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Pragmatism versus economics ideology in the post-socialist transition: China versus Russia

David Ellerman [University of California at Riverside, USA]

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Introduction

Over a decade has passed since the hey-day of Western assistance to the post-socialist transition countries. We can now look back and clearly see the role that the ideology of conventional economics played in the transition. Again and again, pragmatic alternatives were ignored in favor of an institutional blitzkrieg or shock therapy to quickly "install" textbook/cartoon models of legal and economic institutions with extensive negative consequences. This history is critically reviewed but, more importantly, we also outline the intellectual basis for pragmatic approaches to social learning.

Philosophical Pragmatism

The American Pragmatist Tradition

In America, philosophical Pragmatism is usually associated with John Dewey (1859-1952), William James (1842-1910), and Charles Saunders Peirce (1839-1914).¹ For our purposes, John Dewey is perhaps the best guide since James wrote mainly about psychology and Peirce about the philosophy of science. In more recent legal thought, the revival of Pragmatist themes is mainly associated with the work of Charles Sabel [1994, 1995] and his associates such as William H. Simon [Simon 2003; Sabel and Simon 2003] and Michael Dorf [Dorf and Sabel 1998] all at the Columbia Law School.

The Social Engineering Vision of Scientism and Modernism

Pragmatism may be best seen as a reaction to the Enlightenment vision of modernity inspired largely by the triumphs of Newtonian physics and by the advances in technology and engineering associated with the Industrial Revolution. This technical engineering vision of the

¹ For representative writings, see Dewey [1927, 1960], James [1963], and Peirce [1958]. Westbrook [1991] gives an excellent treatment of Dewey's social and political thought.

world is variously called "modernism" or "scientism."² The controversy is not about mathematics or physics; it is about the extension of that engineering vision of the physical world to the social world. Just as science and engineering can enable us to solve physical problems—to dam rivers to control floods or to irrigate deserts to make them bountiful—so, according to this vision, the social sciences will eventually allow us to engineer solutions to social problems. This is the vision of social engineering (whether or not that particular phrase is used).

What are the primary characteristics of the social engineering view of the social world? Just as a mathematics problem has one correct solution, so a social problem has a best or "optimal" solution. For instance, Frederick Taylor applied this mentality to the workplace as "scientific management" [1911], now known as "Taylorism." He was so obsessed with finding the "One Best Way" that this phrase was used as the title for a recent biography of Taylor [Kanigel 1997].

Regardless of other differences, both neoclassical economics and socialist economics (e.g., in the former Soviet Union) agreed on modeling problems mathematically as the maximization of some objective function subject to various constraints so that problems would have an "optimal solution" (not necessarily unique). Both the Soviet and the orthodox neoclassical literature of economics is replete with "optimal solutions" in terms of certain assumed models.

Now that economics has been applied to the law—the "economic analysis of law" [Posner 1972; 1983]—the law and economic journals even have "optimal" solutions to this or that legal problem based on the maximization of the objective function of social wealth.³

But the One Best Way mentality predates the invasion of economics into legal studies. There has always been the analogy between the laws of physics on the one hand and moral or legal laws on the other hand. In physics, there might be gravitational and electromagnetic forces both operating on a body but there could never be a "contradiction" between those laws; both the gravitational and electromagnetic laws would be obeyed. Almost unconsciously, we find the attitude carried over into moral and legal philosophy that there can be no inherent contradictions between the most basic laws or norms. Once everyone's rights are fully articulated, every hard case will have a "correct solution" if only we could find it. There is no tragedy in the Greek sense of an irreconcilable conflict between basic norms.

Another characteristic of the social engineering vision is the minimal or non-existent role of any human agency on the part of the beneficiaries of the projects. Human agency plays no role in the laws of (classical) physics. Scientism carries over a similar viewpoint to the social world. For instance, the basic normative concept in neoclassical economics is that of allocative efficiency or "Pareto optimality." An allocation of resources between people is *Pareto optimal* if there is no reallocation that will make some better off without hurting others. The specification is completely silent on the question of how the allocation was obtained—whether by the free agency of people on a market or by the diktat of an all-seeing planner who efficiently allocates resources to passive subjects. It is a technocratic end-state vision of the solution to the social problem of resource allocation where the human agency of the people has no constitutive role.

² See Scott [1998] on modernism and Hayek [1979] on scientism particularly in the thought of Marx, Saint-Simon, and Comte.

³ See Chapter 4 "The Ethical and Political Basis of Wealth Maximization" in Posner 1983. The fatal methodological flaw in the Kaldor-Hicks principle behind the social wealth maximization approach has been recently pointed out in Ellerman [2009].

A similar viewpoint can be found in much legal thought. Where there is a social conflict, rights can be articulated to define the correct or just solution, a court may be able to find that solution, and the solution can be implemented in a manner supervised by the courts or other legal authorities—all independent of the participation of the involved parties by playing a role in determining a solution to the conflict.

The Pragmatist Alternative

The Pragmatist vision is juxtaposed to the social engineering vision of human society promoted by scientism and modernism. Pragmatism views the social world as being actively constructed by people so, at each point in time, it is radically incomplete and in a state of becoming. People's values and opinions, their preferences and beliefs, are always incomplete and in a state of changing in a process of probing values and testing beliefs. Hence the notion of there being some predefined "One Best Way" does not occur, and the notion of a "solution" to a social problem without the active involvement of the parties seems out of place. As people find out more about the possible means to their ends in a social learning process, their conception of the ends may change as well. Hence Pragmatism sees a unity of knowing and doing giving a two-way interaction between means and ends in contrast to the engineering vision of finding the optimal means to reach the ends given by some assumed moral consensus.

In view of the incompleteness of values and beliefs, a solution to a social problem or conflict is something that needs to be constructed by the active involvement of the parties, not something that can be abstractly determined (e.g., through the articulation of rights or the maximization of wealth) and then imposed on passive parties. John Dewey was best known for his active learning (or constructivist) theory of education [Dewey 1916]. His vision of social problem solving and change was essentially active learning writ large as activist or constructivist forms of social learning. A solution that arises out of the active involvement of the parties will be the "fruits of their labor" and thus they will have an "ownership" of the solution that would otherwise be lacking.

Applied to the law, Legal Pragmatism [e.g., Simon 2003] argues that the legal system should see people not as passive potential victims whose rights need to be protected but as active citizens who may need to be empowered to better defend their interests and rights. Citizens act most effectively not as isolated individuals but as active participants in organizations and associations that can bring civic power to bear on the problems of the day. When there is conflict, the priority is on constructing a solution through a process of deliberation and social experimentation. The focus is less on a backward-looking imputation of blame to some for violating the rights of others—all according to an assumed complete system of given rights and obligations.

Social Engineering v. Pragmatism in International Development

Modernization and Development as a Social Engineering Project

Prior to the twentieth century, economic development in Europe and North America was seen as the outcome of a natural process of growth rather than as the result of a massive social engineering project. But when the lagging countries envisaged their "late industrialization," engineering and even military images came to the foreground. Karl Marx had earlier seen socialism and eventually communism as the final scientific rationalization of society coming *after* the irrationality, waste, and chaos of capitalism. But real-existing socialism after the

revolution in a Russia barely emerging from feudalism had quite a different goal. Socialism was then seen as a socially-engineered short-cut directly to modernity and an industrial society—a means of forced draft industrialization bypassing capitalism to arrive at what Marx had seen as a post-capitalist society.

In the West, socially engineered visions of development did not take hold until after World War II. The Marshall Plan was seen as an enormously successful "project" for the reconstruction of western Europe.⁴ With the liberation of the many former European colonies in the Third World and the advent of the Cold War, the West quickly realized that it needed to offer a non-communist path to rapid modernization and industrialization. With the newly created World Bank and International Monetary Fund (IMF) as the lead organizations and with the Marshall Plan as the mental model, economic development was reconceptualized as a social engineering megaproject rather than as an evolutionary historical process. The Soviet Bloc countries were not members of the World Bank or IMF (unlike the United Nations)—in spite of the adjectives "World" and "International"—so the race was on between the West and Soviet Bloc to offer the best model to the "Third World." The West and the Soviet Bloc offered alternative socially-engineered models to the developing world to make a historical jump to an industrial society.

