# A Critique of Pure Economics

John Komlos

*The title of this piece tells it all. It is not that our author does not believe in markets but that he thinks they have many natural limitations. He welcomes them when empirical evidence suggests that they work. But in this fine and necessary criticism of conventional "rational-person" economics, he finds fifteen curses—yes, he calls them curses—that markets must deal with to work as the textbooks say they do.*

WHAT DO George Akerlof, Kenneth Arrow, Daniel Kahneman, Paul Krugman, Thomas Schelling, Herbert Simon, Joseph Stiglitz, and Oliver Williamson have in common?" This would make a great Econ 101 question except for the fact that the contributions of these Nobel Prize winners to the dismal science are usually excluded from mainstream economics textbooks or relegated to footnotes. Instead of including their critical ideas, introductory textbooks hype a free-market utopia, which does not extend beyond

***JOHN KOMLOS** is Professor Emeritus of Economics, University of Munich.* *This paper was written while the author held the Archie K. Davis Fellowship at the National Humanities Center. Many thanks are due to the center for their support as well as to Julie Smith for generous and helpful editorial assistance.*

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the edges of the blackboard. Hence, most textbooks are not really suitable for understanding the essentials of a real, existing economy. They present a caricature of the economy at a level of abstraction that distorts our vision. How inefficient! They perpetuate a stereotype that markets are efficient, thereby automatically leading to a good life, and they continue to sing the praises of the immense achievements of the free-market system, keeping any demurrals muted.

Superrationality reigns in this utopian kingdom inhabited by superconsumers with sufficient memory to know every detail of the economy, and therefore the consumers are not satisfied with anything less than doing the very best they can. They possess perfect understanding of all the nuances in small print and perfect foresight from the beginning to the end of their lives and are not inhibited by the challenges of information overload, as information is free, available instantaneously, and a cinch to understand. They enter the economy as adults with tastes fully formed, so businesses do not influence their likes and dislikes. There are no brands, and goods have no quality dimension, so product choice is a no-brainer: two boxes of a generic cereal or three? There is no small print in contracts, no false promises, so buyers need not beware. There are no regrets in this idyllic economy, no real uncertainty, no need for human judgment, no mistakes, and no need to worry about lawyers' fees or other enforcement or transaction costs. Consumers are not influenced by advertising or other people's consumption.

Producers also inhabit this imaginary economy; they also know everything there is to know about consumers' wants as well as their own firms, so they can maximize their profits with perfect ease. Actually, there are no firms at all in this economy, in the sense of the modern corporation, just single entities that act like a unitary person. There are no shareholders or boards of directors and no chairman of the board who might maximize her own income rather than that of the firm. This pseudo-firm does not need to advertise to persuade consumers to buy its products, much less collude with other firms. Lobbyists are an extinct species, so there is no political process that can tilt the playing field in favor of the wealthy and influential. Indeed, there is no society at all, no children, no gender, no color barrier, no glass ceilings, no class and hence no underclass, no emotion or intuition, no real uncertainty, and neither space nor race, and hardly any time dimension. Problems are posed in terms of a single decision without antecedents and without further implications in subsequent periods. In fact, time does not play any role in this static world: The past is passé, and the future is insignificant. So there is only the right now.

Laws are in place, so we do not need to discuss how they came into being or what advantages they provide to some but not to others. If laws go unmentioned, it is because they go unbroken, that is, there is no opportunistic behavior and hence no enforcement costs. So oversight would be a waste of effort and of brainpower. Everything runs smoothly—there are no conflicts, let alone wars. Basic needs have given way to benign wants. Free markets are efficient, hence above morality, so questioning their laissez-faire premise would be a waste of ethical scruples. (However, this is also a value judgment, implying that efficiency is valuable, rather than, say, sufficiency, or sustainability, or fairness, or minimizing risk, poverty, or suffering.) Hence, it is alleged that laissez-faire does not need a moral basis, and ethics and aesthetics are superfluous. (Of course, this is also a value judgment.) Well-being is measured by income in monetary terms, but there are no rich or poor, so there is neither power nor hunger. Therefore the system is democratic: one dollar—one vote. The fact that some hold more dollars than others is their birthright, so there is no need to discuss that, de facto, they do have more votes. These are the basic elements of positive economics—that is to say, scientific economics—at least at the undergraduate, and especially introductory, level.

If this sounds like the world in which you live, accept my heartfelt adieu. There is no need for you to read on. But if it sounds more like science fiction to you, then do persist. Actually, an increasing number of economists have come to believe that the above-mentioned “ivory tower” economy, rooted in simplistic assumptions, is a completely hypothetical one, inhabited by implausible superrational individuals, a race of Übermenschen or supermen and -women, devoid of emotion, living alone, hence without any sense of community, whose only identity is that of being consumers, or producers with hardly any interaction with others.

Furthermore, the conventional wisdom invariably emphasizes the perfectly competitive model, although a negligible segment of the economy can still be conceptualized as such in an economy full of too-big-to-fail banks and supercorporations with a global vision and that operate above political oversight. The psychological world of the ultrarational consumer is essentially pre-Freudian and pre-Pavlovian, rooted in the Smithian world of the eighteenth century—that is to say, lacking a sound psychological basis and presuming a dominant morality that is no longer valid. That is like trying to understand molecular motion using Newton's laws instead of those of quantum mechanics; hence, mainstream Smithian economics is essentially inadequate for the post-meltdown world of the twenty-first century.

## Toward a More Realistic Economics

Although many economists have rejected this simplistic view of the economic universe, their views have not been adequately represented in mainstream textbooks. For instance, W. Brian Arthur, a noted authority in the field of increasing returns, feedback effects, and complexity theory, calls for "a more realistic economics." "As recent events show," he goes on to caution, "we badly need to reformulate how we understand the economy."[1] Moreover, the editors of the journal *Capitalism and Society* are explicit in their criticism of the mainstream:

> Today's established economics—the economics dominant in classrooms, banks, and governments—misconceives the modern economy. This disconnect has consequences for how we understand history, how we make policy, and how we view capitalism. Its explanations fail and mislead at important junctures in modern history. Until economics is grounded on the basic character of modern economies—the ignorance, the uncertainty, and the new ideas for speculation and innovation—it limits and distorts our view.[2]

In short, we need to take a fresh look at the realities around us instead of accepting at face value dubious illusory notions conceived by the ivory tower's self-important inhabitants, no matter how brilliant the theorems and how impressively sophisticated the mathematics employed. In fact, the use of mathematics in economics has gone too far.

Human beings are not inanimate objects whose trajectory can be described by a mathematical function. Unlike planets, they can change direction. They are heterogeneous. No less an authority than Nobel Prize–winning Columbia economist Joseph Stiglitz has declared that "market fundamentalism is dead," but you wouldn't know it by reading the most popular textbooks in the field, which influence millions of students every single year. This is not a benign oversight. It has immense consequences insofar as it influences the media, political discourse, and the mindset of the voting public.

