and still does in some states), required the regulated utilities to maintain reserve capacity to generate more electricity than is normally needed, often 12 to 20 percent above peak demand. And financial regulation requires banks and other lending institutions to hold reserves, either in cash or in something similarly safe, equal to a fixed fraction of their outstanding loans.

All of these forms of reserves look expensive in good years, but prevent or limit losses in bad years. How often will those bad years crop up? In non-crisis times, the potential price volatility and risks of losses in the housing and stock markets can appear to be pleasantly and misleadingly low. By many standards, the crash of 2008 is the worst that U.S. and world markets have seen since 1933, some 75 years earlier. No one has much first-hand knowledge of such crashes.

How could society maintain awareness and preparedness for catastrophic risks that exist in the historical record, but not in this generation's experience? As Henry Paulson, Jr., the Treasury Secretary during the last years of the Bush administration, said after several months of floundering, unsuccessful responses to the financial meltdown of 2008,

> "We are going through a financial crisis more severe and unpredictable than any in our lifetimes… There is no playbook for responding to turmoil we have never faced."[4]

There used to be a playbook, dating from the days when we (or our grandparents) did face similar turmoil. A system of financial regulations, enacted in the aftermath of the 1930s Depression, drew on the lessons of that painful episode and provided some protection against another crash. Yet the experience of some decades of relative stability, in an era of anti-regulatory, laissez faire ideology, has led to loss of collective memory and allowed the rollback of many of the post-depression regulations.

Rolling back the reserves

The free-market fundamentalism of the Reagan-Thatcher-Bush era sought to deregulate markets wherever possible. This included efforts (frequently successful) to eliminate the reserves that protected many industries and countries against bad times, in order to boost profits in non-crisis years. Starting in the 1980s, structural adjustment programs, imposed on developing countries by the IMF and the World Bank as conditions for loans, called for elimination of crop marketing boards and grain reserves, and for abandonment of the pursuit of self-sufficiency in food. It was better, according to the "Washington consensus" that dominated the development discourse of the day, for most countries to specialize in higher-value cash crops or other exports, and import food from lower-cost producers. Again, this is a great success in normal times, when nothing goes wrong in international markets for grain and other crops; in years of crop failures or unusually high grain prices, the "inefficient" old system of grain reserves and self-sufficiency looks much better.

At about the same time, the notion became widespread in U.S. policy circles that electricity regulation was antiquated and inefficient. Under the old system, utilities received a local monopoly in exchange for accepting the obligation to provide service to everyone who wanted electricity, at reasonable, regulated rates, while maintaining a mandated margin of reserve capacity. Deregulation, introduced on a state-by-state basis in the 1980s and 1990s, eliminated much of the previous regulations in order to allow competition in the sale of electricity. The pursuit of profit, in theory, would lead to ample capacity to generate electricity, while competition would keep the prices as low as possible. Yet none of the competitors retained the obligation to maintain those expensive, inefficient reserves of capacity.

[4] As quoted in *New York Times*, Nov. 18, 2008.

California enjoyed 40 years of rapid growth without major blackouts or electricity crises under the old regulatory system. In the five years after deregulation, the demand for electricity grew much more rapidly than the supply, eliminating the state's reserve capacity. The combination of an unusually hot summer, a booming economy, and intentional manipulation of the complex new electricity markets by Enron and other trading firms then led to the California electricity crisis of 2000-01, with extensive blackouts and peak-hour prices spiking up to hundreds of times the previous levels.

Parallel trends occurred in the world of finance. Before the 1980s, residential mortgages typically were issued by savings and loan associations (S&Ls). These community-based institutions were strictly regulated, with limits on the types of loans they could make and the interest rates they could offer to depositors. Squeezed by high inflation and by competition from money market funds in the late 1970s, the S&Ls pushed for, and won, extensive deregulation in the early 1980s. Once they were allowed to make a wider range of loans, freed of federal oversight, the S&Ls launched a massive wave of unsound lending in areas outside their past experience. Hundreds of S&Ls went bankrupt during the 1980s, leading to a federal bailout that seemed expensive by pre-2008 standards.

The regulation of S&Ls was part of the Glass-Steagall Act, enacted in 1933 to control speculation and protect bank deposits. While provisions affecting S&Ls were repealed in the 1980s, other key features of Glass-Steagall remained in effect until 1999. In particular, the 1999 repeal of Glass-Steagall allowed commercial banks to engage in many risky forms of lending and investment that had previously been closed to them. Then in 2004, the Securities and Exchange Commission (SEC) lowered the reserve requirements on the nation's biggest investment banks, allowing them to make loans of up to 40 times their reserves (the previous limit had been 12 times their reserves). The result was the same as with the deregulation of S&Ls: taking on unfamiliar, new, seemingly profitable risks destroyed some of the nation's biggest banks within a few years.

There is a similar explanation for the unexpected news that Iceland was among the countries hardest hit by the financial crisis. Privatization and deregulation of Iceland's three big banks in 2000 allowed the country to become an offshore banking haven for British and other international investors, offering high-risk, high-return (in good times) opportunities to the world. This led to some years of rapid economic growth, and to a banking industry with liabilities equal to several times the country's GDP – which did not look like a problem until the international financial bubble burst.

Putting the pieces back together again

> I suspect that free-marketers need to be less doctrinaire and less simple-mindedly utility-maximizing, and that they should depend less on abstract econometric models. I think they'll have to take much more seriously the task of thinking through what are the right rules of the road for both the private and public sectors. They'll have to figure out what institutional barriers and what monetary, fiscal and legal guardrails are needed for the accountability, transparency and responsibility that allow free markets to work.[5]

[5] Kristol, "George W. Hoover?"

When the most doctrinaire of the free-marketers – William Kristol, again – start talking about rules of the road, institutional barriers, and guardrails for the market economy, the moment has arrived for new ideas. What follows is not the way that I would design an economic system if starting from scratch – but neither I nor anyone else has been invited, alas, to start over and build a sensible economy from the ground up. The immediate challenge that we face is to repair what's there without further jeopardy to jobs and livelihoods.

The four fundamental flaws in the traditional theory suggest the shape of the barriers and guardrails needed to keep the market economy safely on the road and headed in the right direction. The first two flaws point to large categories of decisions and values that should be permanently off-limits to the market. The definition of efficiency in terms of Pareto optimality – endorsing only those changes to the status quo that can win unanimous support – is a profoundly anti-democratic standard that is taken for granted in much of economic theory.[6] There are many public goods and public decisions, which cannot be handled purely by consensus in any jurisdiction larger than a village. Markets cannot decide what we want to do about education, infrastructure, defense, and other public purposes; nor can they decide who should pay how much for these programs.

The existence of important values that cannot be priced, rooted in the dignity of humanity and nature, requires a system of rights and absolute standards, not prices and market incentives. Reasonable people can and do disagree about the extent of rights and standards, but this is unquestionably a large, and perhaps growing, sphere of decisions. Many of the things we care most about are too valuable to have prices; they are not for sale at any price.

These straightforward points only came to seem remarkable and controversial under the onslaught of market fundamentalism in recent years, with its relentless focus on expanding the sphere of market efficiency, prices, and incentives. Conservatives, securely in power for most of the years from 1980 through 2008, repeated endlessly that government is the problem and the market is the solution – at least until the crash of 2008, when the roles were abruptly reversed. Meanwhile, it has become common to hear the argument, in environmental policy debates, that rational policy-making must be based on setting the correct price for human lives saved by regulations. (A less common, but by no means unknown, next step is the morally indefensible conclusion that the value of a life saved should be lower in poorer countries.)

The third flaw in the theory of the invisible hand, the existence and importance of big businesses, leads to a need for ongoing regulation. Many industries do not and cannot consist of small businesses whose every action is disciplined by relentless competition. As a result, they have to be disciplined by society – that is, by regulation. Recognition of this fact inspired the traditional treatment of electric utilities, prior to the recent wave of deregulation. Since some aspects of electricity supply are natural monopolies (no one wants to see multiple, competing electric lines running along the same street), the firms holding this monopoly power had to accept limits on their prices and continual oversight of their investment plans – including the requirement to build reserve capacity – in order to ensure that they served the public interest.

[6] Pareto himself was an elitist, anti-democratic Italian aristocrat, whose lectures were much admired by Mussolini; see Ackerman and Heinzerling, *Priceless*, Chapter 2.

While utility regulation is an interesting model, it is not the only approach to the governance of big business. The general point is that the invisible hand only ensures that greed is good for society when the greedy enterprises are small and powerless. Larger, more powerful greed must often be directed by the visible hand of government in order to prevent it from subverting the common good.

The fourth flaw, the impossibility of complete information about markets, leads to lessons more directly focused on the financial crisis. The staggering complexity of many decisions in today's financial and other markets undermines the strongest pragmatic argument in favor of market mechanisms. Even when markets are not perfectly competitive, and do not achieve the theoretical optimum of the invisible hand (or of general equilibrium theory), they can still excel at decentralized information processing, as Friedrich Hayek pointed out long ago. All the information about the supply and demand for steel is brought together in the steel market; all the information about the supply and demand for restaurant meals in a city is brought together in that market; and so on. No one has to know all the details of all the markets – which is fortunate, since no one could.

As market choices become more intricately and technically detailed, the potential for decentralized information processing disappears. Markets that are too complex for many of the participants to understand cannot do a reasonable job of collecting information about supply and demand. Overly complex markets are often ones that have been artificially created, based on an ideological commitment to solving every problem through the market rather than a natural evolution of trading in existing commodities. The market for health care in the U.S. is a case in point: a service that is more efficiently and cheaply provided as a public good has been forced into a framework of private commodity purchases, with mountains of unnecessary paperwork and vast numbers of people employed in denying medical coverage to others. Medicare coverage of prescription drugs is the epitome of this problem, a "market mechanism" that will never convey useful information about supply and demand because no one understands the bizarre complexity of what they are buying, or how the alternatives would differ.

Other invented, ideologically inspired markets also suffer from the curse of complexity; California's deregulation of electricity was an unfortunately classic example. Our current system of retirement funding, in which everyone manages their own savings, has higher overhead costs and higher risks of mismanagement than a public system such as Social Security; many people have little or no understanding of the process of managing their retirement funds. In financial markets, innovation that creates complexity is often profitable for the innovating firms and bewildering to others. Cynics might guess that this could be the goal of financial innovation; but even with good intentions, the worsening spiral of complexity defeats any potential for the market to accurately assess the supply and demand for loans.

The policy implication is clear: keep it simple. If training or technical assistance is required to comprehend a new market mechanism, it is probably too complex to achieve its intended goals. Another approach – think of single-payer health care – may offer a more direct, lower-cost route to the same objective, without the trouble of inventing a convoluted new market apparatus. Making public choices about public goods is simpler than squeezing them into the ill-fitting costume of individual market purchases.

In financial markets there is a clear need for independent, publicly funded sources of information about potential investments, to do the job that we always imagined the bond rating companies were doing. Regulation has to apply across the board to new as well as old financial instruments; waiting for signs of trouble before regulating new financial markets is a recipe for a crash.

Precaution vs. cost-benefit analysis

The importance of infrequent, catastrophic risks, and the lack of information about their timing or frequency, highlights the need for a precautionary approach to public policy. In several recent (and very technical) papers, Martin Weitzman shows that both for financial markets and for climate change, the worst case risks can be so disastrous that they should dominate policy decisions. In complex, changing systems such as the world's climate or financial markets, information will always be limited; if the system is changing rapidly enough, old information may become irrelevant as fast as new information arrives. If, for example, we never have more than 100 independent empirical observations bearing on how bad the market (or climate) will get, then we will never know anything for certain about the 99th percentile risk.

In a situation with unlimited worst-case risks but limited information about their likelihood, Weitzman proves that the expected value of reducing the worst-case risks is, technically speaking, infinite. In other words, nothing else matters except risk reduction, focused on the credible worst case. This is exactly the idea that has been advocated in environmental circles as the "precautionary principle."

For example, the latest climate science suggests that the likely sea level rise over this century will be in the neighborhood of one meter; in addition, if the Greenland ice sheet, or the similarly-sized West Antarctic ice sheet, collapses into the ocean, the result will eventually be another seven meters of sea level rise. One meter of sea level rise is an expensive and difficult problem for islands and low-lying coastal areas; seven meters is enough to destroy most coastal cities and the associated industries and infrastructure around the world. It is irrelevant, therefore, to worry about fine-tuning the "most likely" estimate of one meter, or to calculate the precisely appropriate policy response to that estimate. Rather, the goal should be to do whatever it takes to prevent the collapse of a major ice sheet and the ensuing seven meters of sea level rise. This is true even in the absence of hard information about the probability of collapsing ice sheets; the risk is far too ominous to take any chances with trial and error.

Financial markets are directly analogous – although one might claim that in finance, the ice sheets have now melted and the markets are already underwater. The worst case risks are so painful that nothing else matters in setting public priorities. With the benefit of hindsight, who among us would have objected to somewhat slower growth in stock prices and housing prices over the last decade or two, in exchange for avoiding the recent economic crash? It was not, it turns out, a brilliant idea to lower the reserve requirements and remove other restrictions on the risks that financial institutions could take, even though it boosted short-run profits at the time.

Restoration of the earlier, discarded regulations on banking is not a complete answer to the current crisis, although it is hard to see how it would hurt as a starting point. What is needed is a more comprehensive regulation of financial investments, covering new varieties as well as old. Charging a (very small) percentage fee on all security transactions, plus a first-time registration fee for introducing new types of securities, could fund an expanded regulatory system, and might also slow down the worst forms of speculation. (Some states have employed a comparable system in electric utility regulation; a trivial percentage fee, amounting to a tiny fraction of a cent on each kilowatt-hour of electricity, supports the state's oversight of the system as a whole.)

In general, the accumulation of reserves guards against unexpected bad times and market fluctuations. In a volatile and uncertain world, financial and other systems have to be run in a manner that allows such reserves. It is the social equivalent of insurance against individual losses; likewise, the regulatory rollbacks of recent years are the equivalent of cancelling your insurance and spending the premiums on a few more nights out on the town. Maintaining a bit of slack in the system is essential for accumulating reserves that protect against worst cases; squeezing the last bits of slack out in order to maximize profits when everything works according to plan leaves us all more vulnerable to deviations from that plan.

Globalization, new deals, and old economics

The final argument against stringent regulation is that in an increasingly globalized economy, capital will simply move to less regulated countries. Extensive research and debates have found little support for this idea in the sphere of environmental regulation; the "pollution haven" hypothesis, claiming that industry will subvert regulation by moving to countries with weaker environmental standards, is not supported by the bulk of the evidence.[7]

Financial capital, however, is more mobile than industry; huge sums of money can be transferred electronically across national boundaries with minimal transaction costs. Thus it should be easier to create "speculation havens" than pollution havens; a handful of small countries are already known for welcoming unregulated offshore financial investments. The push for deregulation of banking, from the S&L episode of the 1980s to the present, has come not only from ideology and the desire for short-run profits, but also from the pressure of competition with newer, less regulated financial institutions.

The process of financial innovation will continue to challenge any simple attempts to curtail the flight of capital. The ultimate answer to this problem is not only to regulate existing financial markets and institutions, but also to create new, socially useful opportunities for investment – to steer capital toward better purposes, as well as policing its attempts to steal away.

Lurking behind the failure of financial markets is the lack of real investment opportunities, as seen, for instance, in the near-bankruptcy of the U.S. auto industry. GM, Ford, and Chrysler have engaged in their own form of gambling on good times, over-committing their resources to SUVs and other enormous, energy-inefficient vehicles. Paralleling the risky financial ventures that fell apart in 2008, the "all big cars all the time" strategy produces big profits if (and only if) consumer incomes stay high and fuel prices stay low. When incomes fall and oil prices rise, it turns out to be a shame to have bet the company on endless sales of vehicles much larger than anyone actually needs. A new initiative is needed to reshape and redirect this industry and others; left to its own devices, the free

[7] See, for instance, Frank Ackerman, "The Unbearable Lightness of Regulatory Costs," *Fordham Urban Law Journal*, May 2006, reprinted in Ackerman, *Poisoned for Pennies: The Economics of Toxics and Precaution* (Island Press, 2008).

market only leads deeper into the ongoing collapse of U.S. manufacturing. If a bailout in the auto industry, finance, or elsewhere gives the government a share of ownership, as it should, then public priorities can be implemented as a condition of public assistance.

At the end of 2008, profitable investment opportunities are vanishing across the board, as the U.S. and the world economies are sliding into the worst economic downturn since the 1930s. That decade's depression helped inspire the theories of John Maynard Keynes, explaining how deficit spending helps to cure economic slumps and put unemployed people back to work. Keynesian economics has been out of academic fashion for nearly thirty years, banished by the same market fundamentalism that pushed for deregulation of financial and other markets. Yet when a big enough crisis hits, everyone is a Keynesian, favoring huge increases in deficit spending in order to provide an economic stimulus.

There is no shortage of important public priorities that are in need of attention. Thirty years of relentless tax-cutting and penny-pinching in public spending have left the U.S. with perilously crumbling and underfunded infrastructure, from the failed levees of New Orleans to the fatal collapse of a major highway bridge in Minneapolis. The country is shockingly far away from adequate provision of health care and high-quality public education for all, among other social goals. In terms of prevention of worst-case risks, addressing the threat of climate change requires reinventing industry, electric power, and transportation with little or no carbon emissions – a task that calls both for widespread application of the best existing techniques, and for discovery, development, and adoption of new breakthrough technologies, in the U.S. and around the world. What would it take to structure an economy in which these objectives were more attractive to capital than repackaging subprime mortgages and inventing esoteric con games?

A focus on ambitious new public priorities no longer appears to be absent from American politics. Barack Obama's speeches invoke the goal of a "green new deal," representing an enormous improvement over the previous occupant of the White House in this and so many other ways. The reality, however, seems likely to lag far behind the rhetoric. Practical discussion has focused on the size of the one-time stimulus that might be needed, treating it as an expensive cure for a rare ailment rather than a new, healthier way of life. The economic advisors for the new administration represent the cautious mainstream of the Democratic Party, an improvement relative to their immediate predecessors in office, but far from offering what is really needed.

Recognizing the new popularity of Keynesian ideas and analogies to the 1930s, a few conservative critics have begun to object that the New Deal should not be taken as a model because it failed to end the Depression. Despite the ambitious, well-publicized initiatives of the Roosevelt administration, unemployment remained extremely high and the economy did not fully recover until the surge of military spending for World War II. This is literally true, but implies a need to do more, not less, than the New Deal. Programs that put hundreds of thousands of people to work, some of them building parks and bridges that are still in use today, were not misguided; they were just too small. A premature lurch back toward balanced budgets caused a painful interruption in the recovery in 1937-38, prolonging high rates of unemployment.

Indeed, as Keynes himself said in 1940, "It is, it seems, politically impossible for a capitalistic democracy to organize expenditure on the scale necessary to make the grand experiments which would prove my case — except in war conditions." The grand experiment of mobilizing for World War II did succeed in reviving the market economy; it involved massive, ongoing government redirection of spending toward socially determined priorities.

The need for a pervasive, permanent role of government in directing investment also emerges from more recent studies of economic development. As documented in the research of Alice Amsden, Ha-Joon Chang, Dani Rodrik, and others, the countries that have grown fastest have ignored the advice of the World Bank, IMF, and other advocates of free trade and laissez-faire. Instead, successful development has been based on skillful, continual government involvement in nurturing promising industries, supporting education, research, and infrastructure, and managing international trade. The government's leading role in development can certainly be done wrong, but it can't be done without.

The New Deal was on the one hand much larger than any recent government initiatives in the U.S., and on the other hand too small for the crisis of the 1930s – or for today. Rebuilding our infrastructure and social programs, while reducing carbon emissions to a sustainable level, will not be finished in a year, or even one presidential term. An ongoing effort is required, more on the scale of wartime mobilization or the active engagement of governments in successful development strategies. With such an effort, there will be a reliable set of investment opportunities in the production of real, socially useful goods and services, as well as a much-strengthened government empowered to regulate and prevent dangerous forms of speculation and undesirable financial "innovations."

In such a world, the market still plays an essential role, coordinating the numerous industries and activities, engaging in the decentralized processing of information about supply and demand (which is its indispensable task). It will not, however, be stretched to fit other problems that are better handled through the public sector; and it will not be bowed down to as the source of wisdom and policy guidance. There is a clear need for smoothly functioning financial markets, but adult supervision is required to avoid a repetition of recent events.

To close by way of analogy, the market may be the engine of a socially directed economy, indispensable for forward motion. There are limits, however, to its capabilities: it cannot change its own flat tires; and if we let it steer, we are sure to hit the wall again.

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Economics needs a scientific revolution[1]

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Abstract
I argue that the current financial crisis highlights the crucial need of a change of mindset in economics and financial engineering, that should move away from dogmatic axioms and focus more on data, orders of magnitudes, and plausible, albeit non rigorous, arguments.

Compared to physics, it seems fair to say that the quantitative success of the economic sciences is disappointing. Rockets fly to the moon, energy is extracted from minute changes of atomic mass without major havoc, global positioning satellites help millions of people to find their way home. What is the flagship achievement of economics, apart from its recurrent inability to predict and avert crises, including the current worldwide credit crunch?

Why is this so? Of course, modelling the madness of people is more difficult than the motion of planets, as Newton once said. But the goal here is to describe the behaviour of large populations, for which statistical regularities should emerge, just as the law of ideal gases emerge from the incredibly chaotic motion of individual molecules. To me, the crucial difference between physical sciences and economics or financial mathematics is rather the relative role of concepts, equations and empirical data. Classical economics is built on very strong assumptions that quickly become axioms: the rationality of economic agents, the invisible hand and market efficiency, etc. An economist once told me, to my bewilderment: These concepts are so strong that they supersede any empirical observation. As Robert Nelson argued in his book, Economics as Religion, the marketplace has been deified.

Physicists, on the other hand, have learned to be suspicious of axioms and models. If empirical observation is incompatible with the model, the model must be trashed or amended, even if it is conceptually beautiful or mathematically convenient. So many accepted ideas have been proven wrong In the history of physics that physicists have grown to be critical and queasy about their own models. Unfortunately, such healthy scientific revolutions have not yet taken hold in economics, where ideas have solidified into dogmas that obsess academics as well as decision-makers high up in government agencies and financial institutions. These dogmas are perpetuated through the education system: teaching reality, with all its subtleties and exceptions, is much harder than teaching a beautiful, consistent formula. Students do not question theorems they can use without thinking. Though scores of physicists have been recruited by financial institutions over the last few decades, these physicists seem to have forgotten the methodology of natural sciences as they absorbed and regurgitated the existing economic lore, with no time or liberty to question its foundations

The supposed omniscience and perfect efficacy of a free market stems from economic work in the 50s and 60s, which with hindsight looks more like propaganda against communism than a plausible scientific description. In reality, markets are not efficient, humans tend to be over-focused in the short-term and blind in the long-term, and errors get amplified through social pressure and herding, ultimately leading to collective irrationality, panic and crashes. Free markets are wild markets. It is foolish to believe that the market can impose its own self-discipline, as was promoted by the US Securities and Exchange Commission in 2004 when it allowed banks to pile up new debt.

[1] An edited version of this paper appeared in Nature.

Reliance on models based on incorrect axioms has clear and large effects. The Black-Scholes model was invented in 1973 to price options assuming that price changes have a Gaussian distribution, i.e. the probability of extreme events is deemed negligible. Twenty years ago, unwarranted use of the model to hedge the downfall risk on stock markets spiralled into the October 1987 crash: -23% drop in a single day, dwarfing the recent hiccups of the markets. Ironically, it is the very use of the crash-free Black-Scholes model that destabilized the market! This time around, the problem lay in part in the development of structured financial products that packaged sub-prime risk into seemingly respectable high-yield investments. The models used to price them were fundamentally flawed: they underestimated the probability of that multiple borrowers would default on their loans simultaneously. In other words, these models again neglected the very possibility of a global crisis, even as they contributed to triggering one. The financial engineers who developed these models did not even realize that they helped the credit mongers of the financial industry to smuggle their products worldwide –they were not trained to decipher what their assumptions really meant.

Surprisingly, there is no framework in classical economics to understand wild markets, even though their existence is so obvious to the layman. Physics, on the other hand, has developed several models allowing one to understand how small perturbations can lead to wild effects. The theory of complexity, developed in the physics literature over the last thirty years, shows that although a system may have an optimum state(such as a state of lowest energy, for example), it is sometimes so hard to identify that the system in fact never settles there. This optimal solution is not only elusive, it is also hyper-fragile to small changes in the environment, and therefore often irrelevant to understanding what is going on. There are good reasons to believe that this complexity paradigm should apply to economic systems in general and financial markets in particular. Simple ideas of equilibrium and linearity (the assumption that small actions produce small effects) do not work. We need to break away from classical economics and develop altogether new tools, as attempted in a still patchy and disorganized way by behavioural economists and econophysicists. But their fringe endeavour is not taken seriously by mainstream economics.

While work is done to improve models, regulation also needs to improve. Innovations in financial products should be scrutinized, crash tested against extreme scenarios and approved by independent agencies, just as we have done with other potentially lethal industries (chemical, pharmaceutical, aerospace, nuclear energy, etc.). In view of the present mayhem spilling over from the financial industry into every day life, a parallel with these other dangerous human activities seems relevant.