With the dissolution of the Soviet Bloc and the Soviet Union in the early 1990s, the western development assistance institutions triumphed as offering the One Best Way. And the Second World, the formerly socialist countries, became new clients of the international development agencies. International development is now a huge "industry" in itself. The World Bank and the IMF are joined by development organizations associated with the UN (e.g., the UN Development Program and the UN Industrial Development Organization), by the World Trade Organization, by regional development banks in Africa, East Europe, Latin America, and Asia, by bilateral foreign aid agencies (such as the US Agency for International Development), by a panoply of operating foundations working on development issues (e.g., the Ford, Rockefeller, Carnegie, and Soros foundations), and finally by swarms of non-governmental organizations (NGOs) from both the North (developed countries) and South (developing countries).

Over the decades, the major development assistance institutions have run through a number of development foci (or fads). Initially, the focus was on provision of physical infrastructure: roads, seaports, airports, dams, and power plants. After much expensive disappointment, the emphasis shifted to education (formation of "human capital"), health, and the satisfaction of basic necessities.

Under a doctrine called "basic necessities" the bank turned to making low-interest loans and no-interest loans to poor countries for these purposes. Meanwhile, in some unspecified way, these basic necessities were supposed to pay off in development and the ability of development to expand wealth.... In the event, the loans are not repayable. The policy has converted client countries into vast charity wards. While this may or may not be justifiable as philanthropy, it is not my definition of meaningful economic development. Nor is it what was ostensibly offered to poor countries, told as they were that

⁴ Nota bene, it was the "reconstruction" of an already developed Europe, not the development of Europe. Thus the application of the Marshall Plan idea to the Third World was problematic from the beginning.

money they borrowed to carry out World Bank programs was money to buy development of their economies. [Jacobs 1984, 91-2]

These programs represented a swing of the pendulum away from the engineering-oriented physical infrastructure programs (the latter being increasingly financed by the private sector anyway). But as these charity-oriented programs yielded neither the desired developmental results nor loan repayments, the pendulum swung back to social engineering in the form of structural adjustment programs. Here the social engineering came more from economics than civil engineering, and the slogan was "Get the prices right." But since markets require a reasonably well-functioning set of institutions, the focus on prices and structural adjustment soon broadened to governance issues including corruption, business climate, and a legal system to protect property rights and to adjudicate and enforce contracts. The legal system emerged more into the foreground with the slogan "Get the institutions right." The institutional focus was particularly prominent in the assistance to the post-socialist transitional countries (more on this below).

Today the pendulum in the World Bank and many of the other international and bilateral agencies is starting to swing back in the direction of charitable disaster relief. Development, where it has occurred, has been a relatively gradual process rather independent of social engineering projects and programs. Where assistance has been genuinely helpful, it has been more indirect and enabling rather than direct and controlling. As John Dewey argued long ago:

The best kind of help to others, whenever possible, is indirect, and consists in such modifications of the conditions of life, of the general level of subsistence, as enables them independently to help themselves. [Dewey and Tufts 1908, 390]⁵

But regardless of whether the development assistance programs are a success or failure, the major assistance bureaucracies will in either case need to reinvent reasons for their continued existence. The crisis of AIDS and other diseases such as malaria threaten to undo many of the meager developmental accomplishments of the past. It is likened to a "silent tsunami" that calls for the development assistance agencies to shift into disaster relief mode to meet the crisis.

The other major factor today came forcefully into the foreground with the events of September 11, 2001. The War on Terror may eventually replace the Cold War in the rationalization of the major agencies. Their role is twofold. There is the "camp-following" role of post-conflict "nation-building" in Afghanistan (and perhaps someday in Iraq) that builds upon earlier post-conflict experience in the Balkans and East Timor. And there is the longer term "draining the swamp" role of fighting the poverty and desperation that supposedly bred terrorism.

After six decades of attempts to socially engineer development, the various efforts cannot be judged a success. Where development has been most successful in the East Asian countries, the standard model (e.g., "Washington Consensus") has not been followed and outside observers do not credit the development agencies with a key role [e.g., Wade 1990]. Where the international agencies have had the freest hand to try to impose solutions, e.g., in Africa and Latin America, there has been the least success [e.g., Van de Walle 2001 on Africa]. This was the conclusion of even the World Bank's own respected researcher William

⁵ This philosophy of help is developed at book length elsewhere [Ellerman 2005].

Easterly [2001].⁶ Thomas Dichter [2003] came to similar conclusions after a lifetime working in some of the large development agencies and NGOs.

The Challenge of the Transition

The transition from communism to a private property market economy presented a unique challenge to the major development assistance agencies. A new regional development bank, the European Bank for Reconstruction and Development (EBRD), was also established to help meet the challenge. It was a new challenge since prior history did not provide examples of this systemic transition. Since Russia and most of the countries in the Soviet Bloc were industrialized, the countries were more mis-developed than underdeveloped. China was less industrialized so it faced the dual challenges of industrialization and systemic transition.

The transition is a wonderful case study for our theme of social engineering versus pragmatism for two reasons. One reason is that the transition and the role of the major development agencies in it took place largely in the decade of the 1990s so that we have a little perspective of history. The other reason is that there was a remarkable natural experiment in the transition; the two major countries, Russia and China, each used opposite philosophies. Russia chose the social engineering model of institutional shock therapy offered by the international development agencies and the most prominent academic advisors. China chose pragmatism after "learning the hard way" the lessons from using bolshevik methods to try to engineer social change (e.g., the Great Leap Forward and the Cultural Revolution).

The difference in results could hardly be more striking. Since the Chinese reforms started with government support in the early 1980s, China has had around 8 percent per capita annual growth [McMillan 2002, 204], perhaps the largest growth episode in history.

Russia using the shock therapy strategy went the other way. In the first year of shock therapy (1992), production fell by 19 percent with a further 12 percent and 15 percent in the ensuing two years [McMillan 2002, 202]. In all, the country bottomed out at about a 50 percent drop in GDP. Experts can argue about the interpretation of the economic statistics, but the demographic trends tell an even more worrisome story. The population has actually declined over the 1990s in such a precipitous manner—now for every 100 babies born, 170 Russians die—that the government projects a 30 to 40 percent drop by 2050 [Feshbach 2003b]. In her preface to Feshbach [2003a], Laurie Garrett noted that:

There have been few times in human history when a vast region, encompassing a militarily, if not economically, powerful nation has been depopulated to the extent Russia has—and will. It is difficult to find a precedent from which to draw a comparative reckoning about Russia's future.

The causality behind these trends is very hard to disentangle—which is why the side-by-side comparison with China is so revealing.

⁶ Easterly was charged with an "ethical" violation on a technicality (failing to get prior approval from the Bank's public relations department before publishing an op-ed piece about the book's conclusions) and was forced out of his tenured position in the World Bank shortly thereafter.

Shock Therapy versus Pragmatic Social Learning

Since the systemic transition from plan to market had never happened before in history, it surely called out for a non-dogmatic approach of trial-and-error and experimentalism, i.e., for pragmatism. Two earlier attempts to socially engineer revolutionary changes in social, political, and legal institutions—the French Revolution and the Russian Revolution—had led to disastrous results. The names "Jacobins" and "Bolsheviks" entered history as labels to describe those who eschew pragmatism and moderation to try to force historical change.