## Simple Is for Simple-Minded

The argument that a simple overview of the discipline suffices in Econ 101, because one has to lay the foundations before students can learn more sophisticated aspects of the discipline, is selling the students far too short. The foundations ought not to remain a caricature. I daresay that if the straight-talking Nobel Prize–winning physicist Richard Feynman (1918–88) were still with us, he would concur with that view. In his famous 1974 commencement address at the California Institute of Technology, he beseeched the graduating class to practice "scientific integrity" and "utter honesty" and to "lean over backwards" so as not to "fool ourselves" [and, of course, others].[3] I would argue that the same is true for us teachers of economics. From the very beginning of learning the discipline, students should be made keenly aware of the real limitations of real markets as opposed to theoretical ones for at least four crucial reasons:

1. Half-truths hardly belong in scholarship at any time, not any more in the beginning of one's studies than at the end, and omitting important developments in the field from Simon's theory of satisficing to Kahneman and Tversky's prospect theory is not what I think of as being "utterly honest."

2. It is much more efficient to learn a discipline correctly the first time around than to have to unlearn it and subsequently correct it. It is extremely difficult to unlearn something once one is socialized into accepting the main tenets of the discipline without learning the qualifications. The human mind is not that flexible: once the neural networks are in place, they are extremely challenging to rewire.

3. The more "sophisticated" ideas turn out to be not so complicated after all and can be explained at the 101 level. Neglecting them distorts economic theory to such a degree that students leave the course with a fundamentally misleading caricature of the real economy.

4. Most students of Econ 101 do not continue to study economics, so they are never even exposed to the more nuanced version of the discipline and are therefore indoctrinated to believe in the efficiency of unregulated markets for the rest of their lives.

Thus, every statement one makes in the classroom ought to be true, and the distinction between theoretical and actual markets clarified. In the spirit of Feynman's admonition, the qualifications need to be added. Under what circumstances is it appropriate to apply the perfectly competitive model to the real world? Without such clarification, most textbooks mislead and do not provide the right qualifications for real-world applications. This outcome has immense implications for the body politic and civil society: When the millions of students go on to choose among political candidates based partly on their economic policies or become newspaper editors, radio commentators, small-town mayors, or political activists (in other words, their careers take them to responsible positions within the society) mistakenly thinking they have understood the basics of economic theory—that markets work efficiently when left alone—the deficiencies of Econ 101 become a time bomb of substantial proportions. Because they then become vulnerable to or perpetrators of simplistic slogans particularly vitriolic in the current political climate: "Competition will lead to growth." "The free market is efficient." "Government is not the solution to our problem. Government is the problem." "No consumer protection is needed as we know what we are doing." To avoid such pitfalls, it is incumbent upon us teachers to lean over backward in the first course in economics to avoid half-truths at all costs before the students are socialized into thinking that competitive markets have the magic formula to provide the answer to all or even most economic problems.

The mainstream is insensitive to evidence contradicting Econ 101. The recent financial meltdown was more than an inconvenient truth to be disregarded lest it disturb the eloquence of our theories. Rather, it was just one of many examples of markets going haywire—think of the savings and loan crisis of the 1980s or the fall of the super hedge fund Long-Term Capital Management (LTCM)—yet textbooks remain unchanged, failing to convey the fundamental and systematic weaknesses of the free-market system. They sing its praises as if it had descended straight from heaven but maintain a conspiracy of silence around the reality that without government help, countless giant corporations paying out billions of bonuses would have become beggars in the dustbin of history. When the chips were down, the markets needed immense government bailouts to the tune of trillions of taxpayer dollars—that is millions of millions of dollars.

In order to project a balanced view, teachers of economics should inform students from the start that while markets do work quite well in some circumstances, they not only work badly in others but often tip the stream of benefits toward a few insiders. Hence, our job is also to explore and delineate as clearly as possible the circumstances that prevent real markets from working as well as imaginary ones do on the blackboard. The ideological commitment to "market fundamentalism," which led to the excessive reliance on markets in the making of public policy, has brought us, in turn, to our current, precarious situation. These misconceptions should be rectified: Economics should rely more on empirical evidence than on pure theorizing and should be relevant for those who are born underprivileged and unable to get on the path to success in this complex economy. In the words of Deirdre N. McCloskey, eminent economics professor and prolific author, "Economics is supposed to be an inquiry into the world, not pure thinking."[4]

## Markets Are Neither Omniscient nor Omnipotent

### *Markets Are Not Created by Divine Power*

According to the conventional wisdom, free markets are basically flawless, acquiring an almost divine aura. Arguably we have replaced the divine rights of kings with the divine laws of the market. Yet we ought to keep in mind that markets are created by human beings and are not natural. They are not divine but are man-made institutions and hence not flawless; they cannot possibly be flawless. They should not be idolized. Thus, we should remain the masters of markets, and not vice versa. To be sure, they have raised incomes, unleashed Prometheus to create an abundance of material goods, raised life expectancy, and given us miracles in medicine, in communication, and in information technology. This is simply put and, obviously, a phenomenal array of achievements. Yet it is far from the whole truth.

### *Progress: What Is Income Worth?*

Have we also progressed in other dimensions of human existence such as ethics or emotional maturity? Are we more capable of being in control of our lives? Do we have more fulfilling personal relationships? Do we feel better and less stressed, and with more life satisfaction? Are we spiritually fulfilled? Are we loved and capable of love as much as former generations were? Are we as comfortable with our lives? The answers to these questions are much more ambiguous, and many of them are more likely to be negative.

We should also consider that most economists are judging the developments looking backward. They are comfortable with their environment and have become used to the current level of material comfort. However, there is another way of looking at the developments, namely looking forward: what would people living in 1900 think of the world today? Would they be dazzled by the material comfort, or would they be confused or even repulsed by the concomitant and inseparable social, cultural, and spiritual developments? I think that the judgment looking forward from 1900 is much more ambiguous. I seriously doubt that most of the people of 1900 would want to change places with us in spite of our material abundance. They would quite likely consider the price associated with the material comforts too costly in terms of their own ethical values. Hence, we are not able to assert unambiguously that progress has been made in all dimensions of human existence as the material abundance has been gained at a cost that ought not to be neglected if we are to have an unbiased view of developments.

### *Government Is Essential*

Markets would not function at all without sufficient laws and appropriate institutions, which are created for the most part by government. And there were crucial moments when markets would have imploded without sufficient government aid. It was government that built dams and bridges, who educated our children, subsidized fundamental research in information technology (IT), bioengineering, and other technologies, and who spurred innovation in thousands of ways. In short, there are very good reasons not to unconditionally sing hymns to free markets. Markets did not and could not have done it by themselves. There is no reason to demonize government: the government is we.