Most of all, there is a crucial need to change the mindset of those working in economics and financial engineering. They need to move away from what Richard Feynman called Cargo Cult Science: a science that follows all the apparent precepts and forms of scientific investigation, while still missing something essential. An overly formal and dogmatic education in the economic sciences and financial mathematics are part of the problem. Economic curriculums need to include more natural science. The prerequisites for more stability in the long run are the development of a more pragmatic and realistic representation of what is going on in financial markets, and to focus on data, which should always supersede perfect equations and aesthetic axioms.

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The financial crisis
Part III

Reforming the world's international money

Paul Davidson [The New School, USA]

The last two lines of the original manuscript of my book *John Maynard Keynes* (Palgrave, 2007) was written in July 2006. In those lines I noted that:

> "when, not if, the next Great Depression hits the global economy, then perhaps economists will rediscover Keynes's . . . analytical system that contributed the golden age of the post World War II. For Keynes, however, it will be a pyrrhic victory".

The winter of 2007-2008 will prove to be the winter of economic discontent and the beginning of the end of the classical theory of the efficiency of global financial markets. For more than three decades mainstream economists have preached, and politicians accepted, the myth of the efficiency of markets, while burying any thoughts of Keynes's analysis of domestic financial markets and their connection via the international payments system.

Those who do not study the lessons of history are bound to repeat its errors. Economists forgot the events of the world-wide Great Depression and the collapse of unfettered financial markets that followed the "Roaring Twenties" prosperity. For history has repeated itself with the growth of deregulated financial markets and the prosperity of the 1990s and early 2ist century ending up in 2008 with the greatest financial market crisis since the Great Depression.

Within a few months, the so called U.S. sub prime mortgage problem that started in 2007 developed from a small blip on the economic radar screen to a situation that has caused the collapse of financial markets and threatened the viability of financial institutions world wide as the contagion spread quickly via the existing international payments system. If we are to prevent a global Great Depression, it is time to restore Keynes's vision of how the international payments system should work to permit each country to promote a national full employment policy without having to fear balance of payments problems or financial events occurring in other countries from infecting the domestic banking and financial system.

1. A lesson from the early post World War II history

In *The General Theory*, Keynes argued that if an economy was operating at less than full employment, then the nation's central bank, while maintaining the stability of financial markets, should focus on providing all the liquidity that the economy can absorb in order to reach full employment. For more than a quarter century after following World War II, the major central banks around the world tried to meet the role that Keynes had prescribed for them in his *General Theory*.

From the end of the war until the early 1970s most central banks tended to provide increases in the money supply in response to any domestic or international increase in demand for the nation's money, while maintaining interest rates at historic lows for prosperous times. This endogenous increase in the money supply tended to support expansion of aggregate demand that resulted in a golden age of economic growth and development for both developed and less developed capitalist economies.

While exchange rates were fixed under the Bretton Woods Agreement, in the early years after the Second World War the United States avoided amassing surplus international reserves by providing grants to the war torn nations, initially via the Marshall Plan and then via other foreign aid programs. In essence, the United States accepted the Keynes Plan suggestion that it is in the best interest of all nations if the major creditor nation bear the major burden of reducing trade imbalances and international payments adjustments. As a result of the Marshall Plan, for the first time in modern history, a post war depression was avoided. The U.S. and its major trading partners experienced unprecedented long run rates of real economic growth from the end of the second World War until the early 1970s.

When, in 1973, the U.S. withdrew from the Bretton Woods Agreement, the last vestiges of Keynes's enlightened monetary approach were lost, apparently without regret or regard as to:

[a] why the Bretton Woods system had been developed in the first place and

[b] how well it had helped the free world to recover from a devastating war which had destroyed much of the productive stock of capital in Europe and Asia.

In the decades since the breakdown of Bretton Woods, the world's economic performance has been unable to match what became almost routine economic success in the quarter century since the end of World War II in terms of low rates of global inflation accompanied by high rates of employment and real growth. Since 1973, however, international economic problems have multiplied, while significantly high rates of unemployment in many nations has again become the norm.

Under any traditional international free trade system, any nation that attempts to improve its economic growth performance by pursuing Keynes's policies for increasing domestic effective demand via easy monetary and fiscal policies will almost immediatelyface an international payments problem. Expanding domestic aggregate demand will increase the demand for imports relative to the value of exports. When a nation's imports persistently exceed its exports, the nation typically requires foreign loans to finance this import surplus that is encouraging increased economic growth in the trading partners's export industries.

Since 1981 the United States has been the "engine of growth" for most of the rest of the world, as U.S. ran an unfavorable trade balance as U.S. imports tended to grow more rapidly than its exports In so doing, the United States has been saddled by increasing international deficits almost every year for its laudatory efforts.

2. The Bretton Woods experience and the Marshall Plan

Too often economic discussions on the requirements for a good international payments system that would eliminate persistent trade and international payment imbalances have been limited to the question of the advantages and disadvantages of fixed vs. flexible exchange rates. As suggested in Davidson [pp. 139-144, 2007] those who champion the argument for flexible exchange rates most mainstream economists merely assume that the price elasticities of the demand for imports and exports will meet the Marshall-Lerner condition. Although the question of whether the Marshall-Lerner condition is important in deciding whether a policy of permitting some flexibility in the exchange rate has anything to recommend it, the facts of experience since the end of the Second World War plus Keynes's revolutionary liquidity analysis indicates that more is required, if a mechanism is to be designed to resolve persistent trade and international payments imbalances, prevent contagion of financial markets globally, and simultaneously promoting global full employment, rapid economic growth, and a long-run stable international standard of value.

Since the second World War, the economies of the capitalist world has conducted experiments with the different types of exchange rate systems. For more than a quarter of a century (1947-1973) after the war, nations operated under the Bretton woods Agreement for a fixed, but adjustable, exchange rate system where, when necessary, nations could invoke widespread limitations on international financial movements (i.e., capital controls). Since 1973, the conventional wisdom of economists and politicians is that nations should liberalize all financial markets to permit unfettered international capital flows to operate under a freely flexible exchange rate system. The current international financial market crisis is a result of permitting unconstrained international financial flows.

In contrast to the classical view of the desirability of liberalized markets , Keynes's position at the 1944 Bretton Woods conference suggested an *incompatibility thesis*. Keynes argued that free trade, flexible exchange rates and free capital mobility across international borders can be incompatible with the economic goal of global full employment and rapid economic growth.

Between 1947 and 1973 policy makers in their actions implicitly recognized Keynes's incompatibility thesis. This period was, as already noted, an era of sustained economic growth in both developed and developing countries. Moreover, during this period, there was "a much better overall record of price level stability" with very high levels of employment compared to either the post-1973 period or the earlier gold standard era of fixed exchange rates (1879 - 1914) [McKinnon, 1990, p. 10].

The free world's economic performance in terms of both real growth and price level stability during the Bretton Woods period of fixed, but adjustable, exchange rates was unprecedented. Moreover, economic growth rates during the earlier gold standard fixed exchange rate period, although worse than the Bretton Woods record, was better, on average, than the global experience during the post 1973 period where liberalizing exchange rate and financial markets to achieve more flexibility exchange rates has been the conventional wisdom. The disappointing post-1973 experience of persistent high rates of unemployment in many nations, bouts of inflationary pressure and slow growth in many OECD countries, plus debt-burdened growth and/or stagnation (and even falling real GNP per capita) in developing countries contrasts sharply with the experience during the Bretton Woods period. Finally in the era of ease of electronic transmission of funds globally, individual investors and institutions such as pension funds,, local governments, banks, etc., looking for a slightly greater return on their money than they could obtain from holding domestic safe investments , reached across national boundaries to purchase foreign assets that they did not understand – but which were represented as being "as good as cash".

The significantly superior performance of the free world's economies during the Bretton Woods fixed rate period compared to the earlier gold standard fixed rate period suggests that there must have been an additional condition besides exchange rate fixity that contributed to the unprecedented growth during the 1947-73 period. That additional condition, as Keynes explained in developing his proposal for the Bretton Woods Conference, required that any creditor nation that runs persistent favorable trade payments must accept the major responsibility for resolving these trade imbalances. The post war Marshall Plan (see *infra*) was an instance where the creditor nation adopted the responsibility that Keynes had suggested was required.

3. Keynes, free trade and an international payments system

To reduce entrepreneurial uncertainties and the possibility of massive currency misalignments in any fixed exchange rate system, Keynes recommended the adoption of a fixed, but adjustable, exchange rate system. More importantly, Keynes argued that the "main cause of failure" of any traditional international payments system – whether based on fixed or flexible exchange rates-- was its inability to actively foster continuous global economic expansion whenever persistent trade payment imbalances occurred among trading partners. This failure, Keynes [1941, p. 27] wrote,

> "can be traced to a single characteristic. I ask close attention to this, because I shall argue that this provides a clue to the nature of any alternative which is to be successful.
>
> It is characteristic of a freely convertible international standard that it throws the main burden of adjustment on the country which is the debtor position on the international balance of payments - that is, on the country which is (in this context) by hypothesis the weaker and above all the smaller in comparison with the other side of the scales which (for this purpose) is the rest of the world".

Keynes concluded that an essential improvement in designing any international payments system requires transferring the onus of adjustment from the debtor to the creditor position. This transfer would substitute an expansionist, in place of a contractionist, pressure on world trade [Keynes, 1941, pp. 29-30]. To achieve a golden era of economic development Keynes recommended combining a fixed, but adjustable, exchange rate system with a mechanism for requiring the nation “enjoying” a favourable balance of trade to initiate most of the effort necessary to eliminate this imbalance, while “maintaining enough discipline in the debtor countries to prevent them from exploiting the new ease allowed them” [Keynes, 1941, p. 30].

After World War II, the war-torn capitalist nations in Europe did not have sufficient undamaged resources available to produce enough to feed its population and rebuild its economy. Economic rebuilding would require the European nations to run huge import surpluses with the United States in order to meet their economic needs for recovery. During the war, the European nations had run down their foreign reserves to extremely low levels. To obtain the necessary imports from the United States, under a *laissez-faire* system, it would be necessary for the United States to provide enormous loans to finance the required U.S. export surplus to Europe. The resulting European indebtedness would be so burdensome that it was unlikely that, even in the long run, the European nations could ever service such debt obligations.

Private lenders in the United states were mindful that German reparation payments to the victorious Allied nations after World War I were often financed by U.S. investors lending to Germany (e.g., the Dawes Plan). Germany never repaid these loans. Given this history and existing circumstances it was obvious that private lending facilities could not be expected to provide the credits necessary for European recovery after World War II.

The Keynes Plan, presented at the 1944 Bretton Woods conference, would require the United States, as the obvious major creditor nation, to accept the major responsibility for curing the international financial problems that would be associated with the post-war European nations need for U.S. imports. Keynes estimated that the European nations might require imports in excess of $10 billion to rebuild their economies. The U.S. representative to the Bretton Woods Conference, Harry Dexter White, rejected the Keynes Plan. Dexter White argued that Congress would be willing to provide, at most, $3 billion as the U.S. contribution to solving this post war international financial problem.

The White Plan created the International Monetary Fund (IMF) whose function it would be to provide short-term loans to nations running unfavorable balances of trade. These loans were suppose to give the debtor nation time to get its economic house in order. The White Plan had the U.S. subscribing to a maximum of $3 billion as its contribution to the IMF lending facilities. White's plan also developed another lending institution, now called the World Bank, that would borrow funds from the private sector. These funds would then be used to provide long-term loans for rebuilding capital facilities and making capital improvements initially in the war-torn nations and later in the less developed countries. White's plan was basically the institutional arrangements adopted at the Bretton Woods Conference.

Under the White Plan, international loans from the IMF or the World Bank were the only available sources for financing the huge volume of U.S. imports that the wartorn nations would require immediately after the war. This would result in a huge international indebtedness of these nations. Even if the nations could obtain a sufficient volume of loans to finance their import necessities for rebuilding, servicing the resultant immense debt of these nations would require them to accept the main burden of adjustment by "tightening their belt". To tighten the nation's belt is a catch phrase to indicate that the debtor nations have to reduce dramatically their need for imports. The ultimate result would be a significant decline in the standard of living in these countries which probably would have led to political and social unrest in these nations..

Even if the debtor nations had abandoned the Bretton Woods fixed exchange rate mechanism and opted for a depreciating currency under a flexible exchange rate system to force the European residents to "tighten their belts", the result would have reduced the Europeans to almost a starvation level of income. Accordingly, any conventional free market solution available to the European nations after World War II to obtain U.S. imports for rebuilding their economy would have so depressed the standard of living as to possibly induce political revolutions in most of Western Europe.

To avoid the possibility of many European nations facing a desperate electorate that might opt for a communist system when faced with the dismal future that the conventional

Bretton Woods system offered, the United States produced the Marshall Plan and other foreign grants and aid programs to assure that Communism did not spread West from the Soviet Union. Despite White's argument that the U.S. would not be willing to give more than $3 billion to solving this international payments problem, the Marshall Plan provided $5 billion in foreign aid in 18 months and a total of $13 billion in four years. (Adjusted for inflation, this sum is equivalent to approximately $135 billion in 2007 dollars.) The Marshall plan was essentially a four year gift of $13 billion worth of U.S. exports to the war devastated nations.

The Marshall plan gift gave the recipient nations claim to approximately 2 per cent of the total output (Gross Domestic Product) of the United States for four years from 1947 to 1951.. Yet no U.S. resident felt deprived of goods and services even as the Marshall Plan recipients essentially siphoned off $2 out of every $100 worth of goods produced in the United States. Real gross national income (GNP) per capita in the United States (a measure of the U.S. standard of living) during the first year of the Marshall Plan was still 25% larger than it had been in the last peacetime year of 1940. Per capita GNP continued to grow throughout the 1950s.

Despite Americans giving away 2 per cent of their income per annum, there was no real sacrifice for Americans associated with the Marshall Plan as the remaining income was significantly greater than pre-war levels. The resulting U.S. exports that Marshall plan funds recipient nation's were able to purchase created significant increases in employment in U.S. export industries just as the federal government severely reduced its spending while several million men and women were discharged from the U.S. armed forces and entered the U.S. labor force looking for jobs. For the first time in its history, the United States did not suffer from a severe recession immediately after the cessation of a major war. The U.S. and most of the rest of the world experienced an economic "free lunch" as both the potential debtor nations and the creditor nation experienced tremendous real economic gains resulting from the Marshall Plan and other foreign aid give aways.

By 1958, however, although the U.S. still had an annual goods and services export surplus of over $5 billion, U.S. governmental foreign and military aid exceeded $6 billion, while there was a net private capital outflow of $1.6 billion. The post-war U.S. potential surplus on international payments balance was at an end.

As the U.S. current international payments account swung into deficit in 1958 other nations began to experience payments surpluses. These credit surplus nations did not spend their entire payments surpluses. Instead they used a portion of their annual dollar surpluses to purchase international liquid assets in the form of gold reserves from the U.S. Federal Reserve System. For example, in 1958, the U.S. lost over $2 billion in gold reserves to foreign central banks. These trends accelerated in the 1960s, partly as a result of increased U.S. military and financial aid responses to the construction of the Berlin Wall in 1961 and later because of the U.S.'s increasing involvement in Vietnam. At the same time, a rebuilt Europe and Japan became important producers of exports so that the rest of the world became less dependent on the U.S. exports.

Still the United States maintained a positive merchandise trade balance until the first oil price shock in 1973. More than offsetting this merchandise trade surplus during most of the 1960s, however, were foreign and military aid plus net capital outflows from the United States so that the United States experienced an annual unfavorable balance of international payments. The Bretton Woods system had no way of automatically forcing the emerging surplus nations to stop accumulating dollar surplus and instead step into the creditor adjustment role that the U.S. had been playing since 1947. Instead the surplus nations continued to convert some portion of their annual dollar surpluses into calls on U.S. gold reserves. The seeds of the destruction of the Bretton Woods system and the golden age of economic development were being sown as surplus nations drained gold reserves from the United States.

When the U.S. closed the gold window and unilaterally withdrew from Bretton Woods in 1971, the last vestige of Keynes's enlightened international monetary approach was lost.

4. Changing the international payments system

The 1950-1973 global golden age of economic development required international institutions and U.S. government foreign aid policies that operated on principles inherent in the Keynes Plan with the creditor nation accepting the major responsibility for solving international payments imbalance. The formal Breton Woods agreement, however, did not require creditor nations to take such actions. Since 1973, the international payments system has been one where international payments considerations often impede any rapid economic growth of many of the developed nations of the world while severely constraining the growth of the least developed countries (LDCs).

Utilizing Keynes's general theory principles, it is possible to update Keynes's original plan for a postwar international monetary scheme that will promote global economic prosperity. For "to suppose [as the conventional wisdom does] that there exists some smoothly functioning automatic [free market] mechanism of adjustment which preserves equilibrium if only we trust to methods of *laissez-faire* is a doctrinaire delusion which disregards the lessons of historical experience without having behind it the support of sound theory" [Keynes, 1941, pp. 21-2]

In the 21st century interdependent global economy, a substantial degree of economic cooperation among trading nations is essential. The original Keynes Plan for reforming the international payments system called for the creation of a single Supranational Central Bank. The clearing union institution suggested *infra* is a more modest proposal than the Keynes Plan, although it operates under the same economic principles laid down by Keynes. Our proposal is aimed at obtaining an acceptable international agreement (given today's political climate in most nations) that does not require surrendering national control of either local banking systems or domestic monetary and fiscal policies. Each nation will still be able to determine the economic destiny that is best for its citizens without fear of importing deflationary repercussions and financial disruptions from their trading partners. Each nation, however, will not be able to export any domestic inflationary forces to their international neighbors.

What is required is a closed, double-entry bookkeeping clearing institution to keep the payments 'score' among the various trading nations plus some mutually agreed upon rules to create and reflux international liquidity while maintaining the purchasing power of the created international currency of the international clearing union. The eight provisions of the international clearing system suggested in this paper meet the following criteria. The rules of the proposed system are designed:

[1] to prevent a lack of global effective demand either due to a liquidity problem arising whenever any nation(s) holds either excessive idle reserves or drain reserves from the system, or a financial crisis occurring in any nation's banking and asset marketing system spilling over to create liquidity and insolvency problems for residents and financial institutions in other nations.

[2] to provide an automatic mechanism for placing a major burden of correcting international payments imbalances on the surplus nations,

[3] to provide each nation with the ability to monitor and, if desired, to control international movements of funds to prevent contagion from financial problems occurring in other nations, tax evasion money movements, earnings from illegal activities, and even funds that finance terrorist operations, and finally

[4] to expand the quantity of the liquid asset used in settling international contracts (the asset of ultimate redemption) as global capacity warrants while protecting the purchasing power of this asset.

5. There are eight major provisions in this clearing system proposal.

Provision One

The unit of account and ultimate reserve asset for international liquidity is the International Money Clearing Unit (IMCU). All IMCU's can be held only by the central banks of nations that abide by the rules of the clearing union system. IMCUs are not available to be held by the public.

Provision Two

Each nation's central bank or, in the case of a common currency (e.g., the Euro) a currency union's central bank, is committed to guarantee one way convertibility from IMCU deposits at the clearing union to its domestic money. Each central bank will set its own rules regarding making available foreign monies (through IMCU clearing transactions) to its own bankers and private sector residents.

Since Central Banks agree to sell their own liabilities (one-way convertibility) against the IMCU only to other Central Bankers via the International Clearing Union while they simultaneously hold only IMCUs as liquid reserve assets for international financial transactions, there can be no draining of reserves from the international payments system. Ultimately, all major private international transactions clear between central banks' accounts in the books of the international clearing institution.

The guarantee of only one-way convertibility permits each nation to institute controls and regulations on international capital fund flows if necessary. The primary economic function of these international capital flow controls and regulations is to prevent rapid changes in the bull-bear sentiment from overwhelming the market maker and inducing dramatic changes in international financial market price trends that can have devastating real consequences.

There is a spectrum of different capital controls available. At one end of the spectrum are controls that primarily impose administrative constraints either on a case-by-case basis or an expenditure category basis. Such controls may include administrative oversight and control of individual transactions for payments to foreign residents (or banks) often via oversight of international transactions by banks or their customers. Other capital controls might include the imposition of taxes (or other opportunity costs) on *specific* international financial transactions, e.g., the 1960s United States Interest Equalization Tax.

Finally there can be many forms of monetary policy decisions undertaken to affect net international financial flows, e.g., raising the interest rate to slow capital outflows, raising bank reserve ratios, limiting the ability of banks to finance purchases of foreign securities, and regulating interbank activity.

The IMF, as lender of last resort during the 1997 East Asian contagion crisis, imposed the same conditions on all nations requiring loans for international liquidity purposes. The resulting worsening of the situation should have taught us that in policy prescriptions one size does not fit all situations. Accordingly, the type of capital regulation a nation should choose from the spectrum of tools available at any time will differ depending on the specific circumstances involved. It would be presumptuous to attempt to catalog what capital regulations should be imposed for any nation under any given circumstances. Nevertheless, it should be stressed that regulating capital movements may be a necessary *but not a sufficient* condition for promoting global prosperity. Much more is required.

If any government objects to the idea that the IMCU Provision two provides governments with the ability to limit the free movement of "capital" funds, then this nation is free to join other nations of similar attitude in forming a regional currency union and thereby assuring a free flow of funds among the residents of the currency union.

<u>Provision Three</u>

Contracts between private individuals in different nations will continue to be denominated into whatever domestic currency permitted by local laws and agreed upon by the contracting parties. Contracts to be settled in terms of a foreign currency will therefore require some publically announced commitment from the central bank (through private sector bankers) of the availability of foreign funds to meet such private contractual obligations.

<u>Provision Four</u>

The exchange rate between the domestic currency and the IMCU is set initially by each nation or currency union's central bank -- just as it would be if one instituted an international gold standard. Since private enterprises that are already engaged in trade have international contractual commitments that would span the changeover interval from the current system, then, as a practical matter, one would expect, but not demand, that the existing exchange rate structure (with perhaps minor modifications) would provide the basis for initial rate setting.

Provisions 7 and 8 *infra* indicate when and how this nominal exchange rate between the national currency and the IMCU would be changed in the future.

Provision Five

An overdraft system should be built into the clearing union rules. Overdrafts should make available short-term unused creditor balances at the Clearing House to finance the productive international transactions of others who need short-term credit. The terms will be determined by the *pro bono publico* clearing union managers.

Provision Six

A trigger mechanism to encourage any creditor nation to spend what is deemed (in advance) by agreement of the international community to be "excessive" credit balances accumulated by running current account surpluses. These excessive credits can be spent in three ways: (1) on the products of any other member of the clearing union, (2) on new direct foreign investment projects, and/or (3) to provide unilateral transfers (foreign aid) to deficit members. Spending via (1) forces the surplus nation to make the adjustment directly by way of the trade balance on goods and services. Spending by way of (3) permits adjustment directly by the capital account balance, while (2) provides adjustment by the capital accounts (without setting up a contractual debt that will require reverse current account flows in the future).

These three spending alternatives force the surplus nation to accept a major responsibility for correcting the payments imbalance. Nevertheless this provision gives the surplus country considerable discretion in deciding how to accept the onus of adjustment in the way it believes is in its residents best interests. It does not permit the surplus nation to shift the burden to the deficit nation(s) via contractual requirements for debt service charges independent of what the deficit nation can afford. The important thing is to make sure that continual oversaving by the surplus nation in the form of international liquid reserves are not permitted to unleash depressionary forces and/or a building up of international debts so encumbering as to impoverish the global economy of the 21st century.

In the unlikely event that the surplus nation does not spend or give away these credits within a specified time, then the clearing agency would confiscate (and redistribute to debtor members) the portion of credits deemed excessive. This last resort confiscatory action (a 100% taxes on excessive liquidity holdings) would make a payments adjustment via unilateral transfer payments in the current accounts.

Under either a fixed or a flexible rate system with each nation free to decide on how much it will import, some nations will, at times, experience persistent trade deficits merely because their trading partners are not living up to their means -- that is because other nations are continually hoarding a portion of their foreign export earnings (plus net unilateral transfers). By so doing, these oversavers are creating a lack of global effective demand. Under Provision 6, deficit countries would no longer have to deflate their real economy in an attempt to reduce imports and thereby reduce their payment imbalance because others are excessively oversaving. Instead, the system would seek to remedy the payment deficit by increasing opportunities for deficit nations to sell abroad and thereby work their way out of their deteriorating debtor position.

Provision Seven

A system to stabilize the long-term purchasing power of the IMCU (in terms of each member nation's domestically produced market basket of goods) can be developed. This requires a system of fixed exchange rates between the local currency and the IMCU that changes only to reflect permanent increases in efficiency wages. This assures each central bank that its holdings of IMCUs as the nation's foreign reserves will never lose purchasing power in terms of foreign produced goods. If a foreign government permits wage-price inflation to occur within its borders, then, the exchange rate between the local currency and the IMCU will be devalued to reflect the inflation in the local money price of the domestic commodity basket. For example, if the rate of domestic inflation was 5 cent, the exchange rate would change so that each unit of IMCU could purchase 5 per cent more of the nation's currency.