One of the most influential critiques of the Jacobin methods used in the French Revolution was Edmund Burke's *Reflections on the French Revolution: In a letter intended to have been sent to a gentleman in Paris* [1937 (orig. 1790)]. At the beginning of the decade of the transition (1990s), Ralf Dahrendorf (a political sociologist and head of the London School of Economics), wrote a book, *Reflections on the Revolution in Europe: In a letter intended to have been sent to a gentleman in Warsaw* [1990], updating Burke's message for the coming post-socialist transition. Dahrendorf argued for the transition "to work by trial and error within institutions" [1990, 41; quoted in: Sachs 1993, 4]. Neoclassical economics (in contrast, say, to neo-Austrian economics) has become the primary intellectual framework of today's social engineering. In the early debates about the transition, a prominent economist and gifted self-publicist, Jeffrey Sachs (then of Harvard and now at Columbia University), argued that he and other economists already had the answers. After quoting Dahrendorf, Sachs argued to the contrary in favor of an economics-inspired crash program of institutional shock therapy. "If instead the philosophy were one of open experimentation, I doubt that the transformation would be possible at all, at least without costly and dangerous wrong turns." [Sachs 1993, 5]

The French Revolution was not the only relevant historical example. John Maynard Keynes described the Russian Revolution and its aftermath in terms that are surprisingly apt to describe Russia in the 1990s.

We have a fearful example in Russia today of the evils of insane and unnecessary haste. The sacrifices and losses of transition will be vastly greater if the pace is forced....For it is of the nature of economic processes to be rooted in time. A rapid transition will involve so much pure destruction of wealth that the new state of affairs will be, at first, far worse than the old, and the grand experiment will be discredited. [Keynes 1933, 245]

Instead of taking these lessons to heart, the Russian reformers of the 1990s became "market bolsheviks" [Reddaway and Glinski 2001] in their attempt to use the "window of opportunity" to make the opposite transition from plan to market.

There are a number of factors that combine to yield this view of engineered revolutionary change. The question is not whether or not to make systemic change. The question is: given a commitment to basic change—to get to the "other side of an institutional chasm"—how best to get there? A pragmatic approach would emphasize incremental step-by-step change starting from where people are. Sachs often used the metaphor "you can't jump over a chasm in two leaps" but even rather radical pragmatists would argue that people "need a bridge to cross from their own experience to a new way." [Alinsky 1971, xxi]. The Japanese have another metaphor to describe how to handle the shock of change.

It is a time-honored Japanese gardening technique to prepare a tree for transplanting by slowly and carefully binding the roots over a period of time,

bit by bit, to prepare the tree for the shock of the change it is about to experience. This process, called *nemawashi*, takes time and patience, but it rewards you, if it is done properly, with a healthy transplanted tree. [Morita 1986, 158]

Rather than try to shake off all the old dirt (thus damaging the microstructure of the roots), the *nemawashi* technique keeps some of the old dirt on the roots to make a healthy transplant into new earth.

Perhaps the *nemawashi* metaphor is particularly apt to illustrate the role of moral fervor in bolshevik-style social change. The Jacobins, the original Bolsheviks, and the market bolsheviks all saw themselves as eradicating "evil" so they felt they had to "wipe the slate clean" and begin anew. All "old dirt" had to be removed regardless of the short-term consequences in terms of social disorganization and collapse.⁷ In the case of the market bolsheviks in the international agencies, in academia, and in some of the post-socialist governments, the moral fervor of the cold-warrior pushed to take advantage of the "window of opportunity" offered by the "fog of transition" to "wipe the slate clean" and to push through the new laws that would define the *novus ordo seclorum*.

Another factor leading to social engineering schemes is the use of simplified abstract models and a lack of experience in the give and take of practical political experience. James Scott's book *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* [1998] argues persuasively that states use simplified pictures of static reality to administer their affairs (e.g., to collect taxes and to staff the army) but that these simplified pictures lead to disaster when they are the basis for large-scale social engineering schemes to change societies.⁸ Academic economists and global development bureaucrats have little contact with local realities and thus they tend to be driven by stereotypes or cartoon models. Exiles who have not participated in the give and take of politics in a country for years if not decades also tend to have cartoon models. It is the combination of power and highly simplified models of complex social realities that is particularly lethal. In our case, the power of the international agencies together with the bureaucratic/academic cartoon models—all fueled by cold war triumphalism and its good-guy/bad-guy simplicities—led to the debacles of shock therapy in the former Soviet Union.⁹

There is a side-theme that might be explored. Youthful prodigies are typically in activities based on abstract symbol manipulation (e.g., mathematics, music, and chess) where subtle and often tacit background knowledge obtained from years of human experience is not so relevant (see Scott's 1998 wonderfully relevant discussion of pragmatic knowledge or "metis"). As economic theory has become more mathematical, there is now the phenomenon of *wunderkind* professors in economics (e.g., Jeffrey Sachs, Larry Summers, and Andrei

⁷ More recent examples of these methods were the decisions of the Coalition Provisional Authority in Iraq to "cleanse" the government bureaucracies of the Baath Party members and to dismantle the Iraqi Army—decisions with similar results in terms of social disorganization, dislocation, and collapse.

⁸ A tree, unlike a fence post, has an elaborate system of roots out of sight beneath the ground. But either a tree or a fence post could serve as a static support for a wire fence that borders a field. But if one decides to move the boundary and treats a tree like a fence post that can simply be ripped out of one hole and stuck into another (and one has the power to do so), then the transplantation of the tree will have adverse consequences.

⁹ Another cartoon model of academic and bureaucratic economists is seeing the ownership of shares on a stock market as the "private ownership of productive assets" and the trading of shares as the "restructuring of private capital." These cartoons lead to voucher privatization and the cargo-cult legal reforms considered below.

Shleifer were all prodigy-professors at Harvard) who are then unleashed—with the compounded arrogance of youth, academic credentials, and elite associations—into the real world as ersatz "policy experts." Paul Starobin [1999] contrasts the *wunderkinder* of "Big Bangery" with the mature pragmatists behind the Marshall Plan, and notes the striking difference in results. When *wunderkinder* cast long shadows in the development agencies that are supposed to represent decades of mature experience, then it must be late in the day for those agencies.

De Facto Property Rights

The notion of *de facto* property rights helps to understand why grand social engineering schemes lead to such social disorganization and dislocation. Even when a legal system (e.g., a socialist system) does not recognize classical private property rights, people still act on the world to create certain "fruits of their labor" and they have socially recognized capabilities and use rights—all of which might be seen as *de facto* property rights. It is these *de facto* rights that define their competences, their ability to make a living, provide for their family, and perhaps to realize some of their aspirations. But because these *de facto* rights are not formally recognized and enforced by the legal system, people cannot protect them from arbitrary interference and cannot build upon them (e.g., as security for a loan) in the sense that one cannot construct a tall building without a sure foundation. It is only a rudimentary foundation so further development is stunted.

How in such a situation might one make the transition to a private property market economy? The key to such a transition is start where people are, namely, with their *de facto* property rights and to formalize them (or some close approximation to them) in a private property system. Then the foundation that people have already created would be strengthened and vouchsafed by the legal system so that people could then build on top of that stabilized foundation.

These ideas have been forcefully developed recently in Hernando de Soto's book *The Mystery of Capital* [2000]. In the developing world, there is much rural land occupied and farmed by peasants or urban land occupied and used by slum dwellers all without formal title. The idea is that by using and improving these assets (formally but absentee owned by others), people have created (as the fruits of their labor) certain *de facto* property rights (like "easements") which give them the capability to sow and reap. Any so-called "reform" that would take away those *de facto* property rights (and the capabilities they represent) to assert absentee formal property rights would in fact be disempowering and anti-development. To promote market-driven development, the reforms should find out ways to formalize some socially acceptable approximation to those *de facto* rights so that the people then encounter the market and the private property system as something that empowers them—rather than the opposite.

Now transpose this argument over to the transition economies. In the decentralizing socialist reforms over the years and decades before 1990, the workers, managers, and local communities had developed a range of *de facto* property rights over their enterprises. There was a self-management system in Yugoslavia, goulash communism with the enterprise councils in Hungary, Solidarity with the self-management councils in Poland, and *perestroika* with the decentralized management, cooperatives, and lease buy-outs in Gorbachev's Soviet Union. Central planning never worked well and, as it got worse, forms of decentralization took hold in varying degrees across much of the socialist world. One way or another, in often bizarre ways, people learned to do things in a twilight half-centralized and half-decentralized

system. They developed *de facto* property rights that represented their capabilities to actually get a few things done and to squeak by.