To be sure, the free-market system is with us, for better or for worse. A world without it is unimaginable—like a world without fire. Both undoubtedly improve our lives, but, uncontrolled, both are dangerous, as both can have devastating consequences. Left to burn itself out, as it were—without the intervention of firefighters to contain the conflagration—the system would have culminated in an even greater Depression of the 1930s and an even greater meltdown of 2008. In short, free markets can be as devastating as forest fires if we do not learn to control them and to make sure that they serve our purpose rather than the other way around. In short, we should at all costs avoid becoming subservient to markets.

Moreover, there are many valuable socioeconomic goals that markets are incapable of achieving, such as providing for an equitable distribution of rewards insofar as even a small early advantage can bring about substantial benefits for subsequent generations. Markets were not particularly helpful in enabling African-American citizens to purchase coffee at the lunch counter of their choice or to sit where they wanted on buses and trains. So in principle we ought not to rely on markets to create a moral socioeconomic framework for us.

The market is an institution just like government, and like government it is under our disposition and should be also under our control. We should be as vigilant with the market as we are with the government and other institutions, ensuring that they serve our purpose and not the other way around. We, the people, have the right in a democratic society to determine what our goals are and how we will accomplish them. Some of those goals should be left to markets while others should be retained for us to determine through our elected representatives or other nonmarket institutions. Or, more precisely, government represents our collective will—our collective interest—which we cannot adequately enforce as individuals.

The governments can do many things better than markets. Markets are not good at protecting consumers, children, the environment, the weak, the poor, the rights of African Americans, or the interests of future generations. Markets would sell cigarettes and alcohol to children. It was not until government regulation that cigarette smoking was cut by half in this country. Markets are also not efficient providers of health care, as Kenneth Arrow emphasized ages ago.[5] This is the case because preventive care is a bone of contention, and because most consumers have biased predictions of their future health needs. Moreover, there is a lot of asymmetric information, and price competition is nearly absent. The patient does not know enough medicine to make rational choices, and information is very costly to obtain. Moreover, the health insurance market is afflicted with "adverse selection"; those with the most health needs have a higher probability to insure themselves than those who think that they are healthy. As a consequence, the price of health insurance increases so that many people (16 percent of the population in the United States) are unable to afford it. Besides, insurers can entrap customers with fine print that enables them to deny coverage in many cases. As a consequence, people are healthier and live longer in countries where the government plays an important role in health care (and 100 percent of the population is fully insured as in most west European countries—without deductibles).

Markets are also extremely impatient institutions and hence are not good at planning ahead. They cannot devise an energy policy that will lead to energy independence, or an education policy that will provide broad-based quality education. That is why we do not have an energy policy. Where would our education system be if the government had not provided one for the population from the very beginning? Today, homeless teenagers need government help just to finish high school.[6] Governments also need to provide safety nets; otherwise, the political structure is unstable, as Marie Antoinette found out in 1789, the Romanovs in 1917, the Germans in 1933, and many other rulers who failed in that regard. Hunger is a mighty political force.

## Hidden Negative Consequences of Markets

Furthermore, and crucially, the substantial achievements of free markets were accompanied by a myriad of negative externalities. All we have to do is to look around us to see that in spite of our immense wealth, there is an enormous set of social problems that stem from the current organization of the economic system and which markets are incapable of ameliorating. To be sure, market aficionados argue that one should keep the social and the economic separate in our minds. But that itself is a value judgment. There is no scientific basis for such an admonition or assumption. The two are intertwined: whatever happens in the economy will have social consequences and vice versa. Unemployment, for example, is a huge burden on children and families. It brings about changes in behavior and social relations. It is not confined to the individual experiencing it. In October 2011, 9 percent (14 million people) of the labor force was still out of work, four years after the beginning of the Great Recession, and half of them had been without work for more than five months. Among teenagers, the rate was 25 percent, and among blacks 16 percent. Moreover, the underemployment rate is much higher, for there are 9 million additional people forced to work part time, and another million who simply stopped looking for work because they felt discouraged.[7] That adds easily up to about 24 million people underemployed, or 15 percent of the labor force. Of course, the underemployed have some dependents, so it would not be an exaggeration to think that some 50 million people are leading very precarious lives, from hand to mouth, so to speak, with no improvement in sight.

Moreover, unemployment is not distributed evenly, either spatially or across the labor force. Whole neighborhoods and towns are affected. The town of El Centro, CA, with a labor force of some 77,000, has the highest unemployment rate in the country at 30 percent. Yuma, AZ, is not far behind, with 26 percent. If anyone thinks this situation is sustainable within the framework of a stable society while millions are flaunting and splurging and financiers are living high on the hog, they should start reading up on the history of the Weimar Republic or that of Louis XVI. Shall we say, well . . . "Let them eat cake"?

In contrast to the un(der)employed, millions are working overtime or hold two jobs, and 38 percent of professionals and managers work more than forty-nine hours per week.[8] Would we design a system with such extremes—with working times ranging from zero to seventy hours per week—if we were to sit down to propose an economic system from scratch? In other words, the labor market has not been able to devise a system by which the given amount of available work is divided across the labor force on a more equitable basis.

Rampant and endemic social and economic challenges face us. One need not be a naive utopian to be appalled by a socioeconomic system in which one bumps—sometimes literally—into scenes of gross inequity on local street corners. Consider that crime increases our level of anxiety, thereby diminishing our well-being by a lot, and at the same time is indicative of socioeconomic disparities. There are no less than 5 million people on probation or on parole in the United States and an additional 2.3 million persons in prisons.[9] This is the highest rate of incarceration anywhere in the world.[10] Something must be wrong with an economic system in which so many people do not find their niche in the legal labor market and fall into the nebulous underclass that few economists are willing to acknowledge.

That there were 1 million personal bankruptcies in 2008—up from 0.3 million in 1980—also contradicts the notion of unmitigated progress in the course of the twentieth century.[11] Should we mention that 2.9 million U.S. properties received foreclosure filings in 2010?[12] In 2009, 44 million people lived in poverty—that is, one in seven individuals, the highest rate in fifteen years and as high as in the early 1980s.[13] According to a Gallup poll at the end of 2010, 47 percent of the population consider themselves struggling financially.[14] That totals 140 million people. In June 2011 many people in the richest country on earth are unable to satisfy their basic needs: 18 percent of adults lack health insurance, and 18 percent did not have enough money to buy sufficient food at least sometime during the course of the past year.[15] Six hundred thousand people were counted as homeless (in shelters and in the open) on one day in 2009, a very large number of which are families with children.[16] All that is tolerated at a time where there are 400 billionaires living in the United States.[17] That is, there is more inequality in the United States than in any other advanced industrialized country. With the possible exception of the UK, the spatial difference in the gross domestic product (GDP) in most west European countries is about 60 percent of average GDP. In the United States, it is 280 percent.[18]