If, on the other hand, increases in productivity lead to declining production costs in terms of the domestic money, then the nation with this decline in efficiency wages [say of 5 per cent] would have the option of choosing either [a] to permit the IMCU to buy [up to 5 per cent] less units of domestic currency, thereby capturing all (or most of) the gains from productivity for its residents while maintaining the purchasing power of the IMCU, or [b] to keep the nominal exchange rate constant. In the latter case, the gain in productivity is shared with all trading partners. In exchange, the export industries in this productive nation will receive an increasing relative share of the world market.

By devaluing the exchange rate between local monies and the IMCU to offset the rate of domestic inflation, the IMCU's purchasing power is stabilized. By restricting use of IMCUs to Central Banks, private speculation regarding IMCUs as a hedge against inflation is avoided. Each nation's rate of inflation of the goods and services it produces is determined solely by (a) the local government's policy toward the level of domestic money wages and profit margins vis-a-vis productivity gains, i.e., the nation's efficiency wage. Each nation is therefore free to experiment with policies for stabilizing its efficiency wage to prevent inflation as long as these policies do not lead to a lack of global effective demand. Whether the nation is successful or not in preventing domestic goods price inflation, the IMCU will never lose its international purchasing power in terms of any domestic money. Moreover, the IMCU has the promise of gaining in purchasing power over time, if productivity grows more than money wages and each nation is willing to share any reduction in real production costs with its trading partners.

Provision 7 produces a system designed to, at least, maintain the relative efficiency wage parities amongst nations. In such a system, the adjustability of nominal exchange rates will be primarily (but not always, see Provision 8) to offset changes in efficiency wages among trading partners. A beneficial effect that follows from this proviso is that it eliminates the possibility that a specific industry in any nation can be put at a competitive disadvantage (or secure a competitive advantage) against foreign producers solely because the nominal exchange rate changed independently of changes in efficiency wages and the real costs of production in each nation.

Consequently, nominal exchange rate variability can no longer create the problem of a loss of competitiveness due solely to the overvaluing of a currency as, for example, experienced by the industries in the American "rust belt" during the period 1982-85. Even if temporary, currency appreciation independent of changes in efficiency wages can have significant permanent real costs as domestic industries abandon export markets and lose domestic market business to foreign firms and the resultant existing excess plant and equipment is cast aside as too costly to maintain.

Provision 7 also prevents any nation from engaging in a beggar-thy-neighbor, export-thy-unemployment policy by pursuing a real exchange rate devaluation that does not reflect changes in efficiency wages. Once the initial exchange rates are chosen and relative efficiency wages are locked in, reduction in real production costs which are associated with a relative decline in efficiency wages is the main factor (with the exception of Provision 8) justifying an adjustment in the real exchange rate. Although Provision 6 prevents any country from piling up persistent excessive surpluses, this does not mean that it is impossible for one or more nations to run persistent deficits. Consequently Provision 8 infra provides a program for addressing the problem of persistent international payment deficits in any one nation.

Provision Eight

If a country is at full employment and still has a tendency toward persistent international deficits on its current account, then this is *prima facie* evidence that it does not possess the productive capacity to maintain its current standard of living. If the deficit nation is a poor one, then surely there is a case for the richer nations who are in surplus to transfer some of their excess credit balances to support the poor nation. (This is equivalent t6o a negative income tax concept.) If the deficit nation is a relatively rich country, then the deficit nation must alter its standard of living by reducing its relative terms of trade with its major trading partners. Rules, agreed upon in advance, would require the trade deficit rich nation to devalue its exchange rate by stipulated increments per period until evidence becomes available to indicate that the export-import imbalance is eliminated without unleashing significant recessionary forces.

If, on the other hand, the payment deficit persists despite a continuous positive balance of trade in goods and services, then there is evidence that the deficit nation might be carrying too heavy an international debt service obligation. The *pro bono* officials of the clearing union should bring the debtor and creditors into negotiations to reduce annual debt service payments by [1] lengthening the payments period, [2] reducing the interest charges, and/or [3] debt forgiveness.

It should be noted that Provision 6 embodies Keynes's innovative idea that whenever there is a persistent (and/or large) imbalance in current account flows, whether due to capital flight or a persistent trade imbalance, there must be a built-in mechanism that induces the surplus nation(s) to bear a major responsibility for eliminating the imbalance. The surplus nation must accept this burden for it has the wherewithal to resolve the problem.

In the absence of Provision 6, under any conventional system, whether it has fixed or flexible exchange rates and/or capital controls, there can ultimately be an international liquidity crisis (as any persistent current account deficit can deplete a nation's foreign reserves) that unleashes global depressionary forces. Thus, Provison 6 is necessary to assure that the international payments system will not have a built-in depressionary bias. Ultimately then it is in the self-interest of the surplus nation to accept this responsibility, for its actions will create conditions for global economic expansion some of which must redound to its own residents. Failure to act, on the other hand, will promote global depressionary forces which will have some negative impact on its own residents

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How to deal with the US financial crisis at no cost to the taxpayer

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Some 80 years after the Great Depression the stream of analysis of causes and of actual or hypothetical alternative policies continues. The analysis of the present crisis, particularly the question of how to deal with it, are still in a very early stage. The most recent contributions are largely reactions to the 700 billion dollar bailout of the financial sector proposed by treasury secretary Paulson and after some modifications passed into law. While a scholarly article is not going to impact the current crisis management in the US or elsewhere, hopefully it can contribute to understanding and to better decisions in the future.

I discuss briefly the crisis itself and then give some criteria that should be used in evaluating any policy proposed to deal with it. This is followed by a critical discussion of some of the policy measures that have been suggested. Finally, I give a list of proposals, that I believe best satisfy the stated criteria. In contrast to almost all of the proposals that have been made, mine involve no bailout of the financial sector with public funds.

The Subprime Mortgage Crisis

The immediate mechanisms leading to the crisis are fairly clear and agreed upon. Moreover, this understanding has been available for some time. I quote from a column of Paul Krugman titled "Mystery of the mortgage mess" and dated November 17, 2007:

> There's a very good Economic Letter from the Dallas Fed about the housing crisis, which explains a lot about how the mess happened. In short: lenders began making lots of dubious loans in large part because they were able to slice and dice the loans and sell them off to investors who didn't know what they were buying. My only fault with the letter is that it doesn't emphasize the extent to which borrowers were also suckered in.

Even earlier, on July 2, 2007 Krugman had written:

> What do you get when you cross a Mafia don with a bond salesman? A dealer in collateralized debt, obligations (C.D.O.'s) - someone who makes you an offer you don't understand.
> Seriously, it's starting to look as if C.D.O.'s were to this decade's housing bubble what Enron-style accounting was to the stock bubble of the 1990s. Both made investors think they were getting a much better deal than .they really were. And the new scandal raises two obvious questions: Why were the bond-rating agencies taken in (again), and where were the regulators?

Few would quarrel with this analysis today. The only element missing then and to some extent missing still is knowledge the magnitude of C.D.O.'s that were issued and of the amounts held by individual financial institutions. The crisis has been out in the open and its nature pretty well understood for some time. It is surprising that the discussion of how to deal with it has begun so late and is still far from a consensus on what needs to be done.

Criteria for Judging Proposed Measures

Very generally the criteria for any kind of government action are the same: achieving a maximum of efficiency and fairness. Efficiency in this case means restoring the financial system to normal functioning and doing so at minimum cost. Fairness means distributing the costs and benefits of the action among the various groups involved in a manner that is felt to be fair by a majority of the population. Fairness in relation to the current crisis requires a consideration of the treatment of the following groups: The top managements of financial institutions, particularly of those firms that have become or are close to becoming dysfunctional; the ordinary employees of these firms; their stockholders; the general population; tax payers; last but not least, the borrowers under subprime mortgages, many of whom are in financial difficulty, or even facing foreclosure.

For many types of government actions, particularly in the economic sphere, a necessary condition for the achievement efficiency and fairness is that the action must be in accordance with clearly stated and explicit rules that can be communicated to the general public and can gain public support. In the absence of such rules, the bureaucracies charged with carrying out a policy tend to operate badly. This is particularly true in the present crisis. Given the mighty lobby of the financial industry, procedures that are not transparent are likely to favour them at the expense of the public. Even in the unlikely case that such procedures would be completely fair, the public would still suspect that undue advantages were gained by those present at the negotiating tables. Explicit and binding rules also have the advantage that they can be implemented more rapidly than procedures that may involve protracted negotiations and bargaining, also an important consideration in the present crisis.

Proposed Solutions: Paulsen and Beyond

The initial Paulson bailout proposal qualifies as a textbook example of how not to do it. It is totally unfair in that it involves a vast transfer from those already damaged by the crisis, the tax payers, to those who caused it and reaped substantial gains while the going was good, the executives and shareholders of the financial industry. Moreover, at least in the initial version, there was no compensation going in the opposite direction. Also, the proposed transfers are to be made at the sole discretion of the Secretary and are thus totally lacking in transparency. Finally, there is nothing in the proposal designed to make the financial industry act more responsibly in the future. On the contrary, the giant bailout increases moral hazard and encourages equally irresponsible future behaviour.

Modifications of the proposal following its initial justified rejection by the House of Representatives involved mainly cosmetic changes plus some unrelated goodies to make the package more acceptable.. Thus, congressional oversight, in the absence of clear criteria, does not produce transparency. A modification to the original Paulson proposal that has been suggested and appears to have been adopted in the latest modification is that taxpayers should get some equity in return. This is eminently fair, but raises further problems.

The lack of transparency in pricing the distressed assets that the treasury wishes to buy could plausibly be dealt with by holding auctions. Ausubel and Cramton (2008) have suggested that the treasury hold reverse auctions for this purpose. According to Bajaj (2008), the same idea has also been advanced by the Treasury and it is found in the revised versions of the Paulson plan. The pricing of distressed CDO's is however very difficult under any mechanism. Bajaj discusses this in general terms and Stiglitz (2008a) specifically in relation to the auction proposal:

> The administration attempts to assure us that they will protect the American people by insisting on buying the mortgages at the lowest price at auction. Evidently, Paulson didn't learn the lessons of the information asymmetry that played such a large role in getting us into this mess. The banks will pass on their lousiest mortgages. Paulson may try to assure us that we will hire the best and brightest of J Wall Street to make sure that this doesn't happen. (Wall Street firms are already licking their lips at the prospect of a new source of revenues: fees from the US Treasury.) But even Wall Street's best and brightest do not exactly have a credible record in asset valuation; if they had done better, we wouldn't be where we are. And that assumes that they are really working for the American people, not their long-term employers in financial markets. Even. if they do use some fancy mathematical model to value different mortgages, those in Wall Street have long made money by gaming against these models. We will then wind up not with the absolutely lousiest mortgages, but with those in which Treasury's models most underpriced risk. Either way, we the taxpayers lose, and Wall Street gains.

Based on the articles of Bajaj and Stiglitz, it seems clear that while auctions may be better than pure discretion, they are not a good solution.

An entirely different approach is taken by Leamer (2008). He takes the central element in the crisis to be the decline in housing prices and he proposes to address the problem directly:

One honest way to transfer the losses directly to the taxpayers would have the Treasury buy homes directly at inflated prices and rent them to deserving Americans. Though the Treasury Plan involves buying mortgage backed securities at inflated prices, keep in mind that foreclosures will then turn the homes over to Uncle Sam. For $700 billion, the Treasury could purchase 2.3 million homes at an average "affordable" share based on their household income, and the government's subsidy would be spread over the duration of the mortgage, rather than being an immediate payout of three quarters of a trillion dollars to financial institutions.

While I have complete sympathy with the idea of directly helping home owners rather than financial institutions, I disagree with both Leamer's premise and his conclusion. Leamer attributes the mortgage defaults to falling housing prices. The reality is not only that there is mutual causation between these variables, but that in addition there are distinct causes operating on each. The principal causes of the rise in mortgage defaults are: a. The poor creditworthiness of recipients of subprime mortgages. b. The general rise in interest rates, leading to increases in interest on variable interest mortgages. Falling housing prices play a role in that families about to default find it more difficult to sell the house and move to a cheaper one. This is hardly the major cause and fixing it would not remove the other two. Leamer's proposed solution would turn the government into a gigantic real estate agent dealing with millions of homes all over the United States. Each home is different in quality and location. That is why real estate agent are usually small or medium sized local operations; the government is ill suited to this task. In addition, Leamer's proposal requires a new welfare bureaucracy to determine the needs and paying abilities of families. There must be a better way!

A simpler and in my view better way to help home owners is the voucher plan advocated by Barton (2008) and similarly by Stiglitz (2008b). However, Dix (2008) points to a moral hazard problem created by the voucher proposal. What I don't like about these proposals is that it is still the taxpayer who foots the bill to compensate the financial industry for the losses that they would (and should) otherwise incur.

The analysis that I like best is that of Edlin (2008) because: a. He proposes a comprehensive approach incorporating several distinct elements. b. He distinguishes between 'fire fighting' the current crisis and longer term reforms. c. He advocates what I agree is the most important immediately required measure: full insurance for all deposits.

Edlin's other proposals may be described as 'bailout light': buy some toxic assets; inject some equity into the financial sector. I think that this is better than the plan that has just been adopted, but I am against any bailout.

Saving the Financial Sector at No Cost to the Taxpayer

a. As the first prong of my plan I shamelessly adopt Edlin's proposal for insurance of all deposits and assurance of payments. I have nothing to add to his analysis, however I want to point in this connection to the article by (my former teacher) Telser (2007) who wrote:

> LESSONS FROM BERNANKE
> Ben Bernanke provided a better explanation of the Great Depression back in 1983 in a seminal article in the American Economic Review: widespread bank failures were the critical factor behind the Great Depression. Markets cannot function without acceptable means of payments. Bank failures caused people to lose confidence in the safety of their deposits. More than 17 percent of all National Banks never re-opened their doors after the end of the Bank Holiday declared by President Roosevelt in March 1933. The real job of the Fed was one it failed to do: to maintain the solvency of banks. The Great Depression was the result.

I don't know if Bernanke was instrumental in raising the limit on insured deposits from 100 thousand to 250 thousand dollars. This may not be enough; all deposits should be insured!

On the evening of the day that I wrote the above, the German government announced that it was guaranteeing all accounts. The Irish government insured all accounts a few days ago, resulting in massive capital flows from British to Irish banks. This shows that an action that is desirable taken by itself may not be desirable when taken unilaterally in an interdependent system. The Greek government has also insured all accounts.

b. Transparency has been the buzzword in international discussions of the financial crisis. At the G8 conference at Heiligendamm in June 2007, the German delegation strongly pushed for greater transparency in international finance, but was blocked by the Americans and the British. Now the subject is at the top of the international agenda. This is all to the good, but to ameliorate the present crisis I propose instant transparency. All financial institutions should be required to reveal the face value of their holdings of CDO's within ten days. This would immediately remove the biggest source of uncertainty in the financial system.

c. The simplest, fastest, most cost effective and fairest way to help subprime borrowers and to restore value to subprime mortgages and derived CDO's is to pass a law that would reduce the payments due under these mortgages by some fixed proportion. A reduction in the range of 20-40 percent should be enough to very largely eliminate defaults. The flow of payments under these mortgages would resume with the result that the derived securities would again become as marketable as any other assets. The reduction in their value should be in about the same proportion as the reduction in interest payments. The loss relative to the initial face value would be borne by the financial industry, which is as it should be! Fairness requires the reduction to be retroactive. Since the law would apply only to existing mortgages, no moral hazard is created.

d. Several of the authors cited advocate an injection of funds into the financial sector in return for equity. The proposals have however remained vague. How much is to be injected into a given institution? How is the corresponding equity share to be determined? What role is to be assigned to the funds thus obtained? I make instead a proposal that is completely clear and definite in all of these respects.

My starting point is the article by Telser (2008). He shows that as a consequence of deregulation the ratio of reserves kept by banks against their deposits has effectively declined to zero. I propose that this deregulation should be reversed and that bank should be required to maintain a traditional reserve ratio of say five percent. The government should offer to give them the required funds against equity. The equity shares should be valued at market prices.

e. The above measures would improve the condition of the financial sector and substantially reduce, but not eliminate, the risk of bankruptcy. I don't see bankruptcy as the huge problem that it is generally made out to be. Bankruptcy by itself does not in any way reduce the human and physical resources present in a firm. After reorganization and the installation of a new management, these resources may be more productive than before. Bankruptcy in fact plays a similar role in a market economy as physical death does in biology; there the purpose is to assure the health and survival of the species, here of the market economy.

This proposal is in the spirit of Beim (2008) who wrote:

> A central feature of good bailouts is that the shareholders of insolvent banks are wiped out and their senior management is dismissed. Why? Because these are the people who created the problem, they must be seen to pay a high price. Remember that most banks are conservative, well-run and solvent; only a minority got over-extended.

Conclusion

I reviewed and criticized various proposals to deal with the 'firestorm' of the current financial crisis and advanced several proposals of my own. Equally important is the question of how to construct a new financial architecture that is less prone to such conflagrations. How well that question is answered and the answer translated into actual policy will significantly impact the evolution of the new century. Stay tuned.

Update

Events are unfolding with great rapidity. The Paulson plan that was center stage when I began to write this note is dead. Beginning with Germany, various countries have initiated large programs in support of the financial sector. These, as well as the revised US program have largely espoused at least in principle the idea expressed in my heading that the programs should at least in principle and in the long run involve no costs to the taxpayers.

One aspect of the German experience is relevant in relation to my proposals. To the surprise and disappointment of the German government, none of the private sector German banks have thus far applied for any part of the aid package. The apparent reason is that no bank wants to bear the onus of being the first to apply for aid. It would have been better to force them to act by mandating a certain level of reserves, as I proposed.

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The Crisis & What to Do About It[1]

George Soros

1.

The salient feature of the current financial crisis is that it was not caused by some external shock like OPEC raising the price of oil or a particular country or financial institution defaulting. The crisis was generated by the financial system itself. This fact—that the defect was inherent in the system —contradicts the prevailing theory, which holds that financial markets tend toward equilibrium and that deviations from the equilibrium either occur in a random manner or are caused by some sudden external event to which markets have difficulty adjusting. The severity and amplitude of the crisis provides convincing evidence that there is something fundamentally wrong with this prevailing theory and with the approach to market regulation that has gone with it. To understand what has happened, and what should be done to avoid such a catastrophic crisis in the future, will require a new way of thinking about how markets work.

Consider how the crisis has unfolded over the past eighteen months. The proximate cause is to be found in the housing bubble or more exactly in the excesses of the subprime mortgage market. The longer a double-digit rise in house prices lasted, the more lax the lending practices became. In the end, people could borrow 100 percent of inflated house prices with no money down. Insiders referred to subprime loans as ninja loans—no income, no job, no questions asked.

The excesses became evident after house prices peaked in 2006 and subprime mortgage lenders began declaring bankruptcy around March 2007. The problems reached crisis proportions in August 2007. The Federal Reserve and other financial authorities had believed that the subprime crisis was an isolated phenomenon that might cause losses of around $100 billion. Instead, the crisis spread with amazing rapidity to other markets. Some highly leveraged hedge funds collapsed and some lightly regulated financial institutions, notably the largest mortgage originator in the US, Countrywide Financial, had to be acquired by other institutions in order to survive.

Confidence in the creditworthiness of many financial institutions was shaken and interbank lending was disrupted. In quick succession, a variety of esoteric credit markets—ranging from collateralized debt obligations (CDOs) to auction-rated municipal bonds—broke down one after another. After periods of relative calm and partial recovery, crisis episodes recurred in January 2008, precipitated by a rogue trader at Société Générale; in March, associated with the demise of Bear Stearns; and then in July, when IndyMac Bank, the largest savings bank in the Los Angeles area, went into receivership, becoming the fourth-largest bank failure in US history. The deepest fall of all came in September, caused by the disorderly bankruptcy of Lehman Brothers in which holders of commercial paper—for example, short-term, unsecured promissory notes—issued by Lehman lost their money.

Then the inconceivable occurred: the financial system actually melted down. A large money market fund that had invested in commercial paper issued by Lehman Brothers "broke the buck," i.e., its asset value fell below the dollar amount deposited, breaking an implicit

[1] This essay is republished here with the permission of the *New York Review of Books*.

promise that deposits in such funds are totally safe and liquid. This started a run on money market funds and the funds stopped buying commercial paper. Since they were the largest buyers, the commercial paper market ceased to function. The issuers of commercial paper were forced to draw down their credit lines, bringing interbank lending to a standstill. Credit spreads—i.e., the risk premium over and above the riskless rate of interest—widened to unprecedented levels and eventually the stock market was also overwhelmed by panic. All this happened in the space of a week.

With the financial system in cardiac arrest, resuscitating it took precedence over considerations of moral hazard—i.e., the danger that coming to the rescue of a financial institution in difficulties would reward and encourage reckless behavior in the future—and the authorities injected ever larger quantities of money. The balance sheet of the Federal Reserve ballooned from $800 billion to $1,800 billion in a couple of weeks. When that was not enough, the American and European financial authorities committed themselves not to allow any other major financial institution to fail.

These unprecedented measures have begun to have an effect: interbank lending has resumed and the London Interbank Offered Rate (LIBOR) has improved. The financial crisis has shown signs of abating. But guaranteeing that the banks at the center of the global financial system will not fail has precipitated a new crisis that caught the authorities unawares: countries at the periphery, whether in Eastern Europe, Asia, or Latin America, could not offer similarly credible guarantees, and financial capital started fleeing from the periphery to the center. All currencies fell against the dollar and the yen, some of them precipitously. Commodity prices dropped like a stone and interest rates in emerging markets soared. So did premiums on insurance against credit default. Hedge funds and other leveraged investors suffered enormous losses, precipitating margin calls and forced selling that have also spread to markets at the center.

Unfortunately the authorities are always lagging behind events. The International Monetary Fund is establishing a new credit facility that allows financially sound periphery countries to borrow without any conditions up to five times their annual quota, but that is too little too late. A much larger pool of money is needed to reassure markets. And if the top tier of periphery countries is saved, what happens to the lower-tier countries? The race to save the international financial system is still ongoing. Even if it is successful, consumers, investors, and businesses are undergoing a traumatic experience whose full impact on global economic activity is yet to be felt. A deep recession is now inevitable and the possibility of a depression cannot be ruled out. When I predicted earlier this year that we were facing the worst financial crisis since the 1930s, I did not anticipate that conditions would deteriorate so badly.

2.

This remarkable sequence of events can be understood only if we abandon the prevailing theory of market behavior. As a way of explaining financial markets, I propose an alternative paradigm that differs from the current one in two respects. First, financial markets do not reflect prevailing conditions accurately; they provide a picture that is always biased or distorted in one way or another. Second, the distorted views held by market participants and expressed in market prices can, under certain circumstances, affect the so-called fundamentals that market prices are supposed to reflect. This two-way circular connection between market prices and the underlying reality I call reflexivity.

While the two-way connection is present at all times, it is only occasionally, and in special circumstances, that it gives rise to financial crises. Usually markets correct their own mistakes, but occasionally there is a misconception or misinterpretation that finds a way to reinforce a trend that is already present in reality and by doing so it also reinforces itself. Such self- reinforcing processes may carry markets into far-from-equilibrium territory. Unless something happens to abort the reflexive interaction sooner, it may persist until the misconception becomes so glaring that it has to be recognized as such. When that happens the trend becomes unsustainable and when it is reversed the self-reinforcing process starts working in the opposite direction, causing a sharp downward movement.

The typical sequence of boom and bust has an asymmetric shape. The boom develops slowly and accelerates gradually. The bust, when it occurs, tends to be short and sharp. The asymmetry is due to the role that credit plays. As prices rise, the same collateral can support a greater amount of credit. Rising prices also tend to generate optimism and encourage a greater use of leverage—borrowing for investment purposes. At the peak of the boom both the value of the collateral and the degree of leverage reach a peak. When the price trend is reversed participants are vulnerable to margin calls and, as we've seen in 2008, the forced liquidation of collateral leads to a catastrophic acceleration on the downside.

Bubbles thus have two components: a trend that prevails in reality and a misconception relating to that trend. The simplest and most common example is to be found in real estate. The trend consists of an increased willingness to lend and a rise in prices. The misconception is that the value of the real estate is independent of the willingness to lend. That misconception encourages bankers to become more lax in their lending practices as prices rise and defaults on mortgage payments diminish. That is how real estate bubbles, including the recent housing bubble, are born. It is remarkable how the misconception continues to recur in various guises in spite of a long history of real estate bubbles bursting.

Bubbles are not the only manifestations of reflexivity in financial markets, but they are the most spectacular. Bubbles always involve the expansion and contraction of credit and they tend to have catastrophic consequences. Since financial markets are prone to produce bubbles and bubbles cause trouble, financial markets have become regulated by the financial authorities. In the United States they include the Federal Reserve, the Treasury, the Securities and Exchange Commission, and many other agencies.

It is important to recognize that regulators base their decisions on a distorted view of reality just as much as market participants—perhaps even more so because regulators are not only human but also bureaucratic and subject to political influences. So the interplay between regulators and market participants is also reflexive in character. In contrast to bubbles, which occur only infrequently, the cat-and-mouse game between regulators and markets goes on continuously. As a consequence reflexivity is at work at all times and it is a mistake to ignore its influence. Yet that is exactly what the prevailing theory of financial markets has done and that mistake is ultimately responsible for the severity of the current crisis.