When the dam finally broke in 1989-90, there was the commitment to systemic change but what was the best path to the market? The pragmatic route would "start where people are" and build incrementally on the previous reforms by formalizing the nearest approximation to the *de facto* property rights that would be accepted as socially fair. Thus it would continue the decentralizing thrust going "straight to the market." For instance, that might have taken the form of transforming the quasi-ownership of the workers embodied in the various self-management councils into German-style works councils (co-determination) or into management and employee buy-outs (MEBOs) perhaps as in the employee stock ownership plans (ESOPs) of the US and UK or as in the Mondragon cooperatives of the Basque region in Spain.¹⁰

These points are perhaps easier to understand when applied to dwellings. Here pragmatism fortunately prevailed over market bolshevik ideology. People also acquired various *de facto* property rights over their flats in the socialist countries (analogous to "squatters' rights" in de Soto's work). Since the distribution of housing also partially reflected the power relationships under communism, one might pursue the same logic to suggest that the slate should be wiped clean of the communist past and all apartments should be put on the market and auctioned off to the highest bidder. Just think of the efficiency gains by jump-starting the housing market! Instead most of the post-socialist countries figured out ways to arrive at formal rights that were the closest socially fair approximation to the *de facto* rights.

But in the economic sphere, the market bolsheviks designed the so-called "market reforms" with the exact opposite purpose to deny the *de facto* property rights accumulated during the "communist past," to righteously wipe the slate clean by re-nationalizing all companies of any size, and to start afresh with formal property rights deliberately unrelated to the previous "vestiges of communism."¹¹ Sometimes these "ideal reforms" were compromised in getting legislation passed but, by and large, the "reforms" were successful in sabotaging the *de facto* property rights acquired during the earlier decentralizing reforms. For instance, outside of a small elite, most Russians encountered the market not as something that strengthened their capabilities and empowered them to build upon a sure foundation but as something that took away what little self-efficacy they might have had. Thus the "market reforms" created social dislocation on a massive scale—particularly for middle-aged and older people who had well-developed "root systems"—and left people in a position where the rational choice was to grab what they could in the face of a very uncertain and uncontrollable future.

"Cargo Cult" Legal Reforms

There is a certain self-reinforcing vicious circle that leads to attempts to "install" inappropriate "advanced" institutions in developing and transitional post-socialist countries. Let us begin with the supply side of this unhappy transaction.

¹⁰ See Oakeshott 2000 or Whyte and Whyte 1991.

¹¹ The principal method was voucher privatization [see Ellerman 2001; 2003] where people in effect gave up their *de facto* rights in return for one or more vouchers (in Russia, worth in the end a few bottles of vodka) that could be traded for shares on the "stock market" (see next section).

People from advanced developed countries are, in effect, "born on third base and think they hit a triple."¹² Often such "natural-born development experts" are graciously disposed to teach developing countries how to "hit a triple." The developing country should redraft its laws to describe the institutions seen from the vantage-point of "third base" [e.g., "like in America"] and then after passing these new laws, everyone should wake up next morning as if they too were born on third base.

Societies, however, tend to operate on the basis of their *de facto* institutions, norms, and social habits, not their formal laws—and particularly not the formal laws "pulled out of the air" with little relation to past experience. When such a gap between formal and *de facto* institutions is introduced, then the bulk of the population can rarely "jump over the chasm" to suddenly start living according to the new formal laws—so the rule of law is weakened. Semi-legal ("gray") and illegal ("black") activities become more prominent as the connection between legal and actual behavior is strained to and beyond the breaking point. The advice from the natural-born development experts thus becomes more part of the problem than part of the solution. More relevant institutional information could be provided by people who were only on first or second base since they might actually know how to hit a single or a double.

Now consider the demand side—the demand for impossible "overnight" jumps to institutions copied from technologically advanced developed countries. The people and the politicians of the developing and the transition economies are constantly bombarded by the mass media with images of life in the "First World." They want to get there "tomorrow" (if not "yesterday"). Consultants and academics from elite universities with no real development experience badger the government officials to have the political courage and will to undertake a shock-therapy-style change in institutions, to jump over the chasm in one leap (i.e., jump directly to third base)—as if such institutional change were actually possible. Those locals who caution against radical leaps are dismissed as only trying to protect their privileges and "rents" from the past regime. "How dare you think you know better than professors from Harvard!"¹³ The idea is to "escape the past," not to study the past to better develop incremental change strategies. If the scientific experts from the First World give this advice, how can the benighted officials from the Third World or the post-socialist countries resist? All people have to do when they wake up the next morning is to start behaving according to the new laws drafted by the experts!

For instance in a southeast European post-socialist country that had been particularly isolated in the past, government officials wanted to jump to modern corporations "like in Europe." This was an example of an "iceberg" institutional reform; the "above the water-line" laws could be quickly changed but the problem was the "below the water-line" long-term changes in behavior.¹⁴ They located a European foundation that was willing to fund an "adaptation" of the corporate laws of a west European country. The new draft laws were quickly passed by

¹² The baseball metaphor was used by the Texan populist and political commentator Jim Hightower to describe the first President George Bush.

¹³ See Wedel [1998] and Ellerman [2001, 2003] for more on the role of the Harvard *wunderkinder* in Eastern Europe and in Yeltsin's Russia. Jeffrey Sachs was the first young Harvard economics professor to gain notoriety in this regard, but he was soon eclipsed by his colleagues Lawrence Summers (who during the early 1990s become Chief Economist of the World Bank and later Secretary of the Treasury in the U.S. government) and, his protégé, Andrei Shleifer (born in Russia but emigrated to America as a teenager).

¹⁴ The difference was noted by the British economic historian, Richard Tawney, after visiting China in 1930. "To lift the load of the past, China required, not merely new technical devices and new political forms, but new conceptions of law, administration and political obligations, and new standards of conduct in governments, administrators, and the society which produced them. The former could be, and were, borrowed. The latter had to be grown." [Tawney 1966 (orig. 1932), 166]

the Parliament so that the government officials and legislators could brag that they now had "European corporate statutes." All they needed now was a few lawyers, a few judges, a few accountants, a few regulators, a few business people, and a few decades of institution-building experience so that the new statutes could actually be used. Any attempt to get the country to adopt laws similar to those in neighboring countries that had incrementally evolved towards a market economy for several decades was angrily rejected. "Why do you try to get us to use these second-best or third-best laws when we can adopt the *best* European statutes?" Surely the natural-born development experts from the First World want to provide the *best* laws for their clients?

Thus the government officials demand that they do not want some second-best model; they want the "very best" for their people—like in the advanced countries. The third-basers in the international aid bureaucracies then can reap the seeds they have sown by "listening to the clients" and "responding to the clients' desires" by trying to set up "public joint stock companies" in Albania, a "stock market" in Mongolia, "defined contribution pension plans" in Kazakhstan, and "modern self-enforcing corporate laws" in Russia.¹⁵ Thus the circle is completed; supply responds to demand in a self-reinforcing vicious circle to waste untold aid resources on the attempted instant gratification of a non-evolutionary "Great Leap Forward" to First World institutions.¹⁶

The failed attempts at utopian social engineering might be usefully viewed from an anthropological perspective. Many of the First World institutions such as "The Stock Market" have a certain totemic or 'religious' significance. The Wall Street mentality found in the post-socialist world is reminiscent of the cargo cults that sprung up in the South Pacific after World War II.¹⁷ During the war, many of the glories of civilization were brought to the people in the southern Pacific by "great birds from Heaven" that landed at the new airbases and refueling stations in the region. After the war, the great birds flew back to Heaven. The people started "cargo cults" to build mock runways and wooden airplanes in an attempt to coax the great birds full of cargo to return from Heaven.