Furthermore, the rate of poverty among U.S. children—20 percent—is twice that of Switzerland and higher than in all west European countries.[19] This is a nearly forgotten sore spot of market economics. Many children grow up in slums—concentrated areas of poverty—that do not offer them an adequate start in life, particularly in the realm of education and socialization that is so important for their future development.[20] In other words, the free market does not provide a level playing field for underprivileged children who find themselves trapped in a culture of poverty.[21] Is it not odd that the welfare of children living in a country that, according to President Barack Obama's inaugural address, is "the most prosperous, . . . nation on earth," was rated by UNICEF at the very bottom in terms of health, safety, education, family relationships, risky behavior, and material well-being of the twenty-one members of the Organization for Economic Cooperation and Development (OECD) considered?[22] Because of the underfunded school systems, U.S. children are lagging well behind high achievers around the world. American fifteen-year-olds placed seventeenth in reading, twenty-third in science, and thirty-first in mathematics.[23] This unimpressive performance does not portend well for our ability to compete in the information technology sector in the years to come.[24] But it is indicative of the antigovernment disposition of public opinion. A "starving beast" is unable to provide quality education to its citizens. As a consequence, public goods are in especially short supply. Infrastructure (e.g., dams and bridges) in the United States has not been adequately maintained, as evinced by the collapse of a bridge in Minneapolis in 2007, killing 13 people and injuring 145.[25] The U.S. health-care system costs twice as much as the European average, yet people live shorter lives and health outcomes are worse.[26] Consider that people in Israel live two and a half years longer but spend one-fourth of what Americans do on health care. Why is it that the free market in health care is so incredibly costly yet is unable to provide better health? Something must be awry with market principles. As a matter of fact, we could have done a much better job of improving the quality of life in the United States, given our immense wealth.

In short, progress ought not to be measured by growth in income alone. Well-being is much more multifaceted than the conventional wisdom allows and should be assessed on such factors as poverty, inequality, unemployment, stress, sustainability, pollution, anxiety, health, leisure time, security, friends and other social relationships, love, respect, ethical considerations, intellectual satisfaction, and a moral life.

## Humanistic Economics

To be sure, many markets work well some of the time, and a few markets even work well most of the time, but no market works as well as they do on the blackboard. As human inventions, markets ought not to dominate their creators. They ought not to take precedence over our moral necessities. We need to think about improving their functioning so that we can function better with them. While I do believe that we will never improve markets unless we acknowledge and discuss their defects, by no means am I calling for their elimination. In fact, I am an enthusiastic supporter of those markets that enable people to exercise their creativity and individuality on their own free will without interference from trend setters and those vying to be trend setters. I am even prepared to give markets the benefit of the doubt, but my support is contingent on empirical evidence. I refuse either to disregard or to rationalize away evidence that does not fit into blackboard economics. If markets obviously harm or threaten us, then we, the people, ought to retain—must retain—the ultimate right to make alternative arrangements and take collective action to stop the pain caused by markets. Market outcomes by no means ought to be above moral considerations. They ought not to be the end in themselves but the means to an end. And when they malfunction, they should be modified. We know what is moral. To blend market forces with moral values should be the goal of humanistic economics.

## Fifteen "Inconvenient Truths" About Markets

Actually, there are reasons we are confronted with so many problems. We have not recognized that markets are not capable of achieving everything entrusted to them. Markets have an Achilles' heel, which interferes with their smooth functioning and detracts from their efficiently increasing the quality of life. These "curses" of markets are intrinsic problems associated with the workings of *real* free markets, preventing them from working the way they are imagined in pure theory. The "curses" are fundamental impediments that plague actual markets that make them quite different from markets on a blackboard. These problems are usually omitted from conventional textbooks, even though many an economist received a Nobel Prize for illuminating these issues decades ago. Of course, volumes have been written on these curses at the advanced level, but expunging them from introductory textbooks implies that millions leave the classroom with a false impression of what markets are capable of accomplishing.

***Curse 1:*** **Incomplete or asymmetric information** poses a huge obstacle to the efficient functioning of markets.[27] Actually, it makes efficiency rarely attainable. Information is costly to acquire and is unequally distributed, and therefore not everyone has access to the same information, given the unequal distribution of wealth. Crucial information is not always within the easy reach of some people or groups in the society. Thus, we almost always have to act with incomplete information, challenging our ability to make satisfactory decisions. Trying to do one's best is not a very useful procedure if we do not even know how to go about finding out what information we need in order to attain our desired ends. Alternatively, we may not have the funds necessary to find the information we need to attain our goals. Furthermore, businesses have an incentive to float information in an ambiguous or blatantly deceitful manner so as to entrap customers. All one has to do is to look at some Countrywide Financial commercials for some vivid examples.[28]

The situation in which one party to an exchange knows more about the good, service, or contract than the other, and it would not be in his/her interest to disclose it or it cannot be done credibly, is referred to as an asymmetric information problem.[29] For instance, the bankers knew much more about the history of interest rates than did the borrower during the run-up to the meltdown of 2008, so they had a better sense than the borrowers of the likelihood that interest rates would rise. Insider (private) information is another issue. The bank knew the creditworthiness of the borrower, but the people to whom the mortgage was sold knew much less, and the knowledge decreased up the financial chain. By the time the securities reached purchasers in the Arctic Circle—and, amazingly, they did—the information was minimal and distorted. This issue is obviously at the root of the subprime mortgage crisis, and it means in plain terms that insiders acted strategically and took advantage of those who did not have as much knowledge of finance as they did. Millions of substandard contracts were signed by parties with asymmetric information. This is precisely the reason the Consumer Financial Protection Bureau was created—albeit belatedly—in 2010.[30]

This is by no means all. A modern economy is full of information problems that lead to considerable inefficiencies. We are no longer living in Adam Smith's village economy. Principal–agent problems refer to an important subclass of information problems in which an employee, say a CEO (the agent), works on behalf of someone else (the principal), such as the shareholders. The principal does not have information on all the attributes of the agent. Insofar as it is impossible to write a perfect contract to align the incentives in such a way that it benefits both parties in all circumstances, the agents often do work mainly for their own benefit in the first instance. Workers shirk for the same reason, as it is difficult to control their labor input perfectly. This is a subset of the information asymmetry problem, as the agent (the worker or the CEO) has better information on what he/she is willing and able to do than the principal (employer or the shareholders) has. This leads to inefficiencies and misallocation of resources, as evinced by the excessive risks CEOs took during the subprime bubble. Dick Fuld walked away from the bankrupt Lehmann Brothers with nearly half a billion dollars. His employer, the shareholders, walked away with nothing.