3.

In my book *The New Paradigm for Financial Markets*,[*] I argue that the current crisis differs from the various financial crises that preceded it. I base that assertion on the hypothesis that the explosion of the US housing bubble acted as the detonator for a much larger "super-bubble" that has been developing since the 1980s. The underlying trend in the super-bubble has been the ever-increasing use of credit and leverage. Credit—whether extended to consumers or speculators or banks—has been growing at a much faster rate than the GDP ever since the end of World War II. But the rate of growth accelerated and took on the characteristics of a bubble when it was reinforced by a misconception that became dominant in 1980 when Ronald Reagan became president and Margaret Thatcher was prime minister in the United Kingdom.

The misconception is derived from the prevailing theory of financial markets, which, as mentioned earlier, holds that financial markets tend toward equilibrium and that deviations are random and can be attributed to external causes. This theory has been used to justify the belief that the pursuit of self-interest should be given free rein and markets should be deregulated. I call that belief market fundamentalism and claim that it employs false logic. Just because regulations and all other forms of governmental interventions have proven to be faulty, it does not follow that markets are perfect.

Although market fundamentalism is based on false premises, it has served well the interests of the owners and managers of financial capital. The globalization of financial markets allowed financial capital to move around freely and made it difficult for individual states to tax it or regulate it. Deregulation of financial transactions also served the interests of the managers of financial capital; and the freedom to innovate enhanced the profitability of financial enterprises. The financial industry grew to a point where it represented 25 percent of the stock market capitalization in the United States and an even higher percentage in some other countries.

Since market fundamentalism is built on false assumptions, its adoption in the 1980s as the guiding principle of economic policy was bound to have negative consequences. Indeed, we have experienced a series of financial crises since then, but the adverse consequences were suffered principally by the countries that lie on the periphery of the global financial system, not by those at the center. The system is under the control of the developed countries, especially the United States, which enjoys veto rights in the International Monetary Fund.

Whenever a crisis endangered the prosperity of the United States—as for example the savings and loan crisis in the late 1980s, or the collapse of the hedge fund Long Term Capital Management in 1998—the authorities intervened, finding ways for the failing institutions to merge with others and providing monetary and fiscal stimulus when the pace of economic activity was endangered. Thus the periodic crises served, in effect, as successful tests that reinforced both the underlying trend of ever-greater credit expansion and the prevailing misconception that financial markets should be left to their own devices.

It was of course the intervention of the financial authorities that made the tests successful, not the ability of financial markets to correct their own excesses. But it was convenient for investors and governments to deceive themselves. The relative safety and stability of the United States, compared to the countries at the periphery, allowed the United

States to suck up the savings of the rest of the world and run a current account deficit that reached nearly 7 percent of GNP at its peak in the first quarter of 2006. Eventually even the Federal Reserve and other regulators succumbed to the market fundamentalist ideology and abdicated their responsibility to regulate. They ought to have known better since it was their actions that kept the United States economy on an even keel. Alan Greenspan, in particular, believed that giving users of financial innovations such as derivatives free rein brought such great benefits that having to clean up behind the occasional financial mishap was a small price to pay. And his analysis of the costs and benefits of his permissive policies was not totally wrong while the super-bubble lasted. Only now has he been forced to acknowledge that there was a flaw in his argument.

Financial engineering involved the creation of increasingly sophisticated instruments, or derivatives, for leveraging credit and "managing" risk in order to increase potential profit. An alphabet soup of synthetic financial instruments was concocted: CDOs, CDO squareds, CDSs, ABXs, CMBXs, etc. This engineering reached such heights of complexity that the regulators could no longer calculate the risks and came to rely on the risk management models of the financial institutions themselves. The rating companies followed a similar path in rating synthetic financial instruments, deriving considerable additional revenues from their proliferation. The esoteric financial instruments and techniques for risk management were based on the false premise that, in the behavior of the market, deviations from the mean occur in a random fashion. But the increased use of financial engineering set in motion a process of boom and bust. So eventually there was hell to pay. At first the occasional financial crises served as successful tests. But the subprime crisis came to play a different role: it served as the culmination or reversal point of the super-bubble.

It should be emphasized that this interpretation of the current situation does not necessarily follow from my model of boom and bust. Had the financial authorities succeeded in containing the subprime crisis—as they thought at the time they would be able to do—this would have been seen as just another successful test instead of the reversal point. I have cried wolf three times: first with *The Alchemy of Finance* in 1987, then with *The Crisis of Global Capitalism* in 1998, and now. Only now did the wolf arrive.

My interpretation of financial markets based on reflexivity can explain events better than it can predict them. It is less ambitious than the previous theory. It does not claim to determine the outcome as equilibrium theory does. It can assert that a boom must eventually lead to a bust, but it cannot determine either the extent or the duration of a boom. Indeed, those of us who recognized that there was a housing bubble expected it to burst much sooner. Had it done so, the damage would have been much smaller and the super-bubble may have remained intact. Most of the damage was caused by mortgage-related securities issued in the last two years of the housing boom.

The fact that the new paradigm does not claim to predict the future explains why it did not make any headway until now, but in the light of recent experience it can no longer be ignored. We must come to terms with the fact that reflexivity introduces an element of uncertainty into financial markets that the previous theory left out of account. That theory was used to establish mathematical models for calculating risk and converting bundles of subprime mortgages into tradable securities, as well as other forms of debt. Uncertainty by definition cannot be quantified. Excessive reliance on those mathematical models did untold harm.

4.

The new paradigm has far-reaching implications for the regulation of financial markets. Since they are prone to create asset bubbles, regulators such as the Fed, the Treasury, and the SEC must accept responsibility for preventing bubbles from growing too big. Until now financial authorities have explicitly rejected that responsibility.

It is impossible to prevent bubbles from forming, but it should be possible to keep them within tolerable bounds. It cannot be done by controlling only the money supply. Regulators must also take into account credit conditions because money and credit do not move in lockstep. Markets have moods and biases and it falls to regulators to counterbalance them. That requires the use of judgment and since regulators are also human, they are bound to make mistakes. They have the advantage, however, of getting feedback from the market and that should enable them to correct their mistakes. If a tightening of margin and minimum capital requirements does not deflate a bubble, they can tighten them some more. But the process is not foolproof because markets can also be wrong. The search for the optimum equilibrium has to be a never-ending process of trial and error.

The cat-and-mouse game between regulators and market participants is already ongoing, but its true nature has not yet been acknowledged. Alan Greenspan was a past master of manipulation with his Delphic utterances, but instead of acknowledging what he was doing he pretended that he was merely a passive observer of the facts. Reflexivity remained a state secret. That is why the super-bubble could develop so far during his tenure.

Since money and credit do not move in lockstep and asset bubbles cannot be controlled purely by monetary means, additional tools must be employed, or more accurately reactivated, since they were in active use in the 1950s and 1960s. I refer to variable margin requirements and minimal capital requirements, which are meant to control the amount of leverage market participants can employ. Central banks even used to issue guidance to banks about how they should allocate loans to specific sectors of the economy. Such directives may be preferable to the blunt instruments of monetary policy in combating "irrational exuberance" in particular sectors, such as information technology or real estate.

Sophisticated financial engineering of the kind I have mentioned can render the calculation of margin and capital requirements extremely difficult if not impossible. In order to activate such requirements, financial engineering must also be regulated and new products must be registered and approved by the appropriate authorities before they can be used. Such regulation should be a high priority of the new Obama administration. It is all the more necessary because financial engineering often aims at circumventing regulations.

Take for example credit default swaps (CDSs), instruments intended to insure against the possibility of bonds and other forms of debt going into default, and whose price captures the perceived risk of such a possibility occurring. These instruments grew like Topsy because they required much less capital than owning or shorting the underlying bonds. Eventually they grew to more than $50 trillion in nominal size, which is a many-fold multiple of the underlying bonds and five times the entire US national debt. Yet the market in credit default swaps has remained entirely unregulated. AIG, the insurance company, lost a fortune selling credit default swaps as a form of insurance and had to be bailed out, costing the Treasury $126 billion so far. Although the CDS market may be eventually saved from the meltdown that has occurred in many other markets, the sheer existence of an unregulated market of this size has been a major factor in increasing risk throughout the entire financial system.

Since the risk management models used until now ignored the uncertainties inherent in reflexivity, limits on credit and leverage will have to be set substantially lower than those that were tolerated in the recent past. This means that financial institutions in the aggregate will be less profitable than they have been during the super-bubble and some business models that depended on excessive leverage will become uneconomical. The financial industry has already dropped from 25 percent of total market capitalization to 16 percent. This ratio is unlikely to recover to anywhere near its previous high; indeed, it is likely to end lower. This may be considered a healthy adjustment, but not by those who are losing their jobs.

In view of the tremendous losses suffered by the general public, there is a real danger that excessive deregulation will be succeeded by punitive reregulation. That would be unfortunate because regulations are liable to be even more deficient than the market mechanism. As I have suggested, regulators are not only human but also bureaucratic and susceptible to lobbying and corruption. It is to be hoped that the reforms outlined here will preempt a regulatory overkill.

—November 6, 2008

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On being "competitive": the evolution of a word

David George [La Salle University, USA]

Introduction

The communications gap between mainstream economists and the general public reaches its extreme in the realm of mathematical theorizing. Agents in the everyday world may (or may not) act as theory predicts without being even remotely aware of theory. But these same agents, regardless of background, do often use much of the language of economists. My goal in this paper will be to offer a preliminary exploration into the changing importance of certain major economic words over the last century.

"Competition" and its many derivatives will form the centerpiece of the paper. We clearly have an instance here of a word dear to mainstream economists that is at the same time a regular part of most adult vocabularies in the English speaking world. We also have a word that shows up in many different contexts. Firms and markets may be competitive, but so may be sports teams, determined personalities, and institutions usually outside the realm of "the economy."

There are two nearly unrelated antonyms of "competition." The one that is most familiar to economists – "monopoly" – will be the focus of section 2. The one that is likely to come more quickly to mind to non-economists – "cooperation" – will be the focus of section 3. Section 4 will seek to solve some of the puzzles uncovered in the first two sections by noting the gradual expansion in the meaning of "competitive."[1] Throughout the paper, my source for tracing changes in word usage will be the New York Times Historical Newspapers Database. While a limited data source, it provides an excellent starting point for a broader study in rhetorical shifts over the years.[2] Considering that the New York Times has long enjoyed the highest reputation among daily newspapers in the United States, it is not presumptuous to interpret changes in its word usage not as simply brief and fleeting fads, but as serious shifts in ways of thinking about the economy.

Trends in the use of "competition" relative to "monopoly"

Ask almost any economist the opposite of "competition," and the most likely response will be "monopoly." While the broader public is less likely to answer the same way (about which more later), to those raised in nearly any economics tradition, "competition" tends to conjure up industries with many firms and "monopoly" an industry with just one firm.[3]

[1] For an earlier exploration into the changing meanings of "competitive" within introductory textbooks see D. George, "The Rhetoric of Economics Texts Revisited," in A. Aslanbeigui and M.I. Naples, (eds) *Rethinking Economic Principles: Critical Essays on Introductory Textbooks,* Irwin, 1996.

[2] Among the expressions that I plan to research as part of the broader project are "job creation," "tax burden," and shifts from "greater income equality" to "greater income opportunity.

[3] "Oligopoly" is another example of a "non-competitive" industry, in the traditional sense. Because occurrences of oligopoly were relatively rare in the New York Times, I chose to let "monopoly" stand alone.

Table 1: Selected word usage in *New York Times* by Decade, 1900 -2004

	(1) "Competition"	(2) "Monopoly"	(1) / (2)
2000 – 2004…	33,868	4,800	7.06
1990 – 1999	43,110	6,147	7.01
1980 – 1989	49,199	4,850	10.14
1970 – 1979	39,972	4,410	9.06
1960 – 1969	35,539	4,210	6.50
1950 – 1959	36,282	5,470	6.63
1940 – 1949	29,156	5,753	5.07
1930 – 1939	51,529	8,166	6.31
1920 – 1929	35,703	6,094	5.86
1910 – 1919	20,859	4,440	4.70
1900 – 1909	16,693	4,916	3.40

Source: New York Times Historical Newspapers Database

Table 1 shows the number of times that these two words have appeared in the New York Times, by decade, over the last century and the ratio of the one ("competition") to the other ("monopoly"). Between 1910 and 1969, "competition" appeared between 4.7 and 6.6 times more frequently per decade, a fairly constrained spread. While the relative frequency of "competition" surged between 1970 and 1989, it has fallen back since 1990 to just slightly more than the earlier average.

In Table 2, occurrences of the related *adjectives* have been added to the Table 1 data. Occurrences of "competitive" are now combined with "competition" in column 1 and occurrences of "monopolistic" are combined with "monopoly" in column 2[4] The ratios of column 1 to column 2 now yield a more interesting pattern. From 1900 through 1969 there occurred a gradual rise in the relative frequency of "competition" and "competitive," from 3.66 times as frequent as "monopoly" and "monopolistic," to 7.8 times as frequent. From 1960 through 1989, its relative growth accelerated before falling back since 1990, yet even after this drawback it can be seen that "competition" and "competitive" remains roughly twice as common relative to "monopoly" and "monopolistic" as they were over the first half of the 20th century.

[4] As indicated in column 2 of Tables 2, 3, and 5, "monopolized" is included as another adjective of "monopoly." In the interest of readability, I chose not to specifically mention this in the text, with "monopolistic" alone being mentioned.

Table 2: Selected word usage in *New York Times*, by decade, 1900 -2004

	(1) "Competition" "Competitive"	(2) "Monopoly" "Monopolistic"	(1) / (2)
2000 – 2004	61,360	5,034	12.18
1990 – 1999	86,791	6,591	13.07
1980 – 1989	113,235	5,381	21.04
1970 – 1979	74,329	5,314	13.99
1960 – 1969	58,063	4,860	11.95
1950 – 1959	52,433	6,721	7.80
1940 – 1949	42,561	7,695	5.53
1930 – 1939	63,814	9,816	6.50
1920 – 1929	42,542	6,736	6.32
1910 – 1919	25,027	4,798	5.22
1900 – 1909	18,987	5,194	3.66

Source: New York Times Historical Newspapers Database

Table 3: Selected word usage in *New York Times*, by decade, 1900 -2004

	(1) "Competitive"	(2) "Monopolistic" "Monopolized"	(1) / (2)
2000 – 2004	27,492	346	79.46
1990 – 1999	43,681	552	79.13
1980 – 1989	64,036	589	108.72
1970 – 1979	34,357	916	37.51
1960 – 1969	22,524	625	36.04
1950 – 1959	16,151	1,094	14.76
1940 – 1949	13,405	1,620	8.27
1930 – 1939	12,285	1,675	7.33
1920 – 1929	6,839	931	7.35
1910 – 1919	4,198	654	6.42
1900 – 1909	2,294	629	3.65

Source: New York Times Historical Newspapers Database

Netting out the nouns – "competition" and "monopoly" – from Table 2 yields more striking results. In Table 3, left with just the adjectives, "competitive" in column 1 and "monopolistic" in column 2, a clear increase towards "competitive" throughout the 105 year period emerges, with the 1980s providing a huge leap in what has otherwise been a fairly smooth upward trend. From appearing something less than 10 times as frequently in the 20th century's first half, "competitive" could be observed nearly 80 times as often by the 1990s and 2000s.

Table 4: Selected word usage in *New York Times*, by decade, 1900 -2004

	(1) "Competition"	(2) "Competitive"	(1) / (2)
2000 – 2004	33,868	27,492	1.23
1990 – 1999	43,110	43,681	.99
1980 – 1989	49,199	64,036	.77
1970 – 1979	39,972	34,357	1.11
1960 – 1969	35,539	22,524	1.75
1950 – 1959	36,282	16,151	2.25
1940 – 1949	29,156	13,405	2.18
1930 – 1939	51,529	12,285	4.19
1920 – 1929	35,703	6,839	5.22
1910 – 1919	20,859	4,198	4.97
1900 – 1909	16.693	2,294	7.28

Source: New York Times Historical Newspapers Database

Table 5: Selected word usage in *New York Times*, by decade, 1900 -2004

	(1) "Monopoly"	(2) "Monopolistic" "Monopolized"	(1) / (2)
2000 – 2004	4,766	346	12.18
1990 – 1999	6,167	552	11.17
1980 – 1989	4,886	589	8.30
1970 – 1979	4,602	916	5.02
1960 – 1969	4,376	625	7.00
1950 – 1959	5,958	1,094	5.45
1940 – 1949	6,608	1,620	4.08
1930 – 1939	8,691	1,676	5.19
1920 – 1929	6,040	931	6.49
1910 – 1919	4.329	654	6.62
1900 – 1909	4,624	629	7.35

Source: New York Times Historical Newspapers Database

Whether or not the adjectives of "competition" and "monopoly" are appearing more or less often relative to their nouns requires a different breakdown of the data, and this is done in Tables 4 and 5. As Table 4 reveals, there was a steady rise in the use of "competitive" relative to "competition" from 1900 through 1990. "Competition" went from appearing 7 times as frequently as "competitive" in the 1900s to appearing slightly less than "competitive" by the 1980s. Strangely, Table 5 shows an *opposite* pattern at work for "monopoly." From the 1940s through the present there has been an upward trajectory of the ratio of occurrences of "monopoly" to occurrences of "monopolistic," indicating a relative *decline* in the use of the adjective. In the 1940s, the noun appeared 3.55 times as frequently as the adjective. By the 2000s, the noun was appearing 13.87 times as frequently.

Summarizing the third column numbers in Tables 4 and 5, the use of "competition" relative to "competitive" was nearly *cut in half* over the 65 year period extending from 1940 through 2004. Over the same period, the use of "monopoly" relative to its adjectives nearly *tripled.* That "competitive" grew in popularity while "monopolistic" was waning in popularity suggests a new meaning was being attached to "competitive" in the popular culture that led to the much greater use of this word. Before getting to this historical trend in more depth, however, it will be helpful to turn to another word that can also serve as an opposite of "competition."

Trends in the use of "competition" relative to "cooperation"

Though it is not obvious, the two noted antonyms of "competition" – "monopoly" and "cooperation" – really share much in common. When "competition" prevails in an industry, the firms that make up the industry are not motivated to act for the benefit of other firms. Rather than "cooperate" with these other firms, they "compete." For an industry to become monopolized is for the many individuals who might otherwise be competing with each other to abandon this stance and agree to contribute to the production of a product and to act in ways that are in the interest of all.[5] Thus, "monopoly" might be said to require lots of "cooperation" between agents and might be understood as just a special case of cooperation that emerges from "competition." More often the "cooperation" that is being referred to has nothing at all to do with monopoly.

Table 6 shows the number of occurrences of "competition" and "cooperation" in the New York Times, by decade, since the turn of the last century. With the Times growing in volume in some periods and contracting in others, it is risky to draw conclusions from trends in the numbers themselves. But analysis of the change through time in the relative use of these two words again provides an interesting story. "Cooperation" grew in relative usage from the 1920s through the 1940s, with "competition" going from being 50 percent more common in the 1920s, to only about two-thirds as common in the 1940s.[6] Beginning in the 1950s, there has been a steady movement in favor of "competition," from being just about as frequent as "cooperation" in the 1950s to being almost three times more common in the 2000s.

[5] Participants in the now monopolized industry will operate in the interest of all fellow participants, not in the interest of the wider society.

[6] I am unable to explain the unusually high ratios from 1900 to 1920 in Table 6. It is apparent from this table and from others that follow that "cooperation" and "cooperative" enjoyed a huge bump in usage beginning in the 1920s.

Table 6: Selected word usage in *New York Times*, by decade, 1900 -2004

	(1) "Competition"	(2) "Cooperation"	(1) / (2)
2000 – 2004	33,668	11,692	2.88
1990 – 1999	43,410	15,120	2.87
1980 – 1989	49,199	20,079	2.45
1970 – 1979	37,972	23,079	1.73
1960 – 1969	39,519	27,153	1.46
1950 – 1959	36,282	38,862	.94
1940 – 1949	29,156	46,092	.63
1930 – 1939	51,529	45,835	1.12
1920 – 1929	35,703	24,287	1.47
1910 – 1919	20,859	2,022	10.32
1900 – 1909	16,693	602	27.73

Source: New York Times Historical Newspapers Database

Table 7: Selected word usage in *New York Times*, by decade, 1900 -2004

	(1) "Competition" "Rivalry"	(2) "Cooperation" "Teamwork"	(1) / (2)
2000 – 2004	44,748	13,428	3.38
1990 – 1999	54,629	17,247	3.37
1980 – 1989	60,760	21,558	2.82
1970 – 1979	50,381	24,017	2.10
1960 – 1969	51,374	27,976	1.84
1950 – 1959	47,856	39,871	1.20
1940 – 1949	39,362	47,201	.84
1930 – 1939	66,075	46,500	1.42
1920 – 1929	48,208	24,812	1.94
1910 – 1919	29,655	2,260	13.12
1900 – 1909	24,127	637	37.88

Source: New York Times Historical Newspapers Database

Table 7 represents an attempt to account for the possibility that a shift toward synonyms may account for some of the change, in the relative frequency of "competition" and "cooperation." "Teamwork" has certainly grown in popularity relative to "cooperation." But including this word in the column 2 count and including "rivalry" in the column 1 count makes little difference in the century long trend. With "rivalry" being much more frequently used than "teamwork," the ratios are larger in every decade shown, but the overall pattern of change remains basically what it was in Figure 6. Once again ignoring the anomalous period from 1900 to 1920, the movement was away from "competition" from the 1920s through the 1940s, and ever more in the direction of competition ever since.

Table 8: Selected word usage in *New York Times*, by decade, 1900 -2004

	(1)	(2)	(1) / (2)
2000 – 2004	130	32	4.06
1990 – 1999	235	71	3.31
1980 – 1989	182	72	2.53
1970 – 1979	121	61	1.98
1960 – 1969	88	72	1.22
1950 – 1959	101	59	1.72
1940 – 1949	80	39	2.05
1930 – 1939	87	69	1.26
1920 – 1929	68	55	1.23
1910 – 1919	39	27	1.44
1900 – 1909	32	18	1.78

Source: New York Times Historical Newspapers Database

Notes: Column 1: Occurrences of "competition among firms," "competition across firms," "inter-firm competition," "business competition."
Column 2: Occurrences of "cooperation among firms," "cooperation across firms," "inter-firm cooperation," "business cooperation," "agreements across firms," agreements among firms," "inter-firm agreements," "business agreements"

Table 8 shows trends in more circumscribed uses of "competition" and "cooperation." As indicated in the figures, it is now just competition between firms and cooperation and agreements across firms that are being counted. While no clear pattern emerges through the 1960s, a strong shift in the direction of competition is again discernible in the years since. From competition being just 1.2 times as common as cooperation in the 1960s, competition became twice as common in the 1970s and fully four times as common in the 2000s. Table 9 adds "rivalry" and "teamwork" to the analysis without changing in any way the basic trends that have appeared. We can conclude that a long-term trend is at work that makes "competition" ever more salient and newsworthy than "cooperation."

Table 9: Selected word usage in *New York Times*, by decade, 1900 -2004

	(1)	(2)	(1) / (2)
2000 – 2004	170	32	5.31
1990 – 1999	302	72	4.19
1980 – 1989	246	73	3.37
1970 – 1979	175	61	2.87
1960 – 1969	136	73	1.86
1950 – 1959	170	60	2.83
1940 – 1949	134	41	3.27
1930 – 1939	180	71	2.53
1920 – 1929	136	55	2.47
1910 – 1919	87	27	3.22
1900 – 1909	90	18	5.00

Source: New York Times Historical Newspapers Database
Notes: Occurrences of "rivalry" added to column 1 figures from Table 8 and occurrences of "teamwork" added to column 2 figures from Table 8

Table 10: Selected word usage in *New York Times*, by decade, 1900 -2004

	(1) "Competitive"	(2) "Cooperative"	(1) / (2)
2000 – 2004	27,492	5,400	5.09
1990 – 1999	43,681	10,766	4.05
1980 – 1989	64,036	23,858	2.68
1970 – 1979	34,357	18,873	1.82
1960 – 1969	22,524	27,443	.82
1950 – 1959	16,151	20,949	.77
1940 – 1949	13,405	17,627	.76
1930 – 1939	12,285	20,594	.60
1920 – 1929	6,839	12,716	.54
1910 – 1919	4,198	452	9.29
1900 – 1909	2,294	325	7.06

Source: New York Times Historical Newspapers Database

So far in this section, only the noun forms have received consideration. Table 10 shows the trend in the use of the adjectival form of each word, "competitive" and "cooperative." The trend here is in a similar direction to what the earlier tables revealed. The 80 year period from 1920 through 2004 shows a steady trend in favor of "competitive." Prior to 1970, "cooperative" was the more frequently used word, with competitive slowly rising from appearing half as often in the 1920s to four-fifths as often in the 1960s. "Competitive" has been the more common ever since and growing rapidly, to fully five times the frequency of "cooperative" in recent years. Comparing the growth in the relative use of "competition" with the growth in the relative use of "competitive" reveals something of a mystery. The relative use of "competition" was 2.6 times greater in the 2000s than in the 1930s, the relative use of "competitive" fully 8.5 times as great. Comparison of the 2000s with the 1940s tells a similar story, though less dramatic, with "competition's" relative frequency growing by a factor of 4.6, while "competitive's" relative frequency grew by a factor of 6.7. To seek some corroboration of the explosive growth of "competitive" I went to Proquest database, a broader source but one only going back to 1970. The rate of growth was nearly as dramatic. The data presented in Table 11 points to "competitive" steadily gaining on "cooperative" over the entire 35 year period shown.