Peter Berger has pointed out the cargo cult mentality in development that promises a great magical leap to modernity.¹⁸

¹⁵ See "Corporate Law from Scratch" [Black, Kraakman, and Hay 1996] for a remarkable example of trying to etch first-best laws as if on a blank slate in Russia. Even more remarkable is that after much bitter experience with corporate governance in Russia, Black and Kraakman reversed themselves [Black et al. 2000] and argued for a more pragmatic "staged" approach to legal and institutional development. The third author of "Corporate Law from Scratch", Jonathan Hay, was a legal specialist from the Harvard Law School who worked with Shleifer in Russia on USAID contracts through Harvard. Shleifer and Harvard were later indicted by the US Department of Justice for alleged corrupt practices in that work—and later settled by paying fines.

¹⁶ Again Tawney put it well. "What makes modern industry is ultimately not the machine, but the brains which use it, and the institutional framework which enables it to be used. It is a social product, which owes as much to the jurist as to the inventor. To regard it as an ingenious contrivance, like a mechanical toy, or the gilded clocks in the museum at Peiping made by London jewellers for the amusement of Chinese emperors, which a country can import to suit its fancy, irrespective of the character of the environment in which the new technique is to function, is naïve to the point of absurdity. It is like supposing that, in order to acclimatise Chinese script in the West, it would be sufficient to introduce Chinese brushes and ink." [Tawney 1966 (orig. 1932), 130]

¹⁷ See the chapter on "Cargo Cult Science" in Feynman 1985.

¹⁸ See the Foreword by J. K. McCarthy in Lawrence 1979 for the cargo cult formulation of the question of development assistance: "Where is the road that leads to cargo?" Jan Knippers Black also uses the cargo cult metaphor for some recent development thinking [2000, 137 or 280].

Indeed, one recurrent assertion of revolutionary propaganda is that its program can deliver the "cargo" more surely or more swiftly than the gradualistic development models. [Berger 1976, 21]

Post-communist countries, with hardly a banking system worthy of the name, nonetheless opened up Hollywood storefront "stock exchanges" which were kickstarted by the listing of shares in almost all companies in a voucher privatization program. Government officials in East Europe, the former Soviet Union, and even Mongolia proudly showed the mock stock exchanges, complete with computers screens and "Big Boards," to western delegations (with enthusiastic coverage from the western business press) in the hope that finally the glories of a private enterprise economy will descend upon them from Heaven. An earlier generation of misguided development efforts left Africa dotted with silent "white elephant" factories, and the present generation of revolutionary reforms in the post-socialist world left the region dotted with dysfunctional "cargo cult" institutions—the foremost among them being the largely totemic stock markets.

The Pragmatic Alternative in China

What was the alternative strategy? The reform experience in China—which has never had an IMF program and which largely ignored the World Bank's advice to transition economies (such as voucher privatization, shock-therapy price liberalization, and the opening of capital account)—represents something like a pragmatic approach in practice. Deng Xiaoping used a variety of metaphors; it is not important if the cat is black or white, but that it catches the mice or that one should cross the river groping for the stepping stones (rather than trying to jump over the river in one last "great leap forward"). As Deng put it in 1986: "We are engaged in an experiment. For us, it [reform] is something new, and we have to grope around to find our way. ...Our method is to sum up experience from time to time and correct mistakes whenever they are discovered, so that small errors will not grow into big ones." [see Harding 1987, 87] When experiments had positive results, the idea was to then catalyze the process so that small successes will "grow into big ones." As Chinese reformer Hu Qili put it at the same time: "We allow the little streams to flow. We simply watch in which direction the water flows. When the water flows in the right direction we build channels through which these streams can lead to the river of socialism."¹⁹

One of the important mis-formulations of the transition question was "Fast versus slow?" "Incremental" and "pragmatic" might be misleading if they are construed as "gradual" or "slow." The Chinese reforms were neither gradual nor slow, and the Russians will not soon climb out of the chasm they failed to jump over in one leap. The point is to find and build step-by-step upon the reform efforts of the past (which requires taking into account past conditions) rather than trying to wipe the slate clean and legislate ideal institutions in one fell swoop.

In Joseph Stiglitz's *Whither Reform?* [2001], the two "ideal types" were compared in a table as a "battle of metaphors."

¹⁹ Quoted in: Harding 1987, 318. Thus do Chinese socialists instruct market bolsheviks on the non-bolshevik methods of institutional transformation. A related "pave the paths" metaphor is used by Christopher Williams [1981, 112]. In a complex of new buildings, let grass grow between them, see where footpaths develop, and then pave the paths. This illustrates the pragmatic strategy of formalizing the best approximation to the *de facto* "paths."

Table 1: "Battle of Metaphors" [Based on: Stiglitz 2001, 155]

	Social Engineering	Pragmatism
Continuity vs. Break	Discontinuous break or shock—razing the old social structure in order to build the new.	Continuous change—trying to preserve social capital that cannot be easily reconstructed.
Role of Initial Conditions	The first-best socially engineered solution that is not "distorted" by the initial conditions.	Piecemeal changes (continuous improvements) taking into account initial conditions.
Role of Knowledge	Emphasizes explicit or technical knowledge of end-state blueprint of the One Best Way.	Emphasizes local practical knowledge that only yields local predictability and does not apply to large or global changes.
Attitude towards variety	Why not do everything in the One Best Way?	"Three cheers for the dogged persistence and mysterious vitality of diversity." [Jacobs 1980, 115]
Knowledge Attitude	Knowing what you are doing. ²⁰	Knowing that you don't know what you are doing.
Chasm Metaphor	Jump across the chasm in one leap.	Build a bridge across the chasm.
Repairing the Ship Metaphor	Rebuilding the ship in dry dock. The dry dock provides the Archimedean point outside the water so the ship can be engineered to blueprint without being disturbed by the conditions at sea.	Repairing the ship at sea. There is no "dry dock" or Archimedean fulcrum for changing social institutions from outside of society. Change always starts with the given historical institutions. ²¹
Transplanting the Tree Metaphor	All at once transplantation in a decisive manner to seize the benefits and get over the shock as quickly as possible. Almost like moving fence posts.	Preparing and wrapping the major roots one at a time (<i>nemawashi</i>) to prevent shock to the whole system and improve chances of successful transplantation.

Another part of the pragmatic approach, also evident in China, is the willingness to allow parallel experiments in different parts of the country and then foster horizontal learning and the propagation of the successful experiments. This is an important part of the alternative to the bolshevik/jacobin approach of legislating the brave new world from the capital city to be applied uniformly across the country. Indeed, parallel experimentation schemes are so important to pragmatic social learning that we will close the case study on the transition and turn to that topic.

The final word on the transition case study will be given to Gregory Mankiw, a Harvard economics professor not involved with advice to Russia and who was head of George W. Bush's Council of Economic Advisors in the White House.

²⁰ Albert Hirschman has often noted the problems created in developing countries by the tendency that Flaubert ridiculed as *la rage de vouloir conclure* or the rage to conclude [see Hirschman 1973, 238-40]. Advisors from elite institutions or universities are particularly under pressure to "have the answers" rather than display Socratic ignorance or a pragmatic bent for multiple experiments. After all, what are "experts" for?

²¹ See Benziger 1996 on the Chinese knowing they didn't know "what they were doing" and Elster et al. 1998 for the use of Otto Neurath's "rebuilding the ship at sea" metaphor in this context.

According to the 2002 World Development Report, from 1990 to 2000, China's real GDP grew at an amazing 10.3 percent per year. Meanwhile, Russia's output fell at a rate of 4.8 percent per year. Such a shocking contrast cries out for an explanation. [Mankiw 2003, 256-7]

The explanation given here, like the explanation given in the book by John McMillan [2002] being reviewed by Mankiw, is based on the different philosophies, institutional shock therapy and market bolshevism in the case of Russia in contrast to pragmatism and incrementalism in the case of China. The international development agencies and the neoclassical economic advisors lined up behind the Russian strategy; the Chinese went their own way—having already learned the hard way about bolshevik-style social engineering.