The concept of "moral hazard" is another special case of information asymmetry. It often pertains to markets with a warped incentive structure. For example, one party might behave inappropriately if contracts are incomplete or the counterparty does not have credible information on the activities of the former. Jamie Dimon (at JPMorgan Chase) and Lloyd Blankfein (at Goldman Sachs) now know, if they did not know it before, that their firms are way too big to fail, so they will most likely accept excessive risks, thinking that it is a one-sided bet. If everything goes well, they win; if everything does not go well, the taxpayers lose. That is moral hazard in a nutshell. Goldman Sachs, JPMorgan Chase, Bank of America, and Wells Fargo no longer have downside risk. The government is not capable of monitoring their bets but nonetheless provides a shield for them in case of need. Thus, these CEOs have more information on their actions than does the government. By bailing out Wall Street, the Treasury and the Federal Reserve have increased moral hazard in our economy substantially—to dangerous levels. MIT economist and former chief economist of the International Monetary Fund Simon Johnson rightly refers to this "boom–bust–bailout" cycle as the "doom-loop," a view propagated by Bank of England economists.[31] Now that does not seem like free market capitalism. That seems more like what Joseph Stiglitz calls privatizing profits and socializing losses: "socialism for the rich and capitalism for the poor." Stiglitz thinks our economic system is best described as a variant of crony capitalism or corporatism. Thus, information is an extremely big problem with many facets. One should not consider economic problems without being aware of the ubiquitous information problem from the very beginning, as it is a major impediment to the efficient workings of markets.

***Curse 2:*** **Opportunistic behavior** refers to the problem that free markets open up myriad possibilities for people to take advantage of situations in an immoral, unprincipled, cunning, crafty, or deceptive manner or with guile.[32] They might take advantage of ambiguous or inadequate laws or their absence, thereby enabling them to profit in ways that were not foreseen by lawmakers. The growth of the shadow banking system in the past three decades and the use of derivatives is a good example of this kind of a development. Opportunistic behavior also occurs by taking advantage of incomplete contracts, inadequate information, incomplete knowledge, gullibility, inferior mental ability of counterparties, or cognitive biases. The inherent propensity of many people to disregard the social contract and to overreach or deceive in an opportunistic fashion implies straightaway that markets ought not to be free of regulation: we need to have constraints that deter people from such behavior—such as the rules against selling contaminated drugs or eggs. (More than 3,000 people died from food poisoning in 2009 in the United States.)[33] In other words, free markets would not exist for long without adequate laws and regulation.

In the past, the belief in an afterlife as well as in the Ten Commandments limited opportunistic behavior much more than they do today. One did not expect to benefit in the long run by acting at the expense of someone else. The change in attitude is one of the reasons for the increase in government regulation. I suspect that a generation ago, old-fashioned bankers would have been much less willing to sign up people for mortgages that they knew the customer would not be able to repay. However, there was plenty of opportunistic behavior in the run-up to the Great Meltdown. *New York Times* columnist (and Nobel Prize winner in 2008) Paul Krugman puts it this way: "There was a widely spread housing bubble. . . . This bubble was inflated by irresponsible lending, made possible both by bank deregulation and the failure to extend regulation to 'shadow banks,' which weren't covered by traditional regulation but nonetheless engaged in banking activities and created bank-type risks."[34]

***Curse 3:*** **Rationality assumption** is a "no starter," according to Nobel laureate psychologist Daniel Kahneman.[35] In fact, no psychologist today would agree that humans are as rational as armchair economists insist. Rationality is the use of deliberate reasoning in order to achieve optimal ends logically, in an objective manner, without emotion, reflex, intuition, or instinct. Understandably, we do not like to admit it, insofar as much of what we do appears obviously right to us on the surface, but our brain is a product of evolution as are all our other organs. However, evolution did not select for rationality. It is not even clear if it would have been optimal to be rational as hunters and gatherers, because many significant problems cannot be solved rationally, given the uncertainties and incomplete information normally associated with them. In that kind of a framework, rationality could have led to becoming catatonic. One had to make decisions on intuition, emotion, or gut judgment, which we continue to do to this very day. Only a psychopath makes decisions without emotion. In other words, human beings have not become optimal supermen and -women through evolution.

The brain is much more complex than the mainstream view contends, according to Peter Whybrow:

> The human brain is a hybrid: an evolved hierarchy of three-brains-in-one. A primitive "lizard" brain, designed millennia ago for survival,

> lies at its core and cradles the roots of the ancient dopamine reward pathways. When the dinosaurs still roamed, around this reptilian pith there evolved the limbic cortex—literally the "border crust"—of the early mammalian brain, which is the root of kinship behavior and nurturance. The evolution of mammalian species is marked by a continuous expansion of this cortex, with the pre-frontal lobes of the human brain—the powerful information processing or "executive" brain that distinguishes Homo sapiens within the primate lineage—emerging only recently, within the last two hundred thousand years . . . we remain driven by our ancient desires. Desire is as vital as breathing . . . [but] when the brain's reward circuits are overloaded or unconstrained, then desire can turn to craving and to an addictive greed that co-opts executive analysis and commonsense.[36]

Moreover, as a survival strategy in a complex and uncertain environment, our brains developed heuristics—rules of thumb—to make decisions intuitively. Thus, our actions are guided by intuition, emotion, instinct, reflex, stereotypes, and conditioning, as well as by our subconscious. We often have to make snap judgments to reduce the burden of cognition with incomplete information and uncertain outcomes. The intuition and rules of thumb we use have many biases; consequently we make systematic mistakes, and many of our decisions are outright irrational, especially when we face uncertain choices, which is to say almost all the time.[37] Our genetic dispositions, including our instinct for survival as well as our potent sex drive also override our rational self. Kahneman and Tversky's experiments actually suggest that human beings are practically incapable of making coherent choices especially when the rules of probability are involved.[38]

Furthermore, we are often unaware of why we desire something insofar as the reasons are hidden from our conscious thought processes. Our attention span is limited, we suffer from information overload, we do not have the time to read the fine print, and we have great difficulties assessing probabilities. Moreover, usually there is not enough time to think about decisions, not enough time to sort out the relevant information from background noise, and we have difficulties in assessing the quality of information. All these issues play a role in why we are incapable of making optimum decisions, why we frequently make mistakes and come to regret the decisions we made. Most decisions call for human judgment. Hence, very few of our decisions, from the most trivial to the most momentous ones, can be considered rational. They are informed, in the main, by wishful thinking, faith, and intuition and are based on partial knowledge or are merely random. These psychological biases played a very big role in the run-up to the meltdown.