Table 11: Selected word usage in Proquest, by half-decade, 1970 -2004

	(1) "Competitive"	(2) "Coooperative"	(1) / (2)
2000 – 2004	253,056	50,256	5.03
1990 – 1999	116,640	30,589	3.81
1980 – 1989	39,485	13,779	2.87
1970 – 1979	4,289	1,560	2.74

Source: ProQuest Central Database

The gain in one word relative to another is not *prima facie* evidence that the ascendant word is regarded with favor. As scholars (particularly those lacking citations to their work) sometimes like to point out, there is a problem with using citations as a measure of the worth of scholarship. It is possible for an article or book that becomes "notorious" for its poor methodology, logic, writing style, or whatever else, to be cited precisely because of these shortcomings. Similarly, a word's popularity does not assure that the word is favorably regarded.

Table 12 offers some strong evidence that the rising popularity of "competition" has coincided with greater optimism about its effectiveness and desirability. Column 1 in the table tallies all instances in which "competition" was preceded by "needed," "healthy," "desirable," "necessary," "good," or "constructive." Column 2 shows the number of uses that were preceded by "unneeded," "unnecessary," "destructive," "damaging," "imperfect," "unhealthy," "excessive," or "harmful." Not too surprisingly, in the 1930s with the Great Depression reaching its bottom, the tendency toward a negative description was strongest, with the positive descriptions occurring only 13% as often as the negative. But for *each* of the first eight decades of the 20th century, negative descriptions were more common than in the three decades since. More specifically, positive descriptions occurred just 44% as often as negative descriptions. Since 1980, in contrast, the positive descriptions have been **144%** as frequent. And the trend has been steadily upward during these years, as the numbers in column 3 of the table show. Because these results were so strong while the raw numbers were smaller than in any of the previous tables, I again went to the broader data database, Proquest, for some corroboration of these results. Table 13 shows larger raw numbers and a similar trend.

Table 12: Selected word usage in *New York Times*, by decade, 1900 -2004

	(1) Six positive descriptions of "competition"	(2) Eight negative descriptions of "competition"	(1) / (2)
2000 – 2004	70	20	3.50
1990 – 1999	77	37	2.08
1980 – 1989	110	121	.91
1970 – 1979	60	94	.64
1960 – 1969	71	120	.59
1950 – 1959	72	88	.82
1940 – 1949	61	90	.68
1930 – 1939	50	373	.13
1920 – 1929	43	124	.35
1910 – 1919	29	91	.32
1900 – 1909	24	60	.40

Source: New York Times Historical Newspapers Database

Notes: Positive descriptions include “needed competition,” “healthy competition,” “desirable competition,” “necessary competition,” “good competition,” and “constructive competition.” Negative descriptions include “unneeded competition,” “unnecessary competition,” “destructive competition,” “damaging competition,” “imperfect competition,” “unhealthy competition,” “excessive competition,” and “harmful competition”

Table 13: Selected word usage in *Proquest*, by half-decade, 1970 -2004

	(1) Six positive descriptions of “competition”	(2) Eight negative descriptions of “competition”	(1) / (2)
2000 – 2004	604	630	.959
1990 – 1999	321	585	.549
1980 – 1989	134	313	.428
1970 – 1979	11	40	.275

Source: ProQuest Central Database

Notes: See Table 12 notes for the positive and negative adjectives searched.

Table 14: Selected word usage in *New York Times*, by decade, 1900 -2004

	(1) “Competitive”	(2) ”Stay competitive” “Remain competitive”	(1) / (2)
2000 – 2004	27,492	548	50.17
1990 – 1999	43,681	823	53.08
1980 – 1989	64,036	708	90.44
1970 – 1979	34,357	223	154.06
1960 – 1969	22,524	226	99.67
1950 – 1959	16,151	56	288.41
1940 – 1949	13,405	17	788.53

Source: New York Times Historical Newspapers Database

As one final bit of evidence that “competition” and “competitive” have grown in status, Table 14 shows the 65 year trend in the use of “stay competitive” and “remain competitive” relative to “competitive.” (Occurrences of the phrases were too infrequent prior to 1940 to make them worth including.) As the data indicates, these phrases have gone from occurring just once every 788 times that “competitive” appeared to once every 50 times. And as some reflection should indicate, the use of these phrases almost always has a normative component. To ask if one should “remain competitive” has become as odd as asking if one should remain alive.

We are now in a position to draw some interpretations from three trends noted at the end of the previous section; (1) the rise of "competitive" relative to "competition," (2) the fall of "monopolistic" relative to "monopoly," and (3) the just noted rise in the positive description of "competitive." Why has "competitive" become so often heard and so favorable? What elements of society are served by this popular rhetorical development?

The broadened meaning of "competitive"

Among economists, extending clear back to the writings of Adam Smith, "competition" has been the defining feature required to allow markets to work most effectively. And whether one is speaking of perfect competition or the later introduced "monopolistic competition," competitive industries were necessarily comprised of many firms. "Competitive" was originally nothing more a description of such industries while also serving to describe the firms within them. To describe a firm as "competitive" was to say nothing about the firm considered in isolation. A firm that was "competitive" one day could become a monopolist the next if all its fellow firms were to vanish from the scene. To speak about a competitive firm was to thus to draw on the firm's context, not internal attributes.

Looking at uses of "competitive" in the New York Times in the 1920s can be initially confusing. A 1920 ad states that three salesmen "would like to represent a few high-grade non-competitive firms."[7] Another ad, this one from 1930 announces "floor in exclusive women's specialty shop; excellent opportunity for non-competitive firm to benefit by marvelous clientele."[8] In these instances (and there are many more like these) "competitive" appears to define a relationship between the parties. If we substitute "competing" for "competitive," the writer's intent is better conveyed to the modern reader by employing contemporary language usages. The salesmen are announcing that they would not take on firms from the same industry (whether this industry is perfectly or monopolistically competitive or whether it is oligopolistic). I was able to find this sort of use of "competitive" as late as 1963 when mention was made of employment contracts that specified "employees will not work for competitive firms for a given period."[9]

There is something more at work here than the substitution of "competing" by "competitive." From the fact that we use "competing" today where "competitive" was used in the 1920s suggests, on first consideration, that use of "competing" would have grown more than use of "competitive." But the facts say otherwise. In the 1920s, "competitive" was used 1.3 times as much as "competing. By the 1990s, it was used 3.1 times as much. The fact that the relatively slow-growing "competing" was substituting for "competitive" can be best explained by the increasing reliance on the latter to mean "successful" or "capable of winning."

Around the very time that competitive was used to mean "successful" faith in free market capitalism was plummeting. The following passage from Keynes illustrates how the normative shading of "competitive" was certainly capable of going in a negative direction.

[7] Display Ad 135 – No Title, *The New York Times,* October 15, 1920, p.26.

[8] Display Ad 204 – No Title, *The New York Times,* September 21, 1930, p. W12.

[9]"Who Owns a Trade Secret? No One is Sure Yet," *The New York Times,* March 22, 1963, p.11.

> Competitive wage reductions, competitive tariffs, competitive liquidation of foreign assets, competitive currency deflation, competitive economy campaigns, competitive contractions of new development – all are beggar-my-neighbor descriptions.[10]

By the end of the 1930s and clear through the 1940s, increasing use of "competitive" tended not to denote "destructive," as in the above passage, but "successful." Reporting on the early food store chain, A&P, the reader is told "that it has been impossible for a chain to establish uniform prices and remain competitive."[11] During World War II, the U.S. Gypsum Company took out an ad opposing a ruling of the War Labor Board that gave strength to the union by announcing that "The company desires . . . to remain competitive, and to leave its employees the freedom preserved for them by the constitutions and the bill of rights."[12] Even a head of the Communist Party in Hungary was employing the new use of "competitive" to defend the Soviet system. As quoted in the Times, he reasons that "'we must remain competitive. We can only do this when we accept the new form of agriculture,'" this new form being the "Sovietization of agriculture."[13]

Dictionaries differ in their definitions of "competitive." Some make no mention of "successful" and "able." In its second edition (1989), the Oxford English Dictionary, defines it as "Of, pertaining to, or characterized by competition; organized by competition."[14] The 1956 edition of Webster's New International Dictionary of the English Language offers much the same, namely "Of, or pertaining to competition; based on, used in, or resulting from competition."[15] Nary a mention of being "successful" or "capable of succeeding." And it is not just those dictionaries based outside the United States that omit this more recent meaning. The 4th edition of the American Heritage Dictionary of the English Language (2000), mentions "liking competition or inclined to compete" without including a likely successful outcome of the competition in its definition.[16]

The earliest dictionary that I found that included "successful" among its definitions was the 1st edition of the Random House Dictionary of the English Language, published in 1955. As they state, "competitive" can mean "able to attain the desired response or results in a competitive situation, as the prices, services or quality of products of a business organization."[17] That Random House was the apparent first may be partly attributable to the inertia of the earlier dictionaries, since new editions did not always mean a thorough rethinking of previous definitions. Interestingly, it was the New Oxford *American* Dictionary

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10 Quoted in Charles Merz, "Consulting at a Sick World's Bedside," *The New York Times*, July 31, 1932, p.
BR10.

11 Desplay Ad 15 – No Title, *The New York Times,* March 2, 1943, p. 13

12 "A&P Ends Buying From packers Who Pay Brokerages on Sales," *The New York Times,* January 21, 1940, p. 32.

13 Albion Ross, "Hungary to Push Land Cooperatives," *The New York Times,* November 28, 1948, p.1.

14 *Oxford English Dictionary,* 2nd ed., 1989, Oxford University Press.

15 *Webster's New International Dictionary of the English Language,* 2nd. Ed., 1956, G&C Merriam Comp., Pub., Springfield, IL.

16 *American Heritage Dictionary of the English Language,* 3rd ed., 1992, Houghton-Mifflin, p. 385.

17 *The Random House Dictionary of the English Language,* 1966, New York: Random House, p. 385.

(2001, my emphasis) that, unlike its British counterpart, defined "competitive" similarly, namely, "as good as or better than others of a comparable nature."[18] Some dictionaries were less categorical in their introduction of the new definition. While for Random House, "competitive" could mean "able to attain the desired response," others were more circumspect. The Chambers Concise Dictionary (1991), defined competitive "(of e.g. price) such as to give a chance of successful result."[19] No guarantee of success, just a chance. The 11th edition of Merriam-Webster's Collegiate Dictionary (2003) defines "competitive" as "inclined, desiring, or suited to compete."[20] To be "suited" can, of course, be subject to a range of interpretations, but usually does not mean the competitor necessarily sees much chance of coming out on top. In short, Merriam-Webster would be prepared to offer its definition of "competitive" to a sports team that is universally regarded as incapable of winning the crown, whereas Random House, for example, would be obligated to withhold the "competitive" description from such a team.[21] An even stronger link between "competitiveness" and success is made by Robert Z. Lawrence. Writing in the conservative *Concise Encyclopedia of Economics,* Lawrence puts to rest and notion that the worthiness of competitiveness might be drawn into question. In his words,

> "Competitiveness," particularly with reference to an entire economy, is hard to define. Indeed, competitiveness, like love or democracy, actually has several meanings. And the question "Is America competitive" has at least three interpretations: how well is the United States performing compared to other countries? How well has America performed in international trade? Are we doing the best we can?[22]

The nature of the forces behind the expanded definition of "competitive" is more than can be taken up here. But consider now the propaganda effects that the new meaning of "competitive" has likely had. Prior to the introduction of "competitive" as "successful," economists generally defined the word one particular way ("an industry with many firms," "any firm within said industry") while the general public tended to define it another way, namely, "trying hard to succeed." While these definitions are quite different, I am unaware of any mischief done by conflating these uses. Trouble begins when the more recent usage comes into the picture.

Being "competitive" in the sense of "successful," if conflated with "competitive" in the sense of "trying hard," can create a habit of thinking that "to try" is "to succeed." To announce that a firm, or an athlete, was very "competitive" would seem odd to many, if such an announcement was accompanied by another announcement that the athlete had finished way

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[18] *The New Oxford American Dictionary,* 2001, Oxford University Press, p. 350.

[19] *Chambers Concise Dictionary,* 1991, W&R Chambers Ltd., p.210.

[20] *Merriam-Webster's Collegiate Dictionary,* 11th ed., Merriam-Webster, Inc., Springfield, MA, p. 253.

[21] A late as 1964 the practice of using "competitive" to mean something other than "trying hard" was apparently still not common, at least in the *Times.* Speaking for the Notre Dame football team of that year, the quote appears "Parseghian says we'll have a 'competitive' team." The quotation marks suggest that the writer of the article was not particularly comfortable with the intended meaning of the word. (See Lincoln A. Werden, "Notre Dame to 'Consider' Bowl Bid if Title is at Stake," *The New York Times,* October 27, 1964, p. 48.)

[22] Robert Z. Lawrence, "Competitiveness," in *The Concise Encyclopedia of Economics,* Liberty Fund, Inc. 2002. http://www.econlib.org.

back in the pack. This can have the unfortunate effect (common with many students) of believing that "trying hard" is a sufficient condition for success. At a broader level, it can create the illusion that creating opportunities for excluded groups to participate "on a level playing field" will result in their success. Since they can now be "competitive" in the sense of "trying hard" they can be "competitive" in the sense of "winning," can't they?

As ideologically loaded as the above may seem, there is an even more curious effect of the introduction of the new meaning of "competitive." Paradoxically enough, the firm that manages to become the only seller (an economist's "monopolist") or the firm that manages to be one of just a few sellers (an economist's "oligopolist") now qualifies for the title of "very competitive firm" since it's the only one (or one of a few) that managed to survive the competitive struggle. Amazingly, the firm that is least able to be described as "competitive" by the old definition (a single firm in a sea of many firms) now is most able to be described as "competitive" by the new definition (a "victorious" or "most able" firm). This is a coup d'état writ large. The Achilles heel of market advocates, that competitive industries would disappear as concentration and monopolization occur, has been turned on its head. Those who embrace competition are now able to point to the large monopolist and large oligopolist as a clear example of what it means to be "competitive."

We now have an explanation for the paradoxical trends in Tables 4 and 5 that were mentioned earlier. To again summarize, "competition" went from being mentioned approximately 7 times more often than "competitive" in the first decade of the 20th century to just above 1.2 times more often in the first decade of the 21st. But "monopoly" went from being mentioned approximately 7 times more often than "monopolistic" in the first decade of the 20th to *12* times more often in the first decade of the 21st. As the discussion suggests, two forces explain the relative rise of "competitive." First, it has taken on a new meaning – "successful" – and is increasingly used to mean this. Second, firms that might have been described as "monopolistic" at one time (and might still fit this definition) can also now be described as "competitive" and are frequently being described as such. Thus when an adjective is needed to refer to a monopolist, where "monopolistic" may have been selected once, "competitive" is an option now, an option that places the monopolist in a far more flattering light.

Conclusions

My focus to this point has been limited to "competition." In closing I will attempt to broaden the focus by briefly studying the context in which "competition," rhetorically speaking, has flourished. Coincident with the popularity of "competition" has been an increasing focus on "markets," for it within market settings, after all, that the economic competition can occur. Table 15 shows the trend in the relative frequency of "government" and "market" over the last century. Since the 1940s, the trend has been fairly steadily in the direction of markets. From "government" appearing twice as often in the 1940s (with WWII probably contributing to this), "markets" have been making steady gains, occurring more often than "government" for the first time in the 1980s and reaching its relative peak in the 2000s. The significance to be placed on this depends on a closer reading of the uses over time, but it is something of a surprise that the relative decline of government, rhetorically speaking, began as far back as it did. By conventional thinking, at least among economists, the 1930s and 1940s provided the events that led to an ever larger governmental presence in the economy – an advance only beaten back with the election of Ronald Reagan in 1980. It clearly began prior to this.[23]

Table 15: Selected word usage in *New York Times*, by decade, 1900 -2004

	(1) "Government" "Governments" "Governmental"	(2) "Market" "Markets"	(1) / (2)
2000 – 2004	137,760	193,194	,713
1990 – 1999	191,477	197,860	.968
1980 – 1989	240,207	255,549	.940
1970 – 1979	239,170	200,401	1.193
1960 – 1969	255,870	194,360	1.315
1950 – 1959	265,774	163,055	1.630
1940 – 1949	286,125	147,768	1.950
1930 – 1939	282,553	185,221	1.525
1920 – 1929	203,384	167,286	1.216
1910 – 1919	147,849	82,815	1.786
1900 – 1909	87,453	65,151	1.342

Source: New York Times Historical Newspapers Database

Table 16 provides further substantiation of the advances of the economic relative to the political. In the 1900s and 1910s, the political description of the individual as a "citizen" or a "voter" was twice as common as the economic description of the individual as a "consumer" or "customer." Over the next 20 years the descriptions were approximately at parity. But from 1940 through the 1980s, the economic descriptions gained steadily on the political. While there has been a slight rebound since 1990, the "consumer-customer" remains more than twice as frequently mentioned as the "voter-citizen."

Table 16: Selected word usage in *New York Times*, by decade, 1900 -2004

	(1) "Citizen" "Voter"	(2) "Customer" "Consumer"	(1) / (2)
2000 – 2004	63,554	146,332	.434
1990 – 1999	67,992	146,098	.465
1980 – 1989	73,063	183,831	.403
1970 – 1979	76,482	194,530	.394
1960 – 1969	79,645	138,115	.577
1950 – 1959	71,544	93,272	.767
1940 – 1949	66,044	74,353	.888
1930 – 1939	76,264	69,288	1.101
1920 – 1929	63,901	64,158	.926
1910 – 1919	73,126	32,751	2.232
1900 – 1909	41,718	23,020	1.812

Source: New York Times Historical Newspapers Database

[23] David Harvey dates the birth of neoliberalism all the way back to 1947 with the founding of the Mont Pelerin Society. (David Harvey, *A Brief History of Neolilberalilsm,* Oxford University Press, 2005.)

Table 17: Selected word usage in *New York Times*, by decade, 1900 -2004

	(1) "Citizen"	(2) "Voter"	(1) / (2)
2000 – 2004	30,906	32,648	.947
1990 – 1999	41,153	26,839	1.553
1980 – 1989	49,121	23,942	2.052
1970 – 1979	52,605	23,877	2.203
1960 – 1969	56,503	23,142	2.242
1950 – 1959	53,929	17,615	3.062
1940 – 1949	52,538	13,506	3.890
1930 – 1939	57,442	18,822	3.052
1920 – 1929	46,719	17,182	2.719
1910 – 1919	39,647	9,857	4.022
1900 – 1909	33,479	8,239	4.063

Source: New York Times Historical Newspapers Database

Even within the political description of the individual, there has been a net gain for the more "consumer-like" public personality. As illustrated in Table 17, "citizen" appeared twice as often as "voter" a century ago, but there has been a fairly steady movement in favor of the "voter" ever since. Since 2000, "voter" for the first time appears more often than "citizen." Particularly since the rise of public choice theory, the voter has come to be portrayed as a self-interested "chooser." The "citizen" in contrast, besides being nearly never part of an economist's vocabulary, connotes a non-self-interested disposition. We are thus left with still more evidence that the traditional economic way of thinking gains strength in the general press.

Summing up this final section, over the period when the use of "competition" and related words was growing much faster than "monopoly" and "cooperation," other changes in the popularity of words were occurring that were consistent with this trend. Markets were becoming more often mentioned than government, consumers and customers more often mentioned than citizens and voters (and voters mentioned more often than citizens). The neoliberal drift which by all appearances will be threatened in the years ahead has had a long legacy indeed.

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The state of China's economy 2009

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Introduction

Over the past few decades there have been numerous forecasts predicting an "imminent collapse" of the Chinese economy. Some of these have a strong Anglo-Saxon ideological bias with little substantive theoretical or empirical support, while others offer standard economic principles in defense of a negative forecast. More recently, however, these pessimistic forecasts have been fewer in number and less dire. Meanwhile, some other analysts have offered quite favorable economic performance forecasts. Who appears to have been correct?

This paper will examine some past forecasts, and then evaluate the current performance of the Chinese economy. The first section will provide a brief summary of some previous forecasts. Analysis of the recent performance of China's economy will be presented in the following section, including trends over the past 5 of both standard macroeconomic and some socioeconomic indicators, using both Chinese and non-Chinese data sources. The third section will evaluate the overall state of the economy at present, weighting performance indicators both according to their relative importance to Chinese policy makers as well as to non-Chinese analysts. The following section will suggest the likelihood that the economy's performance during 2003-2008 is likely to continue for another five years. The final section will offer a summary and conclusions as to the likelihood that China's economy will inevitably collapse within the next 5 to 10 years

An inevitable reversal of economic performance?

Some China observers with a not very subtle Anglo-Saxon bias in favor of a "free-market entrepreneurial economic system, in which the state's role is limited to the provision of justice and arbitration according to clear and legitimate rules," not only question the reliability of the reported favorable macro economic performance of China's economy (Simon 2002), but go further and predict that the economy will inevitably "collapse." A typical negative assessment was provided by one analyst whose argument received some support within the academic community. He argued in that due primarily to difficulties China would face after it entered the WTO along with its "outdated" state-owned enterprise sector and the lack of competition in the economic environment surrounding their activities an economic collapse of the Chinese economy was "coming" (Chang 2001). One prominent international relations expert endorsed this prediction, describing the author's work as "[q]uite simply the best book I know about China's future" (Chang 2002A).[1]

[1] Other reviewers cautioned against arriving at a similar "exaggerated" conclusion (Dodson). One argued that Chang's "angry book" was an anti-communist "polemic" with a bias reflected by his father's having left China under unfavorable circumstances (ChangB). Another review credited the book with being "entertaining" and "full of colorful anecdotes," but also being guilty of containing "contradictory" statements and " some noteworthy factual errors" (ChangC).

While fewer dire forecasts have been offered over the past few years, predictions that the Chinese economy's favorable performance would experience a reversal continue to be offered. Long time China analysts Tom Rawski and Charles Wolf Jr. have asserted that the reported high rates of GDP growth were not likely to continue. Rawski has questioned the credibility of annual real GDP growth rate reports consistently in excess of 9%, claiming such rates were actually below 6% (Gang 2003). Further, he believes that poor economic decisions made by Chinese policy makers, especially regarding investment, would contribute to a lesser performance. Wolf predicted lower GDP growth rates due to the "interdependent", cumulative effect of China's rising unemployment, poverty, social unrest, corruption, AIDS and other epidemic diseases, environmental problems (including water), rising energy consumption, inflation, a fragile financial system, reduced FDI and the conflict with Taiwan (Gang 2003). These analysts, and others who have offered negative forecasts for China's economy, have raised legitimate concerns and identified sources (e.g., corruption, rising income inequality, a "crippled" banking sector, WTO membership, environmental degradation plus water shortages, and weak state-owned enterprise sector) that could be expected to contribute to a poorer economic performance. However, in retrospect those forecasting a poor performance for China's economy in the near future have tended to overestimate the unfavorable effect of these negative factors while underestimating or failing to account for other macroeconomic factors that have combined to more than offset the overall impact of these negative factors on the economy's performance.

Some analysts have refuted the pessimistic forecasts while arguing against any imminent collapse. Nicholas Lardy's 2002 refutation emphasizes that integration into the world economy after China joined the WTO has had positive economic effects throughout the country (Dodson 2002). He cites empirical evidence that demonstrates China's tax revenues are rising, the M1 measure of money supply growth is increasing, as has been the growth of China's imports. All three trends, Lardy argues, are a sign of positive economic performance in excess of the 6% GDP growth that Rawski claimed actually occurred during the 1998-2001 period. Lardy also notes that SOE profitability increased post 1998 and that the banking system is slowly developing a "credit culture" while simultaneously downsizing (employment) wise - thus becoming more profitable (Dodson 2002).

While identifying some weaknesses in China's economic structure - especially a relatively weak banking system and extensive rather than intensive causes for productivity increases, many Chinese economy analysts have tended to agree that "impressive" GDP growth has occurred and is likely to continue in the near future, the market sector continues to expand, governance is improving - albeit slowly, WTO membership has been beneficial after China opened up its economy further, and structural transformation (reallocating labor to industry from agriculture) has been stimulating growth (Woodrow Wilson International Center 2005). A 2007 forecast accurately predicted many of the favorable performance indicators that subsequently were experienced in China throughout the first half of 2008 (including the continuation of a large trade surplus and GDP growth over 9%), and generally held the view that Chinese leaders would be likely to adopt policies that would emphasize more balanced growth, reduction of income inequality, and some alleviation of the more serious environmental problems. However, these same analysts seem to agree that environmental degradation, financial sector weaknesses, and growing income inequality would remain problematic US - China Business Council, 2008B).