Russia leaned on lawyers, economists, and bankers from the West for advice on how to privatize state firms, develop capital markets, and reform the legal system... China by contrast called little on foreign consultants. [McMillan 2002, 207-8; quoted in Mankiw 2003, 257]

Professor Mankiw spells out the stakes in this natural experiment.

If McMillan is right that shock therapy was the problem, then the economics profession must accept some of the blame. Our profession lent some of its best and brightest to the transition effort, such as my former colleague Jeffrey Sachs.²² Most of these advisors pushed Russia to embrace a rapid transition to capitalism. If this was a mistake, as McMillan suggests, its enormity makes it one of the greatest blunders in world history. [Mankiw 2003, 257]

The greatest *institutional* responsibility must lie with the major development agencies, the World Bank and the IMF, which gave the advice and funds that underwrote the Russian debacle.

McMillan doesn't come right out and tell foreign governments to ignore the experts from the IMF and other first-world institutions, but it would be an easy inference to draw. [Mankiw 2003, 257]

And our case study indicates that the inference would be correct.

Parallel Experimentation as Pragmatic Social Learning

The Duality Between Series-Oriented and Parallel-Oriented Strategies

There is a duality—series-parallel duality²³—that runs throughout mathematics, engineering, and human affairs. Many problems can be conceptualized as searching over a tree (starting at the root). At each point, we have two options: to continue searching to greater depth along a branch of the tree, or to broaden the search to include one or more other branches of the tree. For instance, Albert Hirschman explored this duality in his treatment of exit-voice

²² The other two Harvard *wunderkinder*, Larry Summers and Andrei Shleifer, made more direct contributions to the Russian debacle than Jeffrey Sachs (now with a reinvented persona at Columbia University) but Shleifer was still a colleague of Mankiw's at Harvard and Summers was then the President of Harvard University.

²³ See chapter 12 "Parallel Addition, Series-Parallel Duality, and Financial Mathematics" in Ellerman 1995.

dynamics [Hirschman 1970]. If you are dissatisfied with your position on a branch of a search tree, then you have the basic choice to exit the branch to try other branches (e.g., buy products from another company) or to stay loyal to the branch and exercise voice to try to improve your position along the branch.

Suppose one is facing a search tree in trying to find a solution to a problem. If one is quite sure that the solution lies along the branch that one is on, then a strategy of series experimentation is appropriate. Test the current proposed solution and then move along that branch, as it were, by improving that proposal. But if there is genuine uncertainty as to which branch may contain "the" solution or even "a" solution, then a strategy of parallel experimentation would be more appropriate. Try several options, prototype quickly to test the options, and communicate between the experiments since improvements in one option might also benefit other options. Eventually a clear winner might emerge so that resources could then be concentrated on that option.

One might imagine a "series advocate" and a "parallel advocate" giving arguments for and against each strategy. For the series proponent, a multiplicity of experiments is wasteful duplication. Isn't it rational to put one's resources on the best option? Why not do everything in the One Best Way? Large prideful organizations tend to favor this reasoning. The organization's experts will decide on the best experiment or approach—otherwise the organization would appear "not to know what it's doing." It is safer to put one's resources on the knowledgeable choice rather than waste anything on what the authorities do not support. Scattering our resources among less-promising options will detract from our best chance of getting the breakthrough by putting all our resources on the most promising option. Applied to the social world, this is the viewpoint of the social engineer. As Jeffrey Sachs put it, why undertake "open experimentation" which could lead to "costly and dangerous wrong turns" when the experts already knew the One Best Path?

Parallel experimentation is based on the opposite knowledge, the pragmatic or Socratic knowledge that one does not know—acknowledged ignorance. There is an old distinction between risk, where rough probabilities are known, and genuine uncertainty, where the probabilities are unknown and where one has only conflicting hunches. Parallel experimentation is based on genuine uncertainty.

The use of a parallel-path strategy for the solution of difficult development problems is standard practice in several of our outstanding industrial laboratories. It is extremely common in agricultural and medical research. And in the atomic-bomb project, one of the most spectacularly successful military projects the United States has ever undertaken, the parallel-path strategy was employed. [Nelson 1961, 353]

A sober reading of the history of science and engineering shows that experts are often rather myopic; they see only a few steps ahead on the usual path. But the disruptive paradigm-shifting discoveries tend to come "out of left field"—from outside the conventional framework that is the stock in trade of the experts. This sort of known-ignorance pushes for the "waste and duplication" of a parallel approach.

Development work is a messy, time-, and energy-consuming business of trial, error and failure. The only certainties in it are trial and error.... Indeed, development work is inherently so chancy that by the law of averages,

chances of success are greatly improved if there is much duplication of effort....Just so, when Pasteur, that wise old man, begged for enlarged support of the biological sciences, he begged for multiplication of laboratories. [Jacobs 1969, 90-1]

The Wright Stuff

A certain schema—parallel experimentation—has emerged from a remarkable variety of sources as the best means of learning and development under conditions of genuine uncertainty. But one of the most basic examples is the process of biological evolution itself. Evolutionary change involves the interplay between two processes: variation and selection (along with the transmission of the selected variants to the next generation). Variation expands the range of possibilities and selection narrows it. Charles Darwin's theory of evolution was a theory about selection, the theory of natural selection. Darwin and Darwinism have had relatively little to say about the structure of variation aside from the fundamental contra-Lamarckian point that variation is "blind" in the sense of being independent of learning during the lifetime of an organism.

Sewall Wright (1889-1988) together with Ronald A. Fisher and J. B. S. Haldane were the three progenitors of one of the revolutions in modern biology, the mathematical theory of population genetics [see Provine 1971; 1986]. In the recent complexity science literature, Wright is more often mentioned as the inventor of the "fitness landscape" to represent optimization on a very rugged and cloudy landscape. Yet the fitness landscape was only a tool Wright used to expound his shifting balance theory of evolution.²⁴

Natural selection is a mechanism to push a population up a fitness hill—but it may be a very low hill. "The problem of evolution as I see it is that of a mechanism by which the species may continually find its way from lower to higher peaks in such a field." [Wright 1932; reprinted in Wright 1986, 163-4] How does evolution ever get the population back down a hill and across a valley of low fitness to climb a much higher hill? If selection operates to cut down variety to the survival of the fittest, what is the mechanism to increase variety in order to find a path from low to higher hills?

Like Darwin, Wright thought it relevant to carefully observe artificial selection. Wright found that breeders do not keep all their animals together in one interbreeding herd. They deliberately break the herd up into subherds, subpopulations, "races," or 'demes' (as in demography). It is a question of balance. The subherds should be small enough so that the variety found in the subherd (through sampling error) or created through mutation, sexual reproduction, and genetic drift will be emphasized through inbreeding. But the subherd should not be so small that inbreeding leads to the quick fixation of ill-adapted genes and the deterioration or demise of the subherd. When a clearly superior example is produced in a subherd, then the seed is crossbred into the other subherds to give them the benefit of the innovation. But seeds could not be constantly crossbred between the subherds as that would defeat the benefits of their semi-isolation. Shifting balances were involved. How small to make the subherds and how much cross-breeding between the subherds?

²⁴ The tool was rather misleading if taken to imply some scalar measure of "fitness" (like altitude above sea-level) so that there would be one highest peak, a "Mount Everest of fitness."

Seeing these processes at work in artificial breeding and selection, Wright reasoned that Nature might have found some version of parallel experimentation with naturally forming subpopulations and cross-fertilization by migration.