***Curse 4:*** **Cognitive endowment** of people participating in the marketplace is quite heterogeneous. This poses an independent challenge for standard economics insofar as textbooks tacitly assume that the people who participate in the marketplace are homogenous—that is, everyone is equally capable of solving the complex economic problems posed by today's global system. However, they obviously are not: Because of natural propensities (IQ) as well as educational attainment, economic literacy varies enormously in the population.[39] The normal distribution of IQ implies that about one-sixth of the adult population is mentally challenged, while about the same proportion is brilliant, with an IQ above 115. That means that when the former interact with the latter, the possibility for opportunistic behavior is substantial. This is an important but neglected problem in blackboard economics, especially because businesses can afford to hire the very smartest to entrap those with low cognitive ability. In such a case, the seller can take advantage of the inability of the buyer to understand detailed aspects of the transaction. This is what frequently happened with subprime mortgages and with credit cards—the various complex stipulations were hidden and impossible to understand for many people. The counterparties were not equally informed about the transaction. And most of the important things we purchase in a modern economy are extremely complicated and difficult to understand. That is why Congress created the Consumer Financial Protection Bureau. As Elizabeth Warren, who was in charge of getting the agency off the ground, warned, "The time for hiding tricks and traps in fine print is over."[40]

***Curse 5:*** **Children** are completely disregarded in most of economics. Perhaps economists need to be reminded that we are not born as adults and we do not enter the economy with fully developed tastes as adults. Hence, conventional economics is essentially "adult economics." It assumes that persons enter the market ready to consume with personality and tastes fully formed—that is, there are no children in the society who are of an impressionable age, need to be socialized into our culture, and must be educated for a complex society. However, consumers are not born as adults; they are not born with the desire for iPhones. Desires beyond the basic needs are learned over time and do not come into being spontaneously from within. Rather, our wants are mainly derived from our social environment, mostly during our formative years. We learn to desire through what we see around us as children and youth—what we are persuaded to desire. Those are the years when the most important aspect of value formation and conditioning takes place. This is as a big problem in economics, because megacorporations have an immense influence on children and create a culture in which they become loyal consumers. Watching five hours of TV per day would affect anyone's thinking pattern. Businesses invest generously in order to sway children's wants and make them feel like needs. A major problem with economic theory is that it begins after this process of socialization and value formation, for the most part, has been completed. But that is misleading, because it misses the extent to which economic power leads to the formation of a materialistic culture, which values consumption above all. By the time adults enter the marketplace, even their inner thoughts have been swayed by business interests.

Aldous Huxley, author of the brilliant novel *Brave New World,* which warned of the dehumanizing forces of totalitarianism, also saw that threats to freedom can come from institutions other than the government. He noted astutely half a century ago how much of an effect Madison Avenue has on the civilization through children:

> Today's children walk around singing beer commercials and toothpaste commercials . . . this whole question of children, I think, is a terribly important one because children are quite clearly much more suggestible than the average grownup; and . . . all the propaganda [is] an extraordinarily powerful force playing on these children, who after all are going to grow up and be adults quite soon. I do think that this

> is not an immediate threat, but it remains a possible threat . . . the children of Europe used to be called "cannon fodder" and here in the United States they are "television and radio fodder." . . . after all, you can read in the trade journals the most lyrical accounts of how necessary it is, to get hold of the children because then they will be loyal brand buyers later on.[41]

This interview took place half a century ago. His insights are both vivid and prescient, because we have been so paranoid about the government controlling our lives that we have been blind to other institutions, namely Madison Avenue, Wall Street, Hollywood, Silicon Valley, globalization, and megacorporations, slowly but incessantly and incrementally doing exactly that which we feared: expropriating our individuality. The road to serfdom leads not only through tyrannical states but also through the hegemony of business elites.

***Curse 6:*** **Time inconsistency** refers to the serious problem that our actions today continue to have consequences far into the future, and in the future we might well regret the actions we took in the past. In short, we might change our mind. While in most cases this is not a crucial issue: we can return a shirt to the store, and even if we couldn't, it would not be a social concern. Yet, in many important cases, the fact that time moves in only one direction—it's a fact of life that one cannot turn back the clock—does have very significant implications for society. It means that one ought not to base economic policy on a theory that fails to take this issue into consideration. The reason is that society might have to pay tomorrow for something that an individual did or failed to do today. For example, few twenty-year-olds can imagine what life will be like when they become seventy years old. Hence, they generally do not think that they will need a nest egg for retirement or need to buy health insurance early in life. Nonetheless, when they do reach seventy, they wish they had. Why is this reality a social problem? Because were they to become indigent at age seventy, society would either end up paying for their care or see them suffer, and neither option is particularly palatable, as we found out in the 1930s. The first option creates moral hazard in the sense that it reduces the incentive for people to pay for social security insurance in the first place, and the second because seeing people suffer en masse is not such a pleasant experience for most people and, even worse, starving people do often become belligerent so that they well might not go into the other world so peacefully. Consequently, we need to take collective action and enact legislation—such as Social Security, unemployment insurance, Medicare, health insurance—which minimizes the problem of time inconsistency. These are arguably extremely important welfare-enhancing measures inasmuch as markets generally are not at all efficient at overcoming the challenges of time inconsistency. However, textbooks invariably disregard the irreversibility-of-time problem.

***Curse 7:*** **Society** does not exist in blackboard economics, only individuals who hardly interact with one another. In other words, economists completely neglect the disciplines of sociology and social psychology. Yet we are not Robinson Crusoes: We do live in a society, and we do constantly interact with others. In fact, we do very little consumption in isolation. That does make a big difference, because society has cultural norms for consumption and value systems that set our aspirations, constrain our choices, and channel our actions. Society contributes greatly to defining our esthetic sense and the terms under which we can become full-fledged and esteemed members of the society. We do not act in a vacuum. The overwhelming majority of us do not want to become outcasts, and therefore we tend to want to conform to the basic established attitudes, mores, and accepted behavior. That means that we learn from other people's actions how we should act, what we should consider important in our lives, what will gain us power and esteem within the social order. We follow fashions and fads. You might look at a fashion magazine to find out what outfits are in style. We want to be accepted by our peers, and we need to know the terms under which we are going to be accepted. If we see people around us idolizing money, we are more likely to devote our lives to its acquisition as a means to power and esteem than in a society that holds religion in high esteem and considers money degrading. Therefore, the values of the culture in which we live have an overarching influence on our attitudes even if we have internalized them to such a degree that we might not even recognize them outright. We have them ingrained in our unconscious, or they might be the explicit outcome of overt peer pressure—for instance, when people criticize the clothes we wear. Or we might feel left out, rejected, or even ostracized if we do not follow the current trends. We want to belong. That gives us a sense of security. We copy. If people shop a lot in our society, then we, too, have a good chance of becoming shopaholics.[42] It takes a lot of energy and determination to defy and overcome social pressure.[43] That is a very different way to think of the individual in the economy than that propagated by mainstream economists, who think of us as represented by a single individual, which implies that there are no interaction effects at all. Thus, economists fail to acknowledge that the economy is imbedded in a society where there are group dynamics and peer pressure. This is very odd because there are all sorts of feedback effects from producers to consumers and interactions among consumers.[44]

***Curse 8:*** **Power imbalances** are also neglected by mainstream economics, even though they are enormously important, because they skew economic policies in favor of the wealthy and lead to political power imbalances that further the privileges of the elite while at the same time threatening the basic ideals of democracy.[45] This is precisely what is happening to Congress with substantial feedback effects on the economy.[46] The poor are no longer represented, and the middle class increasingly less so. The financial sector spent $2.7 billion on lobbying from 1999 to 2008, while individuals and committees affiliated with the industry made more than $1 billion in campaign contributions.[47] Under such circumstances, you can be sure that the market's playing field will not be level. In an embarrassing Freudian slip, Representative Spencer Bachus (R-AL), the chairman of the House Financial Services Committee, told the *Birmingham News* that "Washington and the regulators are there to serve the banks."[48] He could not have said more clearly that the banks have captured Washington for all intents and purposes. Democracy turns into an oligarchy if economic power is concentrated in the hands of the few.