China's economic performance circa 2003 - mid 2008

The macroeconomic and socioeconomic performance indicators selected as the basis for evaluating China's economic performance over the 2003-2008 period include: real GDP growth, inflation, unemployment, job creation, income distribution, poverty, the Human Development Index (HDI), business confidence, consumer confidence, status of the banking system, trends in the stock market, government budget balances (internal and external), exchange rate stability, FDI, and environmental quality. Each will be discussed individually in this section, while the following section will combine them to offer an overall evaluation of the economy's performance.

China's unprecedented sustained rates of real GDP growth remain impressive.[2] Growth averaged over 10% from 2003-2006, and exceeded 11% in 2007. Average annual industrial growth rates have exceeded 15% in recent years. For the first-half of 2008 real GDP growth was about 10%, with the remainder of 2008 and 2009 forecast to be in the 9% - 9.8% range (US-China Business Council 2008B; Morgan Stanley 2008; *The Economist* 2008E; *China Daily* 2008B). Recent research indicates that rather than inhibiting GDP growth the state-dominated industrial sector has been a positive contributor - particularly for steel, oil, and chemical production (Li and Putterman 2008). Rising domestic consumer expenditures have coincided with this growth, and it is estimated that consumer spending during 2008 was contributing about two thirds of the country's GDP growth versus less than 50% in 2007 (*The Economist* 2008A, p. 68). However, rapid GDP growth rates are a concern to the extent that they have been overheating the economy and contributing to both inflation and poor environmental quality.

Meanwhile, inflation (CPI) rose over 8% for the mid 2007- mid 2008 period, before declining to an annual rate of about 6% during the summer of 2008 (National Bureau of Statistics of China 2008C; *The Economist*, 2008D, p. 89). For the previous 5 years inflation had remained low, ranging from 1.2% in 2003 to 4.8% in 2007 - averaging 2.6% for this period (National Bureau of Statistics of China 2008C). The 2007-2008 steep rise in inflation, the fastest pace in a decade, was fueled by serious increases in the price of food (particularly meat and poultry) and crude oil, with growing public concerns also over rising prices of education and health services as well medicine.[3] In 2007 food prices rose over 12%, with price increases in meat, poultry, oil and eggs all exceeding 20%. Some analysts forecast there will be moderately lower rates by the end of 2008 and throughout 2009 (*The Economist* 2008B). An interesting aspect of inflation has been the underlying causes of rapid increase in pork prices, which have gone up almost 50% during the mid 2007-2008 period. While higher incomes have pushed up demand for a greater percentage of pork in the typical family's diet, supply has decreased. This decrease has been attributed partly to an unanticipated rise in the death rate of pigs from various diseases, and to changes in peasant pork producers'

[2] In 2005 China's economy was estimated to be about 1/5 the size of the USA's in terms of nominal GDP. Some recent estimates rank China's GDP as almost equal to that of Germany. When PPP was taken into consideration pre 2007 estimates were that China's GDP was second in the world only to that of the USA. However, some analysts questioned how large China's economy was in Purchasing Power Parity terms. A 2007 World Bank study lowered previous PPP estimates of the size of China's economy by 40%. The revised estimate, using new price information for China, places China's GDP in PPP terms relative to the USA much lower. However, this finding does not detract from the high real GDP growth rates China continues to experience (Morrison and Martin).

[3] Private health care clinics are emerging all over China. Health standards tend to be high, the equipment modern, the quality of the service very good - but the price of many services typically would be a high percentage of the average Chinese family's income.

behavior. It is believed that the rapidly rising stock market prices and real estate values (over 20% on average for the past few years prior to mid 2008) induced some peasants to invest in stocks and real estate rather than in piglets for pork production (National Bureau of Statistics of China 2008A).

Urban registered unemployment has averaged about 4.2% since 2003. However, some estimates of unemployment for the entire economy exceed 9% (*The Economist* 2008D). Job creation has become a concern, especially among new university graduates who fear that although there are plenty of manufacturing jobs there is a relative shortage of jobs "suitable" for them.[4] Their education lacks specific training and most of them have had little or no work experience by the time they finish their university studies. Their fears are fueled by the rapidly growing number of graduates each year. In 2007 there were 1.2 million students in graduate school and about 310,000 graduates for the same year. Vocational secondary schools had enrollments of about 20 million students and over 5 million graduates for the same year ("Statistical Communique" 2008).

China's rapid GDP growth also has coincided with a dramatic increase in income inequality as the upper 20% of income earners have experienced a considerably greater increase in their incomes relative to their rural counterparts. For example, urban per capita incomes grew at an average rate of 12.4% between 2003 and 2007, while rural per capita net income growth averaged under 9% annually (US - China Business Council, 2008B). This difference is increased by the distribution of social benefits such as education and health care. Such benefits are received to a greater extent by urban dwellers, while most of the working poor receive relatively few social benefits. Women's incomes have suffered more as there is considerable evidence of gender discrimination in the workplace (Wan 2008). Gender earnings differentials also have increased throughout urban China, especially among lower paid workers. The hardest hit have been the "low paid group of female production workers with relative low education working in non-state owned enterprises" (Wei and Li 2008, p. 243). Thus, it is not surprising that China's Gini coefficient for income distribution has risen steadily from 40.3 in 1998, to 44.7 in 2001, and then to 46.9 in 2007 (UNDP 2002-2007, 2008).

Despite the widening rural-urban income differentials the trends of China's incidence of poverty, Human Poverty Index, Human Development Index, and Gender Development Index all have been favorable. High rates of GDP growth and job creation have combined to lift over 250 million Chinese poor out of absolute poverty over the past few decades (Angresano 2005, p. 471). This favorable outcome is reflected in China's Human Poverty Index, computed by the UNDP. This index measures the percentage of the population that lies below a threshold level of health (the probability of not living past age 40), education (adult illiteracy rate), access to clean water, as well as including the percentage of children below the age of 5 who are underweight for their age. China's Human Poverty Index value is 11.7 (using 1990-2005 data), which ranks it 29th out of 108 poor countries for which this index has been calculated. About 7% of the population was not likely to live beyond age 40, less than 10% were considered illiterate, 23% do not have access to clean water, and only 8% of the children ages 0-5 are underweight for their age. The percentage of Chinese estimated to be living below the $1 per day poverty line was 9.9% for China over 1990-2005, while the figure for the officially define "National poverty line" was only 4.6% (UNDP 2008).

[4] This was the view of numerous graduate students I interviewed while lecturing and doing research at Hainan University during 2007 and 2008.

China's HDI value increased more than any other country in the world over the 1975-2005 period with the exception of Egypt. China ranks 81st out of 177 countries included in the UNDP's analysis. This favorable performance can be attributed to rising average life expectancy (about 72.5 years of age in 2006, up from 70 in 2000), an adult literacy rate of over 90%, an education enrolment ratio (primary, secondary and tertiary levels of education) of almost 70%, and a GDP per capita measured by PPP that exceeds $6700. China's Gender Development Index ranked even higher (73rd in the world). This index is computed using the same performance indicators as the HDI (health - using life expectancy as an indicator, knowledge - using adult literacy and combined enrolment ratios as indicators, and standard of living - using $ PPP GDP per capita earned), but captures inequalities in achievement between women and men. That is, it is the HDI adjusted for relative gender equality or inequality. The greater the gender disparity in basic human development, the lower a country's GDI relative to its HDI. China's GDI ranking is 16th among the world's poor countries, due to an average life expectancy for women that well exceeds the world average, high literacy and enrolment rates for women, and a relatively high (and growing) per capita income earned by women (UNDP 2008).

Favorable GDP growth and the surge in FDI (see below) have contributed to the maintenance of strong confidence among business executives throughout the 2000 - first quarter of 2008 period, especially in the construction, information transmission, computer services, and software industries. However, China's "Entrepreneurs Confidence Index" declined slightly during the second quarter of 2008, particularly among entrepreneurs in small and medium enterprises. (National Bureau of Statistics of China 2008A). A significant factor contributing to the reduced confidence was rising labor costs (*The Economist* 2007). Meanwhile consumer confidence was shaken by escalating prices. Consumer confidence declined from its recent high of 97.4 in June, 2007 to 94.1 by late spring of 2008, before rebounding in June to 95.1 (National Bureau of Statistics of China 2008B). The reversal has been attributed to a moderation of prices as well as the perception that the Sechuan earthquake rescue and rebuilding efforts have been favorable (*The Wall Street Journal* 2008).

Nearly every forecast pointing to an imminent collapse of China's economy has argued that a key contributing factor would be triggered by insolvency of the banking system. Considering the estimated extent of non-performing loans (NPLs) that China's four large banks were experiencing by the year 2000 (ranging from about 30% to over 50% of all loans these banks had extended) and the struggling financial condition of many state-owned enterprises that had received these loans, such arguments had considerable credence. Strong policy responses were introduced. In 2001 Asset Management Companies were established to assist with introducing banking system reforms while seeking simultaneously to write off some of these bad debts prior to initiating the privatization process whereby foreign investors would be invited to engage in joint ventures (Zhou 2007). More than twenty foreign investment banks, including Merrill Lynch, Goldman Sachs, Deutsche Bank, Citibank and Bank of America became active in acquiring some of the Chinese banking systems' NPLs. They began to set up equity joint ventures with Chinese banks under the supervision of the asset management companies to work towards alleviating the banking system's problems while providing these foreign banks an entry into China's huge financial market. More recent monetary policy measures (primarily to combat inflation) have included raising reserve requirement ratios almost monthly in 2007, while interest rates were increased about half as often. Further, restrictions on bank lending were imposed after most banks reached their annual ceiling. However, on the local level lending for fixed-asset investments continued to increase despite central government edicts.

The outcome of the reforms, assistance from foreign banks, and rapid GDP growth (that favorably impacted the economic status of many state-owned enterprises) has been a vast improvement in the sustainability of China's banking system as a large reduction in the percentage of loans classified as NPLs has occurred. According to one analysis the NPL rate of major commercial Chinese banks declined from about 18% in 2003 to under 9% by 2005 (China Banking Regulatory Commission 2007). Foreign banks saw a decrease in their NPLs during 2007 of about $45 million while their NPL ratio declined as well (China Banking Regulatory Commission 2007). Thus by the end of 2007 "[f]or the banking system as a whole the NPL share stood at 6.17 per cent, reportedly the lowest level aver recorded and down around 1 per cent from the 2006 level" (Geiger 2008). Another study concluded that in terms of both the total stock of NPLs and the ratio of NPLs in China's commercial banks favorable trends have continued through 2008, with the booming economy and banking system reforms contributing to this trend. By the end of June 2008, the NPL stock in commercial banks (including large commercial banks, joint-stock commercial banks, city commercial banks, rural commercial banks and foreign banks) had declined by over RMB 25 billion to about RMB 1.25 trillion,[5] while the NPL ratio was reduced by 0.59 percentage point from the beginning of this year to 5.58% (China Banking Regulatory Commission 2008).

Relative to other world economic powers China's financial sector appears strong in late 2008. It is ironic that as the USA financial sector is facing unprecedented liquidity problems, causing bankruptcy and sales of some financial giants, China is being courted to inject funds into the troubled US investment bank industry. In late 2007 Morgan Stanley sold almost 10% of its stock to China's sovereign wealth fund, and it was considering selling a stake of 49% to this same fund as the September 2008 crisis reached a peak.

The Chinese stock market has been one of the worlds most volatile since its inception less than a decade ago. The Shanghai Composite Index rose from just over 1000 during the summer of 2005 to exceed 6000 two years later. This rapid increase induced many Chinese, including peasants, to invest in stocks. The Index peaked at over 6100 during October 2007, then dropped over 60% by mid August, 2008 - one of the worst performances by any stock market in the world. Higher inflation, a slowdown in exports, restrictive monetary policy (that included raising the commercial bank's reserve requirement) have each been cited as contributing to the decline. The sudden extensive decline induced many Chinese people to become angry at their government for not introducing policies to reverse the downward stock price trend (Zhixin 2008).

Unlike the stock market China's fiscal balances are the envy of many wealthy countries. The government budget balance has shown a surplus for the past few years, steadying at about 0.5% of GDP during much of 2008 (*The Economist* 2008D). China's external balances are favorable as well. China has become the world's third largest global trader as its exports increased from about $438 billion in 2003 to over $1.2 trillion in 2007, while imports grew from $412 billion to over $950 billion during same 2003-2007 period. Although the percentage change of export volume has declined each year since 2003, growth remains strong as export volume increased about 17% from mid 2007 to mid 2008, After the country's balance of trade surplus hit a record high in 2007 there was an anticipated

[5] The September, 2008 exchange rate is $1 = RMB 6.85.

slowdown of exports during much of 2008[6] - but the balance of trade remained positive, reaching almost \$250 billion from August 2007 - August 2008. Meanwhile the country's current account balance was over \$370 billion during the same period, or about 8.6% of GDP (*The Economist* 2008D). The favorable external balances and high (and rising) levels of FDI brought China's foreign reserves to well over \$1.8 trillion, up about 50% from 2006. China continues to lead the world in FDI received. In 2006 FDI exceeded \$70 billion, although that amount represented an 8% decrease from the previous year. However, in 2007 FDI rose almost 14% to over \$82 billion (US-China Business Council 2008A), and then during the first four months of 2008 absorbed FDI increased by almost 60% over the comparable period for 2008 (Ministry of Commerce 2008). This surge supports the findings that ranks China #1 in the world in terms of the FDI Confidence Index (AT Kearney 2008). China's international balances and FDI flows help explain the 17% appreciation of the RMB from \$1 = RMB 8.276 in 2005 to \$1 = RMB 6.85 during the summer of 2008.

Offsetting the many positive indicators of China's economic performance, in addition to the rising Gini coefficient, is the fact that China may now be the world leader in emitting pollutants into the environment - and the economy and virtually the entire population are suffering from continued declines in water and air quality. China now accounts for about one-sixth of the world's greenhouse emission. During 2008 China became the world's leading emitter of climate-warming gases as emissions rose 8% over the 2007 level, although China's per capita emission of CO_2 (about 5 tons per year) is well below the 20 tons per capita USA CO_2 emissions (Rosenthal 2008; UNDP 2008). Unfortunately, while China has signed and ratified the Kyoto Protocol as a non-Annex I Party to the Protocol China is not bound by specific targets for greenhouse gas emissions (UNDP 2008).

Throughout China there are visible signs that global warming is having detrimental effects as temperatures have been changing, droughts have become more frequent and longer lasting, storms and flooding are occurring more frequently while rainfall patterns have been altered. Unless the rapid rates of GDP growth are lowered and corresponding production methods altered in an environmentally-friendly manner the volume of greenhouse gas emissions will continue to increase. In particular, China's dependency upon heavily polluting coal-fired power plants will need to be reduced, although the surge in oil prices has induced just the opposite reaction. Further, China would need to lower output of cement, aluminum and plate glass - the production of each being a major contributor to greenhouse emissions. That would require the construction boom to be reduced.[7] Thus, considerable policy measures need to be introduced to alleviate growing environmental problems even though "China has been 'acting progressively on environmental policy' in the past year, developing plans to shut down highly polluting small and midsize industries and for more alternative energy" (Rosenthal 2008).

[6] Factors contributing to this trend included the slowdown in world economic growth, the RMB appreciation, rising wages in some of China's manufacturing sectors, and rising shipping costs due to oil price increases with corresponding fuel surcharges added by shippers.

[7] There is evidence that a high percentage of recently constructed housing remains vacant. Some builders have been accused of purposely leaving them vacant in the speculation that prices will rise considerably, which seemingly has had the effect of raising the price of other apartments as well.

Summary of the economy's overall performance, and its current state

Taking into account the top priorities of China's policymakers, which has remained rapid and balanced economic growth, with a growing interesting in reducing inflation, the Chinese economy has performed very well. Its real GDP growth rate has remained worlds highest over the past three decades. However, inflation has increased the past two years, although it declined modestly starting mid 2008. The particular fear among policy makers is that rising prices of staples such as food will trigger social unrest. Some subsidies to keep food prices lower have been introduced in the interests of maintaining social stability. Urban unemployment has been kept low, another high priority for policy makers, although evidence indicates a growing problem in rural areas as well as among those recent university graduates seeking entry into the labor market. Very favorable results can be found when the absolute values and trends of China's Human Development Index, Human Poverty Index, and Gender Development Index are considered. Improvement of each has received high priority from central policy makers. Business confidence remains strong, although some fear that rising labor costs may dampen that confidence. Foreign confidence in China's economy remains very strong, as evident by China remaining the world's largest recipient of FDI as well as retaining its #1 ranking in the FDI Confidence Index, and by the 2008 surge in FDI. Meanwhile, consumer confidence remains favorable, and there has been a growing contribution of consumption to GDP. Fiscal balances and external balances have been especially strong, as has the strength of the RMB. There have been adjustments to growing international competitive pressure through greater import substitution with more output of higher value added goods such as autos and computers. These adjustments are having a positive impact on China's external balances, international competitive position, and domestic earnings.

The improved status of the banking system has been particularly noteworthy since China's banking sector was considered dangerously weak by those forecasting the collapse of the economy. The recent dramatic stock market decline and potential bursting of the property values bubble could, however, introduce new problems into the financial system. The RMB remains overvalued according to "market" estimates, China's external balances are unusually high, the distribution of income (particularly urban versus rural as well as male versus female) has widened, and environmental conditions worsened. When the priorities of China's policy makers are considered, an overall evaluation of the economy's performance would be favorable to Chinese policy makers, as rapid GDP growth has been maintained and urban unemployment has remained modest. Foreign analysts who assigned different weights to key macroeconomic and socioeconomic indicators would acknowledge the growth and employment performance, but would correctly point out that inflation, income inequality, and environmental degradation remain serious problems that unless alleviated could have a substantial negative impact on China's overall performance in the near future.

The future

What is the likelihood that China's economy will continue to perform favorably rather than experience a substantial reversal of what has been an economic performance that has featured, among other achievements, unprecedented rates of rapid real GDP growth and poverty reduction? Can the high rates of GDP growth be maintained without changing the current mix and methods of production mix so as to alleviate environmental degradation problems? According to the consensus among expert analysts[8] the immediate future looks bright, with no imminent collapse predicted.

China's GDP growth is likely to remain above 8% with per capita income growth of about 4% annually over the next 5 years, although China will remain a relatively poor - but a rapidly developing - country. Persistent inflation problems are not forecast, but concerns about the country's ability to both reduce income inequality and environmental degradation remain widespread despite central government efforts to improve both conditions. In particular, little reduction is expected of environmental problems if high GDP growth rates continue without substantial policy changes that would alter production methods and the use of heavily polluting inputs such as coal and petroleum. The banking system's solvency is expected to continue improving as the non performing loan problem continues to abate, although negative interest rates for savings depositors due to high inflation and the potential impact of continued stock market volatility and the possible bursting of the property value bubble would adversely impact China's financial sector.

Government fiscal and external balances are forecast to remain positive[9], as are high levels of FDI. However, the large "substantial" current account balance could prove problematic according to some analysts. Such balances almost ensure that the RMB likely will continue to appreciate gradually (towards what some Chinese financial exports argue would be a "market" $1 = RMB 5 rate). Meanwhile, export growth is expected to continue declining slightly (from over 40% a few years ago), but there is no indication that China is about to lose its international competitiveness by a substantial amount in the near future as its manufacturing sector for exported goods remains both "robust" and relatively efficient. Thus, China is expected to remain the most important contributor to the world's GDP growth.

These forecasts likely will not be altered due to the winter 2008 heavy rain and snow in Guangdong, late spring earthquake in Sechuan, or Summer Olympic Games. In the greater Guangdong area a only a modest negative effect on GDP growth from the adverse weather has been predicted, and it is likely there will be more of an effect on GDP here than in Sechuan (see below) since the greater Guangdong area accounts for a much higher percentage of China's GDP than does Sechuan (*China Economic Review* 2008). Higher state investment in response to the need to rebuild some infrastructure may serve to offset some of the decline in Guangdong's manufacturing output. Similar forecasts have been made about the impact of the Sechuan earthquake that affected five other provinces: Gansu, Shaanxi, Henan, and Yunnan, and Hubei. An estimated 34 million people were affected by the disaster, and over 10 million homes were either severely damaged or completely destroyed. Also severely damaged were bout 30,000 hectares of farmland, 100,000 hectares of rice paddies, and a large amount of farming facilities - including more than 30,000 farm machines. In addition, over 7000 kilometers of irrigation canals also were damaged, as were many water and sanitation facilities. Power transmission facilities as well as thousands of kilometers of roads and tunnels also suffered considerable damage. Despite the enormous damage the impact on China's economy is anticipated to be modest given the area's relatively small contribution (less than 1%) to the country's GDP. Further, as with Guangdong, the considerable investment in new infrastructure and the outpouring of domestic and

[8] Particularly those at the Asian Development Bank, OECD *The Economist*, US-China business Council, and World Bank.

[9] China's holdings of foreign reserves are so great that during the USA financial crisis Morgan Stanley approached the China Investment Corporation, a sovereign wealth fund, about purchasing up to 49% of Morgan Stanley stock.

international aid (in excess of $6 billion) will inject expenditures into Sechuan's and neighboring damaged provinces that will lessen, and perhaps even offset the overall negative economic impact of the adverse weather and earthquake activity. Some Chinese economists even predict that extensive reconstruction expenditures actually will boost growth (*China Economic Review* 2008). However, it is also possible that such a dramatic increase in investment could add to the inflationary pressure already plaguing these provinces (World Bank 2008).

Much has been written about the likely impact of the 2008 Summer Olympic Games. All analysts agree that Olympics host nations and the host city experience both short and long term dynamic effects - both of which are difficult to predict. It has been argued that based upon empirical evidence from previous Olympic games one should not expect that the direct and indirect investments made by the host country will "create large and lasting economic benefits" to the host city (Owen 2005). It undoubtedly was the not case for some previous summer games (Montreal, 1976) and Athens, 2004) where there was a substantial difference between forecasts and actual outcomes as both cities incurred considerable net costs.

While it is too early to offer a convincing monetary estimate of the impact, the likelihood as to whether or not the Olympics will positively impact China's economy can be analyzed. However, prior to the start of the Beijing Olympics optimistic forecasts were made by some Chinese organizers. One estimate made by a leading member of the Beijing Olympic Organizing Committee was that net profit would be about $30 million (Yang 2008). Further, an International Olympic Committee official gave Beijing a chance to be among the most profitable of all summer Olympic Games.

After the July, 2001 IOC decision to award Beijing the 2008 Olympic Games there was increased popularity of tourism in China. During mid 2001 to mid 2008 period tourism increased about 7% (Yang 2008) a year and was up almost 21% in 2007 from 2006 (Sands 2008). Beijing had almost 4 million tourists in 2007, an increase of almost 12% over 2006 (Sands 2008). These tourist figures provided one reason for optimistic tourist visits and expenditures forecasts for the summer of 2008. One forecast predicted that about two million tourists would visit Beijing during the Games, with each foreign visitor assumed to be spending an average of almost $1000 for hotels, transportation, dining, entertainment and hospitality services (Koehler 2008). Further, it was assumed that on average each Chinese visitor who visited Beijing for the Games would spend an average of almost $150. Another analyst estimated that spending in Beijing and in other Chinese cities where the same tourists were expected to visit would generate $4.5 billion (Yang 2008). It is not clear whether or not the higher estimate factored in an expenditures multiplier effect. The overall impact of tourism during the period of the Games was 10% to 20% lower than forecast as the number of tourists to visit Beijing during August of 2008 fell short of the forecasted 2 million.

Beijing appears to have realized positive income and employment effects prior to the start of the Games. The city's annual output grew an average of 12% over the previous five years, boosted by the additional Olympics-related investments which contributed an estimated 4.5 percentage points to the city's growth between 2002 and the start of the Games (Koehler 2008; Sands 2008; Qiu 2007). Both residents' per capita incomes and employment levels increased in the process. Estimates of the number of new jobs created - particularly in construction, logistics and high-tech manufacturing positions - by Olympic-related spending ranged from 1.8 to 3.6 million (Yang 2008; Koehler 2008), with the official registered unemployment rate in Beijing declining about .25 percentage points to 1.84% prior to the start of the Games (Qiu 2007). Some of those newly employed realized improvements in their human capital as many had to learn rudimentary English and acquire some additional skills for dealing with a diverse range of foreign athletes, coaches and tourists.

There were, and will continue to be, ther considerable gains for Beijing (and other cities, including Shanghai and Tianjin, where Olympic venues were located) ensuing from the high levels (about $40 billion by the start of the Games) of direct and indirect investment for Olympic venues (about $2 billion), infrastructure such as transportation (including for high speed trains), communication, a new air terminal, highways and city roads, buses, subways, and environmental improvements. One estimate was that the total investment for projects related to the Olympics would eventually reach $180 billion over the next decade (much of which has been integrated into China's 10th 5-Year Plan) for post-Olympics environmental and infrastructure investments (Koehler 2008).