In the shifting balance theory, a large population that is subdivided into a set of small, semi-isolated subpopulations (demes) has the best chance for the subpopulations to explore the full range of the adaptive topography and to find the highest fitness peak on a convoluted adaptive surface. If the subpopulations are sufficiently small, and the migration rate between them is sufficiently small, then the subpopulations are susceptible to random genetic drift of allele frequencies, which allows them to explore their adaptive topography more or less independently. In any subpopulation, random genetic drift can result in a temporary reduction in fitness that would be prevented by selection in a larger population, and so a subpopulation can pass through a "valley" of reduced fitness and possibly end up "climbing" a peak of fitness higher than the original. Any lucky subpopulation that reaches a higher adaptive peak on the fitness surface increases in size and sends out more migrants to nearby subpopulations, and the favorable gene combinations are gradually spread throughout the entire set of subpopulations by means of interdeme selection. [Hartl and Clark 1997, 259]

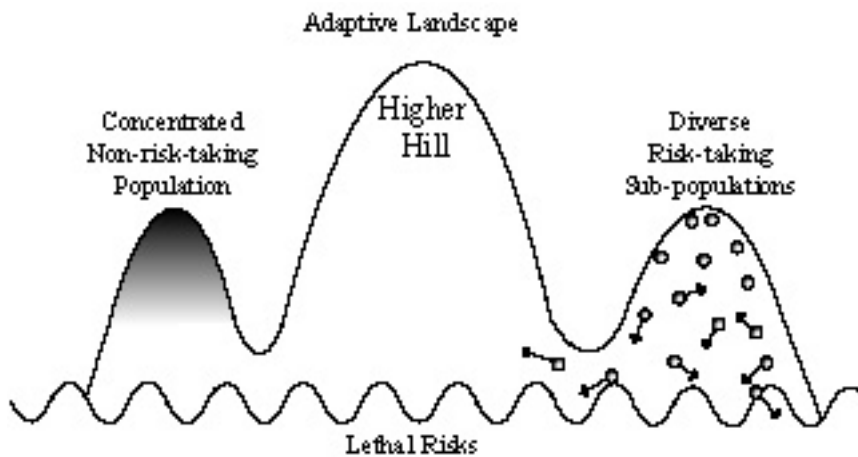


Illustration of Sewall Wright's Shifting Balance Theory

From the shifting balance theory and other examples, we might outline a general pragmatic schema—"the Wright stuff"—for experimentation and learning in the context of uncertainty and known ignorance:

- different experiments ("demes") running concurrently with some common goal,
- with some semi-isolation from immediate competitive pressures,
- with benchmarking comparisons made between the experiments, and
- with the "migration" of discoveries between experiments wherever possible to ratchet up the performance of the whole population.

Perhaps the purest example of parallel experimentation as a scheme for collective innovation and learning is provided by the communities of scientific researchers working in a field. They also work in small semi-independent groups who constantly face the same shifting balance

decisions about working in bigger or smaller groups, or closely following what others are doing versus striking off in new directions. Innovations are quickly transmitted via the scientific literature to the other groups for intersubjective verification and cross-learning. The knowledge available to all the groups is ratcheted up.

The series advocate would again like to use "what we know" to cut down on the wasteful exploration of discredited ideas. The experts should be able to broadly agree on the best path of research and then centrally controlled resources should be allocated along that path. Perhaps the most famous example in recent history in the life sciences was the Soviet experts' decision that Lysenkoism represented the path for Soviet genetics to take. The other branches on the tree were pruned away.

Another major example is the pluralism of political parties or organizations (e.g., cities or states in a federation) taking different positions and performing different experiments addressing common social problems. The rivalry between political parties is immediate and direct while the rivalry between diverse cities or states is more indirect. But in all cases, the idea is to have within the whole polity a number of positions being articulated and a number of parallel experiments going on with some form of benchmarking and cross-learning so that innovations will serve to ratchet up performance across the polity.

Here again, the series advocate is well-represented by "scientific socialism." When one has access to the "science" of the "innermost workings of history" then parallel experimentation is only a waste of resources. John Dewey quotes the English Communist John Strachey's statement that the communist parties' "refusal to tolerate the existence of incompatible opinions ... [is] simply asserting the claim that Socialism is scientific." Dewey goes on to comment that it "would be difficult, probably impossible, to find a more direct and elegantly finished denial of all the qualities that make ideas and theories either scientific or democratic than is contained in this statement." [1939, 96] With "scientific socialism" now in the dustbin of history, the spirit of the "scientific" organization and control of society lives on in the application of orthodox economics as if the communist social engineers just had the wrong textbooks.

But antipathy to parallel experimentation comes not only out of ideologies which already know One Best Way; it comes even more often from authoritarian regimes or organizations who have no interest in sponsoring a genuine alternative. It may be a low hill but they are on top of it and any parallel experimentation would be downhill for them.²⁵

Donald Schön and Everett Rogers on Decentralized Social Learning

How can a society learn to make legal and institutional reforms? The default theory of social learning is that the center makes policy innovations—series experimentation—which are then transmitted to the periphery.

[The standard approach] treats government as center, the rest of society as periphery. Central has responsibility for the formation of new policy and for its imposition on localities at the periphery. Central attempts to 'train' agencies at the periphery. In spite of the language of experimentation,

²⁵ See Sabel and Simon 2003 for a theory about using public law litigation to destabilize low-level equilibria.

government-initiated learning tends to be confined to efforts to induce localities to behave in conformity with central policy. [Schön, 1971, 177]

But social learning can take place in a decentralized bottom-up manner with centralized coordination. In large multi-plant companies, innovation may take the form of new ways of socially organizing and structuring productive processes, e.g., quality circles or self-managed work teams. Separate plants might perform pilot experiments to find out "what works and what doesn't." The headquarters office frames the experiments, detects the successes, and plays the knowledge-broker to help other plants cross-learn from the successful ones. In the Japanese system of just-in-time inventories, there is local problem-solving by teams, benchmarking between teams, and continuous improvement ratcheting up the performance of the teams.

Schön described a similar process involving the government and the periphery of local units trying to carry out a certain social reform.

Government cannot play the role of 'experimenter for the nation', seeking first to identify the correct solution, then to train society at large in its adaptation. The opportunity for learning is primarily in discovered systems at the periphery, not in the nexus of official policies at the center. Central's role is to detect significant shifts at the periphery, to pay explicit attention to the emergence of ideas in good currency, and to derive themes of policy by induction. The movement of learning is as much from periphery to periphery, or periphery to center, as from center to periphery. Central comes to function as facilitator of society's learning, rather than as society's trainer. [Schön, 1971, 177-8]

Decentralized parallel experimentation with centrally-sponsored framing and benchmarking followed by peer-to-peer cross-learning in the periphery (like deme-to-deme cross-learning in Wright's theory) is a more appropriate model than research at a central facility followed by the teaching-dissemination of the results.

In Everett Rogers' early work on the diffusion of innovations he focused on the classical hub-and-spokes or center-periphery model of diffusion.

In this classical diffusion model, an innovation originates from some expert source (often an R&D organization). This source then diffuses the innovation as a uniform package to potential adopters who accept or reject the innovation. The role of the adopter of the innovation is that of a passive acceptor. [Rogers 1983, 333]

Spurred on by Schön's work [1971], he became aware of decentralized diffusion systems with horizontal diffusion between peers (which might involve partial re-invention of the model) rather than vertical transmission from experts to adopters.

During the late 1970s I gradually became aware of diffusion systems that did not operate at all like the relatively centralized diffusion systems that I had described in my previous books. Instead of coming out of formal R&D systems, innovations often bubbled up from the operational levels of a system, with the inventing done by certain users. Then the new ideas spread

horizontally via peer networks, with a high degree of re-invention occurring as the innovations are modified by users to fit their particular conditions. ...

Gradually, I began to realize that the centralized diffusion model was not the only wheel in town. [Rogers 1983, 334]

Perhaps the best example of a parallel system of decentralized innovation and diffusion in a developing country is in China over the last quarter of a century. The Chinese recognized local reform models which could be in a region, county, commune, or even brigade, and could be in any sector or area such as administration, health, education, or industry. The center would recognize a "model" which could then be visited by groups from all over China who want to make a similar reform in their locality.