In addition, designing the market system to their benefit, powerful corporations squelch competition and thereby reap monopolistic profits. The invisible hand leads to efficient outcomes only to the extent that power is decentralized. Concentration of power works in the opposite direction by infringing on our rights to individuality so that we have to compete on the corporations' terms rather than on democratic ones. Aldous Huxley was of the same opinion: "obviously the passion for power is one of the most moving passions that exists in man; and after all, all democracies are based on the proposition that power is very dangerous and that it is extremely important not to let any one man or any one small group have too much power for too long a time."[49] We have made the mistake that we have primarily feared the government rather than seeing that the encroachment on our freedoms could come from other directions as well.

***Curse 9:*** **Uncertainty** is a formidable challenge to markets. The human brain has great difficulty processing information with uncertainty involving the calculation of probabilities. The subprime mortgage crisis demonstrated just how much pillaging can result when people misunderstand risk, misprice it, and do not assess it properly. Kahneman and Tversky have demonstrated that most people are naive and biased about risk, do not understand the basic principles of probability at all, and in some cases would prefer to take excessive risks with a high probability of large losses.

Uncertainty was a major problem not only for the average borrowers who accepted variable rate mortgages but also for sophisticated investors who based their models on untested formulas for valuing risk and on an inadequate number of prior observations. Their data did not reach back to the Great Depression of the 1930s, which also waned in memory, and MBAs no longer studied economic history. Rare events make the pricing of risk difficult even for sophisticated risk specialists. There were plenty of warnings that the formulas were not working, such as the bankruptcy of Long-Term Capital Management, which used the newfangled formulas for pricing derivatives. Its bankruptcy should have given financiers and regulators some pause.

***Curse 10:*** **Financial markets** are inherently unstable because of fractional banking and because its assets are long term while its liabilities are short term.[50] As we have seen hundreds of times since the Industrial

Revolution, and most vividly in 2008, financial markets, as a human invention, can go haywire. Because of the increase in their complexity and size, today's instability can take on tsunami-like proportions, to use Greenspan's depiction of events.[51]

In the 1930s a brilliant way was found to dampen the instability by providing insurance to depositors so that they would be less anxious about their deposits and by separating investment banks from commercial deposit banks. The system worked so well for generations that the regulation seemed superfluous, and a shadow banking system emerged, which opportunistically found ways around even those regulations that remained. Leverage was increased to astronomical levels: For every dollar that the investment banks invested, only 3 cents was their own, while 97 cents was borrowed and could be withdrawn at short notice. In good times, the return on capital could be enormous, but the risks were considerable, too. As a consequence, such a system needs very close government supervision in order to maintain a semblance of stability. Most textbooks are silent on this aspect of the free market.

The Great Meltdown highlighted the significance of curse 10 and its relationship to many of the other curses: curse 1 (asymmetric information) because there was a lack of information on subprime mortgages at all levels of the financial chain; curse 2 (opportunistic behavior) because bankers took advantage of the lack of information and lack of adequate oversight; curse 3 (rationality) because many people were not behaving in a rational way but depended on intuition or rule of thumb to make their decision; curse 4 (cognitive endowment) because bankers were a lot smarter than the subprime consumers and took advantage of it; curse 7 (society) because many people were just copying what others were doing; curse 8 (power imbalances) because lobbying money led to deregulation; curse 9 (uncertainty) because investors made such humongous mistakes in pricing the value of uncertainty and the extent to which contagion would spread through the financial system.

***Curse 11*: Transaction costs** put a damper on welfare and hinder efficiency, because they use up resources but do not increase welfare. However, they are not mentioned in Principles of Economics textbooks. There are search, information, policing, and enforcement costs. One problem with these costs is that those who do not have the money will be at a disadvantage from the start. Businesses impose high search costs when it is in their interest to do so. Instead of advertising the price of a product, for example, firms advertise the amount saved, making it more difficult to do comparison shopping. Businesses complicate offers for health insurance, thereby increasing search costs so that consumers give up and buy the product without further ado. Another problem is that often one does not even know how costly it would be to acquire further information. Only in the process of search does one begin to ascertain incrementally what costs are involved.[52] This makes it much harder for consumers without sufficient time and funds to reach an efficient level of consumption and for the markets to be efficient.

***Curse 12:*** **Time and space** are not firmly integrated into mainstream thinking. This is a serious conceptual shortcoming because both variables are essential to the understanding of why markets are generally inefficient. Space imposes significant transaction costs and also makes it more difficult to acquire information. Therefore, it is related to curses 9 (uncertainty) and 11 (transaction costs). It is a largely overlooked issue in spite of the importance of the New Economic Geography, which emphasizes the clustering and regional disparities in economic activity.

Time has four important and unique attributes that distinguish it from every other endowment (labor and capital): (a) it is the only resource equally distributed; (b) it is the only resource that is an essential element in every economic action or decision; (c) it cannot be substituted for—in the sense that, for example, labor can be a substitute for capital; and finally (d) its movement cannot be reversed, that is, it moves in only one direction. This makes it related to curse 6 (time inconsistency). These attributes pose difficulties for markets: they lead to inefficiencies, regrets, and path dependence. Decisions are influenced not only by the objective conditions today but also by the irreversible decisions that we made yesterday without knowing what the future was going to bring. That implies that our investment or consumption decisions today may not be efficient on account of the constraints imposed by earlier decisions.

The adoption of technology is usually not a single event. Rather, it is a series of developments that evolve in space and time. The problem is that neither consumers nor producers have perfect foresight and hence do not know how technologies will develop over time. They base their current choices on current knowledge, and these initial choices may lock them into a developmental path such that in the future the optimal technology is no longer attainable. Thus, even with free markets and perfect competition, a path-dependent economic system may not lead to optimum outcomes.