Income received from an unprecedented number of Olympic sponsors, the sale of television rights and expanded advertising efforts was considerable. Sale of television rights to NBC and sponsorship from multinational firms such as Visa, General Electric, McDonald's, Samsung and Kodak generated about $2.5 billion (Yang 2008). Large Chinese firms such as Lenovo, Air China and China Mobile also used the occasion of the Olympics and the world spotlight on China to boost their advertising expenditures. Advertisers' expenditures throughout China for 2008 are estimated to have risen about $4 billion with additional expenditures on Internet advertising forecast to rise 30% during the same year (Sands 2008). Another source of revenue (yet to be determined) was generated realized by about 800 official Chinese merchandisers of more than 5000 Olympics' products that were sold throughout 2007 and 2008 all over China (Yang 2008).

The cityscape of Beijing was transformed as infrastructure was modernized (especially stadiums, the airport, parks, subways, roads) - improvement that were the "culmination of seven years of national investment, planning, concentrated state power, national mobilization and hard work" which one American visitor for the Games argued created a more beautiful and efficient airport and transit system in Beijing (and Shanghai) than exists in New York City (Friedman 2008). In addition to the additional conveniences to travelers offered by the new airport terminal, public transportation improvements will make transfers to and from the airport more comfortable and faster. Six new expressways now link the center of Beijing with the airport, as well as other cities. There is now a new high-speed train linking Beijing to Tianjin. Within Beijing the subway system has been improved and a light rail system introduced, while over 300 kilometers of streets were either constructed or refurbished. Traffic on all of these will be coordinated by a new high-tech control system. Some dilapidated housing and urban buildings were torn down and rebuilt, historic areas refurbished, and some national historic sites including the Forbidden City were restored.

Some high technology investments include over $3.5 billion to transform Beijing into a "digital city" that features "widespread use of digital and broadband telecommunications, wireless transmission and networking technologies, and 'intelligent technologies,' including smart cards" (Sands 2008). In the process Beijing's scientific and innovation capabilities have been enhanced, retailers' ability to market their products has been upgraded. All of these changes should enhance Beijing's appeal to foreign tourists and investors. Foreigners also will appreciate that 100 new hotels were constructed, with foreign investors active in ownership. Evidence that overbuilding of hotels designed to service tourists and participants attending the Olympic Games may have occurred bodes well for lower lodging rates for future tourists and business travelers.[10]

Efforts were made to incorporate environmental improvements into all new infrastructure construction so as to make Beijing cleaner and greener. The latest 'green' criteria such as assuring water and energy saving practices were adopted by all newly constructed hotels (Koehler 2008). The new taxis and buses introduced to replace old, heavily polluting gasoline- or diesel-consuming vehicles were equipped with catalytic converters designed to meet the stringent EU environmental and fuel standards in an effort to improve air quality (Sands 2008). Improvements to roads were accompanied by extensive planting of trees and other landscaping projects. A legacy of the Olympics is that Beijing has far more trees, bushes and lawns, while outside the city 20 natural reserves were created to protect forests, wild plants, animals, wetlands, and geological formations (United Nations Environment Programme 2007). Many Olympic facilities featured a solar power system to supplement the conventional power system so as to make the new stadiums and arenas perhaps the most environmentally friendly sporting arena in the world (Koehler 2008). Within Beijing new wastewater and solid waste treatment plans have been built. Nationwide recycling efforts have been increased, and a ban on the use of plastic bags for retail sales has also been introduced.

The outcome of these environmental efforts could be observed during the Games as air quality was not as poor as had been widely feared. However, it remains to be seen whether or not air and water quality improvements can be sustained. The key is the rate at which China can reduce the number of energy-intensive, heavily polluting, coal driven factories and energy facilities by introducing alternative energy sources such as natural gas, wind power, and geothermal, and also how policy makers are successful in shutting down or relocating some heavy polluters in the chemical and coal mining industry (Qiu 2007). Overall, Beijing's Sustainable Development Plan faces challenges to make future growth and development both sustainable and environmentally friendly by improving both air and water quality along with both wastewater and waste management processing.

There is the potential for considerable future revenue to be realized from the nearly $2 billion invested in constructing or refurbishing venues for the Olympics. Unlike recent summer games hosts China built their state-of-the art Olympic venues strategically with the intention of hosting revenue -generating events in the future. By most accounts these venues, and the success of the Games created a very positive image of China for both those in attendance and the billions of foreigners who watched on television. This improved image, combined with an "Olympic Legacy" could very well translate into higher levels of both tourism and investment (Koehler 2008). Visitors and television viewers undoubtedly were positively impressed by the infrastructure and transport facilities that will make Beijing even more attractive as a tourist destination, the first exposure for many to China's historical and cultural heritage, as well as the genuine hospitality of the Chinese people as reported by many attending the Games. It is anticipated that one future effect of the Olympics will be that China is likelier to host more international events in track and field, swimming and diving, basketball, soccer, sailing, as well as cultural events such as concerts in some venues built or refurbished for the Olympics. Further, the many training centers constructed in preparation for the Games will continue to provide Chinese athletes with excellent training facilities. (Koehler 2008). There is an anticipated economic impact of the growing sports industry in China which could grow, according to one estimate, by 20% annually following the Olympics

[10] It was estimated that about 20% of hotel rooms in Beijing were vacant during the Olympic Games.

(Sands 2008). These positive outcomes should offset the negative effects of the Olympics which were more social than economic: displacing some local residents and shutting down some area transport and industry during the Games, as well as the unfavorable image created when some protestors were forced to leave China during the Olympics.

Taking all economics and image effects of the Olympics into consideration, the estimate made by the President of the Beijing Olympic Economic Research Association prior to the Games that foreign tourism to Beijing could surge about 8% to 9% annually is credible (Rogers 2008; Sands 2008). Realizing a net economic benefit has been made likelier due to the ability of Olympic organizers to have made extensive use of volunteers (up to an estimated one million) while experiencing virtually no labor problems during construction - thereby keeping future labor costs low (unlike what occurred in both Montreal and Athens). When all potential benefits and cots factors are considered, along with the likelihood of greater tourism and FDI over the next 5 years, it is reasonable to predict that China could very well reap a greater, albeit perhaps modest, economic return from its Olympics' investments than previous hosts of the Olympic Games.

Summary and conclusions

Taking into consideration data provided by both Chinese and respected international sources of macroeconomic indicators the Chinese economy, as well as the likely impact recent events within China, no imminent collapse of the Chinese economy appears likely over the next five years. Rather, the economy is likely to continue to perform favorably when GDP growth, urban unemployment, external and domestic fiscal balances, stability of the banking system, FDI, and exchange rate stability are given relative importance. As the world financial crisis unfolds China may wind up owning substantial shares of some major financial institutions. Thus, as 2009 approaches, China's economy is stronger and more fiscally sustainable than every G-8 members' economy. However, Chinese policymakers will need to address more aggressively growing environmental and income inequality while preventing higher rates of inflation - particularly for food and health care, if China's economy is to continue on its favorable path.

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Review article

Hedonic Man:

The new economics and the pursuit of happiness[1]

Alan Wolfe [Boston College, USA]

Happiness: A Revolution In Economics (Munich Lectures In Economics), Bruno S. Frey (MIT Press, 240 pp.)
Predictably Irrational: The Hidden Forces That Shape Our Decisions, Dan Ariely (Harper Collins, 280 pp.)

I.

When I first began hearing about what Bruno S. Frey, professor of economics at the University of Zurich, calls the "revolution" in his discipline, my reaction was one of delight. As far as I was concerned, it could not happen fast enough. Neoclassical economists had insisted upon the primacy of self- interest only in order to model human behavior, but the way rational choice theory developed (at the University of Chicago in particular) suggested that self-interest was not just a fact for these thinkers, but also an ideal: not just how people do act but also how they should act. Their relentless advocacy of market-based public policies was finally ideological--and, by my lights, ideologically wrong. Also the jargon grew impenetrable, and the mathematics ostentatious and obnoxious. When Chicago-style economists started to apply their methods to other social science disciplines, and then to virtually all the perplexities of human life, the charge of academic imperialism could be added. Friedrich August von Hayek and Milton Friedman had always seemed to me to be marginal and somewhat bizarre thinkers, especially when compared to such intellectual titans as John Maynard Keynes and Joseph Schumpeter. The rapid spread of their ideas throughout so much of academia did not bode well for the future.

And so I was heartened by the first sustained attacks on neoclassical economics. For one thing, the thinkers who launched them--Daniel Kahneman and Amos Tversky--seemed to be geniuses of some sort. Both had good reason to become fascinated with how human beings make decisions. Kahneman was born in Tel Aviv in 1934 and raised in Paris; his family decided to remain in France after the Nazis took over the country, and then to rely on business connections to spring his father from the death camps, and then to move to Palestine before the creation of the state of Israel. Tversky, born in Haifa in 1937, earned, at the age of nineteen, Israel's highest military decoration, for rescuing a fellow soldier from an exploding device, in the process injuring himself. These men grew up under conditions that might have led them to divide the world into black and white, good and evil, but this did not happen. Instead they developed an appreciation of human complexity, even a love for it. "Some people were better than others," Kahneman described what he learned from his parents, "but the best were far from perfect and no one was simply bad."

The collaboration of Kahneman and Tversky produced one of the major intellectual accomplishments of the late twentieth century: a series of ingeniously designed experiments that raised uncomfortable questions about "utility maximization," which was the major assumption of microeconomics. To wit: it makes no difference in theory whether you lose a

[1] This essay appeared in The New Republic and is published here with permission of the author.

ticket to a play or lose the $10 that the ticket cost, but when people lose the ticket they are far less likely to buy another one than when they lose the money. Kahneman and Tversky's explanation is that we create a mental account such that it makes sense to us to pay $10 to see a play but not $20, even though the utility sacrificed by losing the ticket and the money is identical.

Tversky died of cancer in 1996. Kahneman won the Nobel Prize in economics in 2002, and is an emeritus professor at Princeton. Between them, they rattled the role of reason in the pantheon of human motives. They made clear that even if we think we know what is in our own best interest, we frequently make decisions based on misinformation, myopia, and plain quirkiness. The picture of human nature that they developed was--in contrast to the world of homo economicus-- ironic, skeptical, almost wickedly complex.

No single figure did more to bring the insights of these two economic psychologists (or psychological economists) to economics than Richard H. Thaler of the University of Chicago. "When I read this paper," he wrote of Kahneman and Tversky's classic article "Judgment Under Uncertainty," which appeared in 1974, "I could hardly contain myself." Although trained in neoclassical economics, Thaler developed something of a furtive addiction to what his immersion in psychology had revealed to him. In the 1970s he spent considerable time with Kahneman and Tversky, after which he published a series of papers applying their insights to a wide range of economic activity, especially those involving finance. Quasi Rational Economics, published by the Russell Sage Foundation in 1991, collected those early papers and made them influential. The title of the volume suggested that we are not always rational and we are not always irrational. Yes, people deviate from the models of human behavior associated with neoclassical economics, but usually "in well-defined situations under careful laboratory controls," as well as "in natural settings such as the stock market." The theme of Thaler's book was that traditional economic assumptions about human behavior needed to be altered, not replaced.

What Kahneman and Tversky began and Thaler solidified is now frequently called behavioral economics. Its leading figures continue to sparkle. Steven D. Levitt, the co-author of Freakonomics, writes decent prose--or at least is willing to work with a journalist who does; and he, too, teaches at Chicago. The topics that behavioral economists address range far and wide, and often have little to do with the realm of getting and spending. They are interesting, intriguing, and sometimes too cute: raising children, deterring crime, gambling, choosing names. The public-policy implications associated with this way of thinking are anything but predictably right-wing, and in the person of Austan Goolsbee, another economist at Chicago who is also Barack Obama's chief economic adviser, they now figure prominently in American politics.

Thaler has recently collaborated with his former legal colleague Cass R. Sunstein (a frequent contributor to these pages) on a book called Nudge: Improving Decisions About Health, Wealth, and Happiness, which introduces a concept that the authors call "libertarian paternalism." This provocative oxymoron seeks a middle way between laissez-faire and the heavy hand of governmental regulation: public policy, by providing "choice architecture," can push people toward decisions that make the most overall sense, as opposed to coercing them or being indifferent to their preferences. Only time will tell whether "libertarian paternalism" offers a new way of thinking about public policy that can lead to major legislative accomplishment, or instead represents the kind of bland centrist politics that a decidedly non-Chicago economist, Paul Krugman, denounces as hopelessly naive. But there is no denying that just as Levitt brought behavioral economics to the best-seller lists, Thaler and Sunstein are bringing it to the think tanks and maybe even to the West Wing.

The revolution begun by Kahneman and Tversky is now some three decades old, and it is generating excitement well beyond the borders of academe--and so this is a good time to examine whether it has lived up to its promise. Bruno S. Frey's Happiness and Dan Ariely's Predictably Irrational together offer a fine occasion to begin such a reckoning. Not all the revolutionaries in economics are discussed by Frey; the media star Levitt does not even make an appearance. Ariely, who teaches at MIT, helps to fill in the picture. Like Levitt, he has climbed the best-seller list with some of the most counterintuitive findings of behavioral economics. One is dry and humorless, the other is sprightly and inviting, but between them these books offer an overview of what this new economics is all about, and enable us to evaluate whether it is as innovative as its adherents claim.

2.

One major conviction drives the new economics. Economists used to believe that it was unnecessary to measure utility except in this way: the price that a person was willing to pay for something established its utility, and so there was no need to dig any deeper, to examine what was driving the psyche of the economic actor. But the behavioral revolution in economics challenges this assumption. It is based on the idea that we must look into that black box called the human mind to find out whether the things that we say we want really do give us pleasure. Utility, after the revolution, is no longer abstract. It is lived, experienced; it is existential. And fortunately, or so these books argue, the field of psychology has uncovered timely and fascinating truths about the ways our minds work, and these insights may breathe new life into the old idea of utility. Hedonic psychology, happiness research, behavioral economics, economic psychology, the study of well-being, judgment and decision-making--call it what you want. Suddenly everything we thought we knew about economics begins to look different.

Happiness, of course, is anything but a new idea in Western thought. It is, for one thing, the core principle of utilitarianism, the philosophical outlook associated with James Mill and Jeremy Bentham, according to which the most accurate description of human beings is that they seek pleasure and avoid pain. Dickens rather brutally satirized the utilitarians with the unforgettable character of Thomas Gradgrind in Hard Times, and ever since the notion of human beings as calculators of pain and pleasure has been subject to the withering criticism of philosophers, who have shown that utilitarianism pays inadequate attention to the full complexity of human decision-making, particularly in the moral sphere.

But the new economics proceeds in perfect indifference to Gradgrind and the philosophers. It is, in fact, a revival of utilitarianism. In 1999, the Russell Sage Foundation published Well-Being: The Foundations of Hedonic Psychology, edited by Daniel Kahneman, Ed Diener, and Norbert Schwarz. Intended as a major statement of the new field's potential, the volume included Kahneman's seminal essay "Objective Happiness," in which he tells the following story. Someone tells us that Helen had been happy in March. How do we know? If the issue is how sick Helen had been, we would know how to answer the question. Suppose Helen's temperature had been taken every ten minutes for every day of the month. With that data we could plot the results and come up with an answer that any objective observer could accept: if Helen had never registered a fever during that time, we could conclude incontrovertibly that she had been well. We need not even have monitored her so carefully. If her temperature readings had been sampled at random intervals, we could still decide, with a statistically ascertainable degree of certainty, that her health had been fine.

Is happiness any different? No, according to Kahneman, at least not in theory. The Victorian economist Francis Edgeworth, a disciple of Bentham, understood as much: he anticipated using a "hedonimeter" to measure the goodness or the badness of the things that we encounter in daily life. Edgeworth, Kahneman believes, was on the right track. It is true that the mind is a complex thing and we are unlikely ever to have perfect measures of what the neo-utilitarian Kahneman calls "instant utility," or the immediate good sensations or bad sensations that register in our minds every time we encounter something in the world. Still, weaker measures of instant utility are available to us. Why not sample Helen's feelings just as we sample her temperature?

"Helen might be probed at irregular intervals by a beeper mounted in a special watch, which also displays a scale on which she can select a value that describes the GB [good-bad] value of the moment," Kahneman suggests. It still might be difficult for her to compare the pleasure of eating a slice of key lime pie with, say, the pleasure of an orgy with six of her friends. (This is my example, not Kahneman's.) Still, all is not lost. Helen can simply be instructed about the scales appropriate for different kinds of experiences. "Fantastic" can have one meaning in the context of a dessert and another in the context of group sex, and any subject can learn which attributes best go with which experiences. (Sex, as we learn from another tool of the new economics-- the Day Reconstruction Method, which asks people to recall everything they did on a particular day--takes up on average ten minutes out of every twenty-four hours, compared to socializing and relaxing, which occupies 120 minutes.)

Helen, of course, does not exist. This is a thought experiment. The premise of Kahneman's article is that we should not be satisfied with the techniques available to measure happiness, but should think more about what happiness actually is, and then develop techniques appropriate to it. Some types of experiences "will eventually be clarified by studies of relevant brain activities." Helen "could eventually learn" to compare pleasures across different realms of life. Greater validity of the kinds of reports that Helen gives "may emerge from research on the neuropsychology and psychophysiology of affect." Some day, in other words, Edgeworth's hedonimeter will be a staple of academic departments of psychology and economics, and that day may well come soon: "The movement from science fiction to practical application is likely to be rapid in this domain." Writing in the future tense may seem an odd choice for a social scientist interested in people's behavior in the here-and-now, but every proclaimed revolution in the social sciences--from the behavioral revolution in political science of the 1950s to the fascination with evolutionary theory today--promises something new around the corner.

Kahneman's essay was published almost a decade ago. Where are we now? If Frey's book is any indication, the revolution in economics has taken a giant step backward. Happiness, Frey tells us, need not be established objectively at all. We can instead rely on what he calls "reported subjective well-being." Even if you have not heard this term, you most likely know to what it refers. Surveys routinely ask people questions like this one, which is included in the Euro-Barometer Survey: "On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead?" And that, pretty much, is Frey's exciting new method. Take people's answers, run the correlations with other variables, and get your findings. And so we learn that people who watch a lot of television are less likely to say that they are satisfied with their lives than people who watch less. This is important, Frey concludes, because it shows that "individuals have systematically imperfect foresight and control over their own behavior in a major present-day human activity." They know that watching television is not good for their happiness, but, being weak of will, they do it anyway.

From the standpoint of the right to privacy, I confess to being, well, happy that economists are not using hand-held computers to monitor people's thoughts every fifteen minutes or so. But from the standpoint of what we know about the world, it seems anything but revolutionary for economists to rely on surveys that have been around, relatively unchanged, for more than half a century. Asking people how they feel about their lives is something that social scientists do because it is something that social scientists can do. Anyone who has conducted a survey knows how imperfect a measure of anything it is. Indeed, it was precisely because the answers people give to questions are so dependent upon random events or arbitrary word order that Kahneman began his quest for the holy grail of scientistic precision. Frey recognizes these limitations, and cites a paper by Norbert Schwarz and Fritz Stark in Well-Being that leaves the validity of such subjective reports in tatters. Still, he winds up using them anyway. "It is a sensible tradition in economics to rely on the judgment of the persons directly involved," he maintains. "People are reckoned to be the best judges of the overall quality of their lives, and it is a straightforward strategy to ask them about their well-being."

If this is the best Frey can do, it helps to explain why old Edgeworth is not in the economics Hall of Fame. People buy televisions, including very expensive high-definition ones. They sign cabletelevision contracts that cost more than their electric bills. They spend time in front of the television that could be spent accumulating higher incomes--or, for that matter, enjoying their daily ten minutes of sex. Does this mean that watching television makes them happy? There can never be a perfect answer to that question: it is no more likely that our minds possess something called H, a constant measure of happiness applicable to all forms of experience, than that they possess something called G, general intelligence that can be measured through testing.

The proper question, therefore, is not whether happiness is better measured objectively or subjectively. It is, rather, the question of which of the many imperfect measures of happiness we ought to rely upon. If Frey is right that people are the best judges of their own lives, shouldn't we rely on the preferences revealed by their judgment to buy and watch television? After all, price is measured ordinally: $100 is one hundred times greater than $1. But life satisfaction, by contrast, is measured cardinally: the extent to which "very satisfied" is better than "satisfied" has to be established arbitrarily. Between two imperfect metrics, surely it is better to choose the one with fewer measurement problems. That is why economists started assuming that income can be used to measure welfare, or price to ascertain utility to any particular person.

Purchasing a television is not, of course, a life-and-death decision--which suggests that when we move away from the commodities of everyday life to more serious issues, we might be justified in using subjective methods. But this does not follow. The Scandinavian countries have high suicide rates. Suicide is generally associated with depression. May we conclude, then, that Scandinavians are unhappy? That, too, is a hard question to answer, especially because Scandinavians generally tell survey researchers that they are satisfied with their lives: 64 percent of Danes, for example, compared with 16 percent of the French. Here we have a choice between two measures of happiness, both of them problematic:

suicide rates, which, while not always accurate--in more religious societies coroners are likely to record suicide as death by natural causes--are at least factual; and subjective well-being, which is deeply imprecise and dependent upon mood. Which to choose?

For Frey, this is a no-brainer: he downplays suicide rates, explaining them away, without providing any evidence, by saying that Scandinavians also have high divorce rates and tend not to believe in God. Emile Durkheim long ago demonstrated that suicide rates tell us something about social solidarity (as do divorce rates, by the way); but Frey insists that subjective measures of well-being have an advantage that outweighs more objective data. Alas for the cause of science, this advantage has little to with reliability or validity, but a lot to do with money: "The great advantages of this measurement approach lie in its good performance relative to its cost and its availability for a large number of countries and periods." Frey's preference for subjectivity is determined objectively: by price.

All this might not be a problem if the findings established by relying on subjective well-being taught us things we otherwise would not have understood. But just as revolutions in social science are always predicting future benefits that never seem to materialize, they also possess an unfortunate tendency to nail down exceptionally trivial findings. Frey's revolution is no exception. Imagine a graph in which we rank on the vertical axis answers to questions about life satisfaction by country, and on the horizontal axis the number of terrorist incidents experienced in those countries. It turns that people who live without terrorism are happier with their lives than people who live with it. I don't know how much government officials would be willing to pay for such allegedly revolutionary advice, but if I were told by my expensive consultants that "curbing terrorists is ... important to making the population happier," I would ask for my money back.

And so it goes. Unemployed people are less happy than those with jobs. People who live in rich countries are happier than those who live in poor ones. Inflation harms individual well-being. Married people are happier than single people. Americans are made less unhappy by economic inequality than Europeans. I guess it is good that someone has come along and established these things. But is this a science, let alone a scientific revolution? Give me rational choice theory any day: at least in my own area of concern, the sociology of religion, it has established one surprising finding, which is that even when it comes to matters involving another world, people pick and choose their faith based on its costs and benefits in this one.

3.

The social sciences are not just empirical; they are normative, too. It was precisely the insistent normative preference for market-based social arrangements that turned me against Chicago School economics. Governmental regulation is always sub-optimal, they inevitably maintained. Individual freedom is worth more than social equality. If market logic works for firms, surely it can work for recruiting an army, fighting poverty, or providing kidneys. Non-Chicago economists were subtler about these matters, and at times questioned the reliance on markets; but for the many sons and daughters of Milton Friedman, we are hard-wired to be rational choosers, and any efforts we make to direct the course of our actions collectively are bound to fail. Myself, I do not believe that any of these propositions bring us closer to a good society. Other people feel differently. Democracy requires that we argue out our differences. But democratic debate is not well served by pretending that the empirical findings of a single controversial approach in a single academic discipline contain definitive answers to these questions.

Despite all this, Frey believes that a focus on happiness can help us resolve some of the normative questions that we face. Is democracy a good form of government? If so, is more democracy better than less? Relying upon surveys of reported well-being, Frey answers both questions in the affirmative. And there is a superficial plausibility to this line of argument; the Declaration of Independence, as Frey points out, mentions happiness as one of the rights endowed to us by our creator, and at least one major political philosopher, Aristotle, insisted on the importance of eudaimonia, which is usually translated as happiness. There is, moreover, a remarkable correlation between democracy and subjective happiness: one study of twenty-eight countries showed the lowest percentage of very happy people in Hungary, Russia, Latvia, and Slovakia, all very recent democracies, and the highest in such well-established democratic societies as Ireland, the United States, the United Kingdom, and New Zealand. And then, of course, there is the authority of Bentham, who argued that society ought to be organized to provide the greatest good to the greatest number of people; if democracy does that, as the evidence seems to show, then democracy is normatively preferable to nondemocracy on utilitarian grounds.

Here, alas, is where utilitarianism's severe limitations come into play. Although he was raised on the idea, John Stuart Mill eventually found utilitarianism far too limiting to account for what is most valuable in human existence--as he famously put it, "Better to be Socrates dissatisfied than a fool satisfied." For all its identification with happiness, utilitarianism (its critics rightly claim) all too often rationalizes cruelty. As Bernard Williams once pointed out, it would justify the decision of someone who murders one person to save twenty people, and such a justification, by focusing only on the consequences of our actions, leaves no room for considerations of integrity and recognizes no moral commands against killing. Along similar lines, when the animal-rights activist and committed utilitarian Peter Singer argued that it is justified to kill infants who suffer from Down syndrome, he did not exactly improve utilitarianism's ethical reputation. Philosophers continue to debate Bentham's legacy, and distinctions and qualifications multiply, but it would be difficult to find any modern moral theory more discredited than this one. If you believe that human beings come equipped with a conscience capable of distinguishing between right and wrong, then you ought not to go where Bentham wishes to lead you. But the revolution in economics now proclaims--as Kahneman (along with Peter P. Wakker and Rakesh Sarin) put it in an article in The Quarterly Journal of Economics in 1997--that we should go "back to Bentham." It appears that Kahneman, Frey, and others in this tradition will take a satisfied fool any day.

But are democratic societies happy because they are composed of satisfied fools? Utilitarianism cannot answer that question. It can demand that societies ought to be evaluated for the happiness that they produce, but it cannot tell us, at least not without being tautological, why we ought to prefer happiness in the first place. For Frey it is simply self-evident that we should prefer happiness to unhappiness. But Mill, for one, was not convinced that this would always be the case. The remarkable chapter on the "Crisis In My Mental History" in his Autobiography hauntingly documents his disillusionment with the enshrining of happiness as the highest human goal. And in his brilliant and affecting essays on Bentham and Coleridge, he made his preference for the latter unmistakable. What was lacking in Bentham, Mill argued, was a full humanity, which must include a tragic sense of life. Poets, by contrast, when they peer deeply into the nature of things, do not reveal much that is pleasant; but for all their melancholy, they shed light on what it means to be human. In art, in philosophy, in religion, in all the inquiries into the meaning of human life, an unhappy consciousness may take us further toward understanding than a Bovary-like contentment.

The same is decidedly not true of politics, of course, where discontent all too often is accompanied by blood. Yet the notion that we should prefer democracy to other forms of government because democracy better maximizes happiness is too Brave New World-ish even for Frey to accept. Western societies consider wealth important, and so they develop a measure of it called gross national product to judge their progress. If happiness is important, then we ought to have a "national happiness indicator" to measure how far we have come. Frey ponders the idea, but he elects not to endorse it. He worries that benevolent dictators might arise who will attempt to make people happy over their objections. He points out that once we begin to use measures of personal satisfaction-- eudaemonistic standards--for policy purposes, people might begin to lie about how satisfied they really are. Far better, then, that economists should simply study happiness and make policy recommendations, but leave individuals free to decide whether or not to follow them. If they do, fine. The choice for Frey, as for the neoclassical tradition in economics, ought to be left to the individual.

But what if people reject the option that gives them the greatest amount of happiness? In line with his preference for individual choice, Frey wants to leave that option open to them--but when people exercise it, surely they are expressing a preference for something other than happiness, whether it be autonomy, self-esteem, loyalty, or a recognition that it would in fact be wrong to take a life even if your actions improved the overall happiness of your fellow citizens. And so even though we are told on the first page of Frey's book that "the ultimate goal of most human beings is to be happy," we are informed at the end of the book that "whether happiness is the ultimate goal of individuals, or whether it is only one of several goals, constitutes a deep and much-discussed question in philosophy," and is therefore by implication not resolvable by economists. It took Frey an entire book written on behalf of the priority of happiness to conclude that it might not have such a high priority after all. And after this breathless tour through the new economics, we are left to understand that economics will not do the trick. Frey is certainly right about the limitations of economics in the matter of the most profound questions of human life. But there is also another implication that is not addressed: if happiness is only one of many goals that human beings seek, then making happiness central to economics is unlikely to cause much of a revolution in the field.

Even more serious problems emerge when Frey tries to make the case that more democracy is better than less democracy. By more democracy, Frey refers to such forms of direct voter participation as the initiative, the referendum, and the recall. In Switzerland, where Frey lives, it is possible to correlate where people stand on the life-satisfaction survey with the extent to which their cantons rely on direct democracy: the greater the participation of ordinary people, he reports, the greater the happiness. The same is not quite true in the United States, where states with direct democracy provide fewer services for their citizens, but (Frey hopefully adds) also spend more on education. The United States, moreover, like Switzerland, has a federal system of government, and federalism, he argues, promotes happiness as well, because decentralized and overlapping political units are more democratic than highly centralized and authoritative ones.

Except for trying to show how economists can address problems faced by other social science disciplines, Frey is not particularly interested in what those disciplines have to offer, and so he ignores the large body of research conducted by political scientists showing the flaws of direct democracy. (To cite only one example, this one involving happiness: California's initiative process is fueled by substantial levels of cynicism toward politicians, and, by promising more than it can deliver, it adds to public frustration with politics.) But this is the least of his problems. For when he addresses the problem of democracy in explicitly normative terms, Frey actually finds himself advocating something that would not allow individuals to exercise much control over the political decisions that are made on their behalf.

The problem, as he analyzes it, comes down to this: in the absence of competition, political leaders will form "cartels" designed to "exploit the voters." Direct democracy is therefore a good thing, because it breaks up such monopolies, which, in turn, explains why members of the political cartel oppose such populist measures. Empirically speaking, Frey offers no evidence for this claim--most likely because there is none: referenda almost never emerge from below, but are usually the product of one elite group trying to rally public support in order to defeat another elite group. The same is true of federalism. It was enshrined in the American system of government not to extend democracy but to protect slavery, and "state's rights" has been the rallying cry of regional elites ever since. In the real world, both direct democracy and federalism further elite control, and for one obvious reason: in any kind of democracy, representative or direct, people do not themselves rule, but choose the leaders who do. The more power those leaders have, the better able they are to deliver to the people what they want. By dismissing political leaders as little more than members of a self-interest cartel--economists of both the neoclassical and happiness persuasions find as many cartels in politics as they fail to find in business--Frey's preference for direct democracy and federalism would weaken democracy rather than strengthen it.

On normative as well as empirical grounds, then, the kind of economics that Frey rejects seems preferable to the kind that he espouses. Toward the end of his book, Frey proposes what he calls "positive Constitutional economics." Rules would be created to prohibit politicians from exploiting citizens. (Frey does not say who would make those rules.) Judges would be charged with enforcing the rules. Citizens could veto legislation and legislators could veto citizen initiatives. Federalism would be strengthened by decentralizing power, not to the states but to an entirely new political element that would have limited and defined functions, allow citizens to opt in or opt out, and organize people on the basis of commonly chosen interests as opposed to "archaic nationalism committed to pieces of land." Frey calls his preferred form of federalism "FOCJ," for units that are functional, overlapping, competing, and jurisdictional. We already have some sense of how they work; the process by which states outbid each other to attract business comes fairly close to his model. And we know what such a system produces: a race to the bottom, leaving everyone--except a few CEOs and stockholders--unhappy.

None of Frey's empirical findings are revolutionary, but his normative conclusions certainly are. Modestly, Frey calls them "to some extent radical, but not outlandish." In fact, they are radical and outlandish. At least the old Chicago School economics advocated a minimal state. Frey advocates no state at all, at least not in the sense in which nation-states have been the primary focus for political action in the modern world.

4.

Dan Ariely's Predictably Irrational is the latest book by a behavioral economist to hit the jackpot. The reason for its popularity is not hard to discover. The experiments that it describes are as titillating as they are ingenious. Here is one of them. People were asked some rather suggestive questions, such as whether they would find it exciting to spank their sexual partners or to be tied up by them during the sexual act. After their answers were duly recorded, they were asked if they would be willing to respond to the same questions, only this time at the height of sexual arousal produced by masturbation. It turns out that when we are aroused we are completely different than when we are not aroused: we are more hospitable to risk, more irresponsible, more emotional. Ariely therefore concludes that people who have no idea what they will think or do when aroused cannot know themselves very well, and the implications are dramatic: "Our models of human behavior need to be rethought. Perhaps there is no such thing as a fully integrated human being. We may, in fact, be an agglomeration of multiple selves."

Before one concludes that behavioral economists are obsessed with sex, it should be pointed out that the masturbation experiment is the only one discussed by Ariely that requires this particular kind of self-help. The others are designed to show just how odd our behavior can be in the circumstances of everyday life. Ariely and his colleagues set up a stand and offer Lindt truffles for 15 cents and Hershey's Kisses for a penny: 73 percent of their customers choose the former, 27 percent the latter. Then they lower the price of the truffle to 14 cents and offer the Hershey Kiss for free, and now 69 percent choose the Kiss and only 31 percent the truffle. Calculating utility cannot explain this result. In both cases, the cost difference is identical. So it seems that we attach an almost mystical meaning to the idea of getting something for nothing. Zero is not just another number. It plays tricks with our rational minds.

Each chapter in Ariely's book explores a similar conundrum. We attach a higher value to the things we own and are trying to sell than to the things other people own and are trying to sell to us. We try to keep as many options open as possible, even though we are actually better off with fewer. We procrastinate, even when it makes us worse off to do so. We consider it perfectly normal to pay for a meal in a restaurant, but rude and impolite to pay for a meal prepared by a mother-in-law. Our seemingly independent decisions are inevitably influenced by the decisions made by others. Instead of wanting a product and then ascertaining how much it costs, we let the cost of a product determine whether we want it. In sum, Shakespeare was way off the mark when he wrote, "What a piece of work is a man." If anything, Ariely concludes from all the experiments he lays out in loving detail, "we are not noble in reason, not infinite in faculty, and rather weak in apprehension."

If Shakespeare was wrong, it should not surprise us that economists, at least those not blessed with the insights of this radical new approach, are wrong as well. Like Frey, Ariely concludes that his discipline needs a revolution. "We are all far less rational in our decision making than standard economic theory assumes," he asserts. "Our irrational behaviors are neither random nor senseless--they are systematic and predictable. We all make the same types of mistakes over and over, because of the basic wiring of our brains." Those are bold words. If they are true, then not only is economics in trouble, but just about everything we believe about the way our societies ought to be organized is wrong. We should not have an economic system that encourages rampant self-interest. Public policy should not be designed around strictly economic incentives. Subsidies for business, the provision of pensions to the elderly, and (of immediate relevance to the masturbation experiment) the way we control the consequences of teenage sexuality--all this will have to be rethought to take account of how we actually behave, as opposed to how economists have long told us we should behave. All these, I hasten to add, are conclusions that, normatively speaking, I like: better to have health care provided to all with government help than to rely on the selfinterest of doctors, hospitals, and pharmaceutical companies. The problem is that the evidence Ariely offers in their support does not support them.

Before we start pulping all the economics textbooks, let alone rethinking a century's worth of public policy, we ought to pay a bit more attention to the actual details of Ariely's experiments. Consider the masturbators. This experiment involved a fairly narrow segment of the American population: all the subjects were male, young, and students. Why them and not, say, fiftysomething housewives? Ariely justifies his decision to focus solely on men because "in terms of sex, their wiring is a lot simpler than that of women." He does not tell us why he chose students, but we can guess: students are plentifully available, and securing their participation is cheap. Daniel Kahneman hoped that economic psychology could figure out what it needed to study and then develop the appropriate technologies; but in reality, as both of these books demonstrate, it works the other way. Technique comes first in the new economics, just as it did in the old, and conclusions follow. Ariely may want us to believe that his findings are startling; his methods, however, could not be more conventional. Survey researchers have been asking the same kinds of questions for ages, and psychologists have been studying students since experimental psychology was first developed as an academic discipline.

No one should underestimate the difficulty of persuading people to participate in psychological experiments. Availability is an important consideration in such research, which is one reason why psychologists continue to probe the behaviors of students, even though it has long been recognized that relying on them introduces bias into the results. At best, what we learn about some students might tell us things about all students, although it is still rather hard to imagine students at a conservative Christian college agreeing to answer questions while masturbating. At worst, and the worst is all too common, male students at MIT or Berkeley tell us only about male students at MIT or Berkeley, and perhaps not all that much about foreign students, older students, or female students.

Ariely is obligated to remind his readers, most of whom are neither psychologists nor economists, of the problems of selection bias that follow from his over- reliance on students as subjects. But he fails to do so. In fact, he does the opposite: he generalizes from MIT classrooms to humankind as a whole, and with abandon. This might be called the technique of the Big Slip, gliding imperceptibly from a controlled and artificial experiment to breathtaking generalizations about matters that have puzzled philosophers and theologians through the ages. It makes for entertaining reading. Alas, it tells us little about the kind of creatures we are. One simply cannot go from oversexed young men to conclusions about how our brains are wired, especially when, as Ariely himself has pointed out, women are wired differently from men. Not everyone is divided internally between placid normality and wild passion. Some people are asexual. Others opt for chastity. Still others are sexually omnivorous. What a work is man, and woman, indeed.

Besides selection bias, there exists another reason to question experiments that use students as subjects. The problem is not just that students are young, disproportionately affluent, often inebriated--Ariely conducted some of his experiments in bars--and (if they are psych majors) self-selected. The problem is also that they are in college or graduate school and not yet out in the world. Experience with the world teaches us many things. One of them might be how to better control our emotions during sexual arousal. Another lesson is that there is no such thing as a free Hershey's Kiss. (Although Ariely used MIT students for one of his experiments about free candy--indeed, he even used nine- year-old trick-or-treaters--he also used shoppers in a mall.) A third lesson is that doors in life close as you get older. And a fourth is that there are some things you simply cannot postpone. This is usually called learning, which may confidently be defined as absorbing experiences so that the decisions you make are neither predictable nor irrational.

Generally, though not always, we learn with age. There is a term for that as well, and it is maturation. By basing so many of his findings on students, Ariely concentrates on people who have learned little and matured less. No wonder they are irrational--and predictably so. They are precisely at that stage of life when they tend not to think about other people, the future, or even the mess in their rooms. They are not only different from other people; they are different from the kinds of people they will become when they accumulate more experience of life. It makes a certain amount of sense to do experiments with them. It would make more sense to repeat the same experiments not when they are aroused, but when they are older. If rats can learn, surely MIT students can as well.

And if all this were not enough, Ariely's descriptions of his experiments with students contain yet another flaw: none of his experiments fail. Whether or not our irrationalities are predictable, Ariely's chapters are--and relentlessly so. Each chapter begins with a description of the way we are supposed to make decisions, and proposes some clever ways of testing the proposition, and--lo and behold--discovers through an experiment that this is not how we make them at all. Now, if I went shopping for a car and was told by the dealer that the used car he is selling happens to be perfect--that many tests were conducted on it and it passed every one with flying colors--I would be inclined to distrust the information that he was providing. All cars have flaws, if you look long enough. I confess to feeling much the same way about what Ariely is trying to sell me. I have been a social scientist long enough to know that not every hypothesis is always confirmed: neither life nor social science works that way. Either Ariely is the greatest designer of psychological experiments who ever lived, or he is failing to include in his thesis-driven book experiments that show that people can behave rationally after all.

It sounds harsh to say, especially about a social scientist who so clearly loves what he does, but in the absence of any accounts of failed experiments, it is difficult to take what Ariely tells us at face value. Which would you rather have, he asks at one point, a free $10 gift certificate or a $20 gift certificate for which you must pay $7? When I read that, the rational answer was immediately obvious. But Ariely claims that "most" people at a Boston mall irrationally chose the one that saved them $10 rather than the one that saved them $13. So curious minds want to know: how many is "most"? What differentiated those who chose the one option from those who chose the other? Were people given five seconds to answer, or a minute? Even if a statistically significant number of people chose the wrong answer, does this mean that they are irrational or just mathematically challenged? Falsifiability, one of the cardinal inclinations of scientific inquiry, just does not seem to happen in Ariely's research. He calls himself a scientist, but the methods that he describes lack any appreciation of the many false starts, delayed gratifications, and unexpected findings that are invariably part and parcel of the scientific enterprise.

No wonder, then, that when we move from the flaws inherent in the experiments that Ariely conducts to the sweeping statements of the human condition that he draws from them, we are still on the shakiest of grounds. Ariely describes what he calls the "main lesson" from his experiments this way: "We are pawns in a game whose forces we largely fail to comprehend." In which case it is not just economics that needs a revolution, but philosophy as well. Kant's insistence on autonomy, the importance that Mill attached to individual self-development, even the religiously inspired ideal that we can model ourselves on the image of God--all these notions represent an impossible dream. Since students in experiments cannot figure out what makes the most sense for them economically, we must reject the Enlightenment.

It is not Adam Smith's conception of the free market that Ariely seems willing to throw out; it is his entire moral philosophy. The interests can no longer control the passions. There are no impartial spectators. The market will not set us free, because our fate is in the hands of forces beyond our control. Perhaps you can begin to see why, in comparison to this, there might be something to be said for Smith-influenced neoclassical economics after all. However limited their imaginations, rational choosers are not pawns.

Ariely eventually wakes up to where his analysis is leading him--and decides that he does not wish to go there. "Once we understand when and where we may make erroneous decisions," he writes on the last page of his book, "we can try to be more vigilant, force ourselves to think differently about our decisions, or use technology to overcome our inherent shortcomings." This is encouraging, even optimistic--but it stands in rather sharp opposition to all the conclusions that Ariely draws from his experiments. He is strikingly similar to his masturbating students, only in reverse: the Dan Ariely who gets all excited about describing the details of his research does not seem to know the Dan Ariely who finally gets around to pondering their implications in relative calm. An agglomeration of multiple selves, indeed.

Of all the Victorians, it is not Edgeworth or Mill who should have the last word on Ariely. That honor falls to the mathematician Charles Dodgson, better known as Lewis Carroll. "When I use a word," Humpty Dumpty said, "it means just what I choose it to mean, nothing more, nothing less." The same is true of Ariely. Our shortcomings are "inherent," but we can nonetheless overcome them. Our irrationalities are "predictable," but they are also correctable. Our brains are "wired," but we still have free will. We are "pawns" in a game of chess, but we can also act, if not like queens, then at least like bishops. By the time I finished Predictably Irrational I had pretty much the same view of human beings as when I began: imperfect creatures, but also quite capable of improving on their condition by learning from their mistakes. Some revolution.

5.

The approaches of Bruno Frey and Dan Ariely goad us in slightly different directions. Ariely cares not a whit whether munching Lindt truffles or Hershey's Kisses actually improves our happiness, while one can easily imagine Frey correlating their respective consumption rates with measures of life satisfaction in every Swiss canton. (Lindt was founded in Frey's Zurich.) Still, the parallels between them are striking, and it is not just their common indebtedness to Daniel Kahneman and, by extension, to Amos Tversky. Both authors begin with a radically simple premise: in one case, that happiness is our greatest priority; in the other, that we always act irrationally. Both spend whole books demonstrating that, as a consequence of their blinding insight, the discipline of economics needs to be overhauled. And both conclude that the world is not so simple: we seek goals other than happiness; and for all our irrational predictability, we can be both rational and unpredictable. Each author announces a revolution and then, before closing, offers an epitaph for its passing.

One has to wonder why the revolution in economics failed so badly even before it really got off the ground. Neoclassical economics may in some ways be preferable to what the revolutionaries offer, but it remains a vulnerable approach, stuck in unrealistic assumptions about human behavior and all too complacent about the beneficial equilibria established by markets. Nor can one deny the ingeniousness of the early days of economic psychology, especially the inventive puzzles that Kahneman and Tversky devised. If ever a field were ripe for revolution, it is economics. Yet if these two books are any indication, supply and demand, marginal utility, rational choice, and cost-benefit analysis are not going away. At best, economists will tweak their models a bit to account for some of our odder calculations. More likely, they will simply reiterate their belief that we need not examine the internal mechanisms of utility satisfaction because the price someone is willing to pay for something is really all we need to know.

Since they fail so conspicuously to live up to what they promise, these books reveal more about the sociology of the academy than they do about the behavior of ordinary people. The rules of academic life seem to require two inclinations--and they work at cross-purposes. One is that each generation must set out to topple the findings and the methods of the previous one, which means that we always seem to have a "new social history" or a "linguistic turn" or a "cognitive revolution." (Even neoclassical economics, which is presumably about to give way to hedonics, was the enfant terrible of the discipline not that long ago, intent on toppling Keynesianism.) It is all-important to be at the cutting edge. You have to a write a dissertation showing that someone else was wrong. The bigger the apple cart you overturn, the better your chances for success. Like Newton, academics stand on the shoulders of giants--but they stand upon them to bury them.

At the same time, the academic world, for all its leftism in politics, is a strikingly conservative world in temperament. Innovation and individual initiative are distrusted. Tenure rewards those whose accomplishments are dated and punishes those who are too daring. You must show deference to your elders, or, as they are called in the academic world, your mentors. It is not good to call too much attention to yourself in what you write. The rules of advancement are strict, and everyone understands them: if you fail to follow them, the fault is your own. If you want to think for yourself, try the business world.

In line with the side of academic life that insists upon the new, those committed to economic psychology quickly moved beyond thought experiments to grand proclamations. Thaler's Quasi Rational Economics was cautious about touting the insights offered by the new approach, but much that came afterward would dispense with wishy-washy qualifiers such as "quasi." ("Our aim in editing this book," reads the preface to Well-Being, "was not at all modest: we hoped to announce the existence of a new field of psychology.") Academics tire of approaches the way consumers tire of goods; there are conferences to be organized, special issues of journals to be published, departments to be rebuilt, best-sellers to be written. Why proclaim a revision when you can announce a revolution?

At one and the same time, however, the self-proclaimed revolutionaries, for all the enthusiasm with which they announce their discoveries, hew carefully to the old ways of doing things. Bruno Frey's book conforms to all the conventions of academic discourse. True, English is not Frey's first language, yet his relentless use of the passive voice and reliance on deadly prose have more to do with the way economics is written than with the way German is written. Like economists of any persuasion, Frey wants to be protective of his own discipline's turf even as he ventures onto the turf of others. He, like others in his discipline, can only correlate; he cannot establish causality. Neoclassical economists may not like what Frey has to say, but they will recognize the way he says it. Reading Frey, we are worlds away from the era in which economists were learned outside their field and wrote books that would become classics of human understanding.

Dan Ariely's contribution is also, in its own way, quite conventional. It is true that he challenges the near-religious conviction with which economists cling to the idea of rationality. But Ariely's subjects are consumers all the same, constantly on the lookout for bargains, even if they are not always shrewd enough to obtain them. (For both these economists, shopping--or, more generally, spending--is the archetypal human activity.) Behavioral economists, Ariely included, are fascinated by gambling, an arena in which people constantly misread the odds against them. But the people they study are not Pascalian bettors wondering about divine grace, nor are they statesmen pondering the risks of going to war. The errors of judgment they make are small ones. Little is at stake in the questions they are asked about chocolate candies, and even less because the circumstances in which they are asked those questions are so artificial. When it comes to human understanding, the ambitions of the revolution are paltry. What began as a movement marked by a curious, if not actually humanistic, sensibility has transformed itself into a one-dimensional vision of human nature in which the perfect rationality of neoclassical economics is replaced by an equally simple-minded conception of human beings as either happiness maximizers or perfect fools.

Ariely's contribution could not be more different from the work of most neoclassical economists: he is willing to write for a popular audience and thus to face the special scorn that academics reserve for those who sell many books. (Even here, though, Milton Friedman was the pioneer.) Ariely adheres to the conventions of successful nonfiction writing as fiercely as Frey does to the conventions of university-press publication. Predictably Irrational is filled with lots of advice to ordinary people dressed up with the authority of science; with descriptions of experiments meant to make the author seem risque; with confessional asides giving readers insights into the person whose words they are reading. (Ariely, although born in New York, grew up in Israel, and he writes movingly about his recovery from serious burn injuries suffered at the age of eighteen when a flare exploded in his presence. I leave it to others more familiar with Israel to ponder what it is about the Israeli experience that prods one to looks beyond classical rationality.)

In his autobiographical comments written on the occasion of winning the Nobel Prize, Kahneman wrote about Tversky this way: "Amos was often described by people who knew him as the smartest person they knew. He was also very funny, with an endless supply of jokes appropriate to every nuance of a situation. In his presence, I became funny as well, and the result was that we could spend hours of solid work in continuous mirth." Like them, and at times like Steven Levitt, Ariely aims to tickle the funny bones of his readers. There is a smartalecky quality to behavioral economics.

Reading the insistence of Ariely and others who maintain that everyone who studied human beings before behavioral economics came along was wrong, I conclude that we should once and for all stop calling for revolutions in our understanding of ourselves, and end this remarkable presumption. In the long history of humankind, the social sciences were developed only recently, but we have been trying to figure ourselves out since we first began to think. It defies the imagination that one new methodology or theoretical assumption is going to topple all previous efforts to understand the human condition. Sometimes revolutions in our understanding of the world do happen--they tell me that Albert Einstein led one (and that, having done so, he spent the rest of his life running down the wrong paths)--but they are rare in the physical sciences, and they are next to nonexistent in the social sciences. Human beings are indeed charming and perverse and altogether fascinating creatures, and the study of ourselves is among the richest of intellectual endeavors. We ought to give ourselves a bit more credit than the revolutionists of the social sciences extend to us: we pursue many goals at the same time, and we do so in all kinds of predictable and unpredictable ways.

And yet it is possible to understand us--slowly, patiently, in fits and starts, and with due respect for those who have been studying us for so long. That is why the history of social theory is still of philosophical interest, whereas the history of natural science is of almost no scientific interest: we still repair urgently to Weber and Durkheim, but we may safely forget about phlogiston. In both the social scientific and humanistic studies of human existence, it is not a revolution that we need. What we need are observations and suggestions and ideas, collected one at a time, by different people, from different disciplines, with different methodologies. That is not sexy, but neither is it easy.

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