It is not only uncertainty and the lack of perfect foresight that pose obstacles to attaining the optimal outcomes, but also that the initial steps confer first-mover advantages, network externalities, so that the technology that would have been optimal, but was not yet known at the beginning of the process, is no longer attainable. This is particularly true in the case of increasing returns to scale, which means that as the quantity produced increases, average costs decrease. Most modern technologies do experience decreasing costs as the scale of operation increases. This means that first-mover advantage can lock in a particular technology that was perhaps not as efficient or as good as an alternative technology that started later. It can also be that a small random event such as IBM ordering an operating system from Microsoft can provide such initial advantages that even better technologies are going to be priced out of the market.[53] Consequently, competition by no means guarantees that the best technology will emerge the winner in the competition if consumers and producers do not possess perfect foresight or if increasing returns are in effect. Hence, inferior outcomes, that is, socially inefficient equilibriums, are not only possible but more than likely in path-dependent economic processes.

***Curse 13:*** **Nonexistent markets** pose a serious challenge to our welfare and the welfare of future generations. Markets, by themselves, produce too much pollution because no one owns the atmosphere. Consequently, pollution has become our very biggest global challenge.

Markets, by themselves, also produce too little basic research that has positive externalities.[54] How much of our resources will we use and how much will we leave for subsequent generations is a crucial question, but future generations are not able to influence this decision, although they will be affected by it. As a consequence, there is no simple market mechanism to solve this problem. How much of the ecosystem should be preserved? These are by no means negligible issues in an age in which global warming is an ominous threat to our future,[55] when the sustainability of economic growth itself is being questioned,[56] and when Americans have been transferring an increasing amount of national debt onto the shoulders of generations yet unborn. Any of these negative externalities can lead to major tensions of tectonic force proportions. Two hundred and fifty years after the beginning of the Industrial Revolution, economic growth has brought us to a crucial juncture, and it is not at all clear that we are going to be able to solve the ecological challenges that economic development imposes upon us as an unintended consequence. The free market is incapable of solving the ecological problem. The absence of these essential markets implies that only through political pressure and moral suasion can we counter these myopic market impulses.

***Curse 14:*** **Limits and standards** are extremely difficult for decentralized markets to set. The inability of market to set limits gives us too many different incompatible standards and too much inequality. We also have too many stores, most of which are mostly empty most of the time. The underutilization of so many resources has got to be inefficient. Moreover, the common wisdom is that the market provides us with plenty of choices and that improves our lives. However, Barry Schwartz shows that too much of a good thing can turn into a negative—that having a choice of 275 salad dressings on the shelf is excessive and actually detracts from our ability to make satisfactory decisions.[57] He suggests that having "more is less," as the conventional thinking does not take into consideration the confusion created by too much choice and the time and effort needed to learn about the offerings. Schwartz shows that the market does not find adequate limits. He finds that when we have too many choices, we can become paralyzed and have difficulties deciding what we want. We become confused; the abundance in choice makes it difficult for the time-strapped consumer, and therefore does not increase our welfare.

***Curse 15:*** **Safety** is not easily provided by markets inasmuch as it is a difficult-to-ascertain, intangible attribute and there is a psychological bias toward the present on the part of both producers and consumers. Hence, safety belts were hardly used until they were mandated. Now, of course, we are so used to them that one does not even have to think about buckling up. Or take baby cribs, which certainly do not need rocket scientists to design. Yet it was not until dozens of babies were suffocated in their cribs that the Consumer Product Safety Commission, after years of wrangling with industry groups, finally mandated the safe design of cribs in July 2011. Producers had decades to produce safe cribs but did not because it required coordinated action that the market was incapable of undertaking.[58]

## Resisting the Temptation

Of course, there are many practicing economists who disagree with the primary thrust of the mainstream view of their discipline and even chide their colleagues for not questioning their own assumptions more seriously. To be sure, conclusions reached by deduction from assumptions practiced by the mainstream are logically valid on the blackboard but often turn out to be toxic at street level.[59] As Krugman puts it,

> The economy is a complex system of interacting individuals—and these individuals themselves are complex systems. Neoclassical economics radically oversimplifies both the individuals and the system—and gets a lot of mileage by doing that. . . . But the temptation is always to keep on applying these extreme simplifications, even where the evidence clearly shows that they're wrong. What economists have to do is learn to resist that temptation.[60]

Economics is insensitive to evidence contradicting its basic assumptions. Alternative theories as well as basic facts from other disciplines are disregarded: economists regularly ignore results from psychology, sociology, political science, and other sister disciplines. Social psychology, for example, frames the problem of human action in terms of group dynamics. However, such group interactions are overlooked by economists, although economic activity does take place in a society and not between isolated individuals.

Such a methodology is actually quite risky because intuitively plausible assumptions are not necessarily borne out by experiment. For a very long time it seemed intuitively obvious that heavier objects should fall faster than lighter ones until Galileo dropped a few objects of different weight from high enough to disprove this apparently plausible assumption. Hence, experience is a more reliable guide to economics than intuition.

The lack of precision in predictions implies that economic models are rudimentary. Greenspan's version of economic theory implied that markets will not crash, but that prediction was a ghastly error:

> I made a mistake in presuming that the self-interest of organizations, specifically banks . . . , were such that they were best capable of protecting their own shareholders and equity in the firms. . . . The problem here is [that] something which looked to be a very solid edifice and indeed a critical pillar to market competition and free markets did break down and . . . that . . . shocked me. I still do not fully understand why it happened.[61]

Yet there is no rush to improve upon economic theory so that such mistakes will be avoided in the future.

## Ideology

While Greenspan's assumptions and economic model were incorrect, he is right in suggesting that ideology is unavoidable:

> I do have an ideology, my judgment is that free competitive markets are by far the unrivaled way to organize economies. . . . Remember . . . what an ideology is . . . [it] is a conceptual framework with the way people deal with reality. Everyone has one. . . . Yes, I found a flaw . . . in the model that I perceived . . . how the world works.[62]

The notion that ideology is an inherent part of the social sciences has a long tradition. Observers of human societies cannot be free of their preconceived notions "because the understanding of a 'social' experience itself is always fashioned by ideas that are in the researchers themselves."[63] Without an adequate experimental foundation, we are unable to organize our thoughts without making some fundamental assumptions, and these assumptions are necessarily a function of our own mindset, worldview, and intellectual and emotional commitments and therefore influence greatly the rest of the ideas developed in the discipline. Hence, economics cannot be purged of ideology; our political, moral, and philosophical affinities are reflected in our assumptions and in how we structure our thinking and our understanding of the world around us. In other words—contrary to the received wisdom—economics, in spite of the extensive use of mathematics, which it shares with the natural sciences, is in fact one of the social sciences; its conclusions are largely derived from initial assumptions, personal intuition, opinion, and, yes, ideology.[64]

Feynman's "utter honesty" requires of us that we admit that the meltdown has demonstrated vividly that pure economics has failed us badly. We continue to ignore the fifteen curses delineated above only at our peril. We need to teach a new economics that is adequate for the post-meltdown world. As Stiglitz suggests, the mainstream should no longer guide us after this critical juncture. We urgently need a new Keynes, one who can blend our moral and market principles and, by creating a humanistic economics, extricate us from our precarious situation into a world in which not only are people rich on average but the average person is actually content with those riches.

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