The diffusion of innovations in China is distinctive in that it is (1) more horizontal in nature, (2) less dependent upon scientific and technical expertise, and (3) more flexible in allowing re-invention of the innovation as it is implemented by local units. These aspects of decentralized diffusion are facilitated by China's use of such diffusion strategies as models and on-the-spot conferences. The "learning from others" approach to decentralized diffusion in China was adopted officially as a national policy in the national constitution in 1978. [Rogers 1983, 340-1]

The same period marks the beginning of China's historic record of growth and development at the end of the twentieth century that was considered above.

Charles Sabel and the Revival of Legal Pragmatism

The Japanese system of just-in-time inventories, local problem-solving by teams, benchmarking between teams, and continuous improvement (*kaizen*) can be seen as a system of parallel experimentation and social learning in production that induces problem-solving and ownership by the participants. Charles Sabel developed this and other examples in his theory of social learning [1994] and theory of rolling rules and ratcheting standards regimes [Dorf and Sabel 1998; Sabel et al. 2000] that, in turn, have spawned a new school of Legal Pragmatism.²⁶

Often legal and institutional development strategies are flawed by implicitly assuming that which needs to be created. This often takes the form of assuming an effective governance system is in place so that a development advisor simply has to pour some new wine into the sound bottle, e.g., design a comprehensive set of new laws to be passed in a developing country. In contrast, Sabel asks how collective action problems are solved in the small and how change does take place—without assuming an effective fiat from the center.

In Sabel's treatment of collective action problems, individuals are assumed to have some sociability, some powers of reflection and discussion, and incomplete identities always in the process of formation and change. They are often in problematic situations where some collective action would benefit the group but where each may be vulnerable to the non-cooperation of others (which could be defection or simply error). The problem being discussed is the group members' own common problem so that they would be involved in implementing any proposed solution (the "learning") and will thereby be monitoring the actions of others and hence the description "learning by monitoring." The discussion to arrive

²⁶ Hence William H. Simon gave a recent paper the provocative title "Toyota Jurisprudence" [2004].

at a collective action plan must also include discussion of how to apportion the gains from cooperation and how to adjudicate differences that will arise.

So far the description of learning by monitoring is consistent with the repeated games treatment of the evolution of "cooperation" [e.g., Axelrod 1984]. Sabel goes beyond the game-theoretic treatment by assuming that the self-definitions and identities of the participants are changed by the discussion and cooperative efforts. Part of the discussion is to reinterpret and reframe their past, to discover and clarify their interests, and to establish a group identity with which the members can start to identify so that the cooperation is based more and more on "who they are" than on a tenuous game-theoretic *modus vivendi* (cooperating today only to avoid retaliation tomorrow). The reciprocal belief that others also cooperate partly on the basis of identification (rather than strategy and guile) will lead to giving others some "benefit of the doubt" by interpreting occasional non-cooperation by members as error rather than betrayal. In such a manner, trust and the norms of reciprocity (social capital) can be developed.

Central managers or coordinators, instead of being assumed as a *deus ex machina*, can be seen as agents of the group facilitating the "government by discussion"²⁷ within the group and helping to minimize the vulnerabilities of cooperative action—while through benchmarking and other means of competitive stimulus helping to insure that the group continues to face the problems that come to light. Where a set of people have interdependent opportunities and fates, the group members through initial problem-solving discussion and action accompanied by mutual monitoring can start to "bootstrap" [Sabel 1995] a new collective identity that can help to stabilize future cooperative problem-solving and learning.

Sabel's treatment of solving collective action problems illustrates the pragmatic themes of the incompleteness of the social world (people's values and beliefs), the constructive nature of social solutions, and the constitutive role of people's active involvement. Sabel and colleagues have also elaborated a remarkable range of what we termed "parallel experimentation schemes" in legal and institutional development, e.g., regimes of rolling rules and ratcheting standards.

Since my goal is more to give background and context to this school of Legal Pragmatism with a focus on international development—rather than a comprehensive survey— I will only outline one application of importance to international development, i.e., ratcheting labor standards.

The problem is not simply "enforcing" some given set of international labor standards for multinational companies but also to foster a social learning process to improve labor conditions and ratchet up the public expectations about these companies. Putting the theory in the mold of a parallel experimentation scheme, the parallel experiments are being conducted by multinational firms who have made some minimal public commitment to socially responsible behavior on their part and on the part of their subcontractors. The firms need to spell out their own claims about humane treatment of workers in concrete terms (wages, hours, safety record, and other working conditions) that can be benchmarked between the parallel firms.

²⁷ This tradition would include the work of John Stuart Mill, Walter Bagehot, James Bryce, John Dewey, Ernest Barker, Frank Knight, James Buchanan, Bernard Crick, Charles Lindblom, Jurgen Habermas, Jon Elster, Amy Gutmann, and Dennis Thompson.

Monitoring of the companies for compliance would be performed by NGOs. As NGOs are themselves vulnerable to cooption, the accuracy and independence of their monitoring would be monitored by competing public activist groups and perhaps by a second-tier monitor. In the absence of effective international law, the principal mechanism to discipline the laggards is public shaming and the boycotts (or threats thereof) of activist groups. A company's self-esteem and pride in its public image will play a role in addition to any impact on the bottom line.

The labor standards emerging from this process are not handed down by a committee of experts in an international agency; they are set by the actual experiences of companies. Laggards have little leg to stand on since the best or even average practices are based on the practices of comparable companies. Since the best practices would be publicly documented by the monitoring companies, the laggards can learn through the monitors or directly from other companies. As companies learn, the best and average practices would improve so that the emergent standards would be ratcheted up.

Concluding Remarks

I have tried to cover too much ground to attempt a summary. The overarching theme is that legal and institutional development is not just one big dam engineering project. The philosophical alternative to social engineering is Pragmatism. Within recent memory, we have had one of the most remarkable natural experiments in the history of development, the contrast between the Russian and Chinese strategies for making the transition to the market. The contrast in outcomes is stunning and it casts grave doubt on the development institutions that try to socially engineer development. Out of the whole analysis, one grand scheme for development emerged, decentralized social learning through parallel experimentation.²⁸ Such a pragmatic experimentalist methodology does not require any global social engineering institution at the center to determine "the solution"—and given the track record of such institutions, that is for the good.

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²⁸ See Sabel and Reddy [2003] for the general application of such a learning-to-learn scheme to the "Gordian Knot of Development."

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Free enterprise and the economics of slavery¹

Marvin Brown [University of San Francisco, USA]

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Of the many contradictions we witness between fact and fiction, few would rank more significant today than the contradiction between the small town image commonly used to represent the essence of free enterprise and the real context of early capitalism—the Atlantic trade among the peoples of Europe, Africa, and the Americas. Here is the fiction:

It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own self-interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantages.²

Such a context is not so difficult to imagine. Small shop owners provide different goods to each other, and the best way of doing this is for each to be guided by one's self-interest, since in this intimate setting, it is certainly in one's self-interest to provide a good product at a good price. How nice that we so easily do what is best for us and it turns out best for our neighbors.

The reality of commerce when Adam Smith was composing *The Wealth of Nations* was something else. The center of this trade was not the town square, but the Atlantic Ocean, which was used for the trafficking of millions of captive Africans to the Americas and the trafficking of American grown sugar and tobacco to the Europeans, as well as the Europeans sending other products and services—such as credit and weapons—that went along with the development of any empire. The “success” of early British economics, in other words, was not so much the result of small town exchanges as the result of the economic connections among Europe, Africa, and America.

Robin Blackburn estimates that of the 21 million Africans enslaved between 1700 and 1850, nine million slaves were delivered to the Americas, 5 million were lost during the passage, and another 11 million were enslaved in Africa.³ The numbers are astonishing. In fact, more Africans than Europeans settled in the Americas during the seventeenth and early eighteenth century.

Indeed, in every year from about the mid-sixteenth century to 1831, more Africans than Europeans quite likely came to the Americas, and not until the second wave of mass migration began in the 1880s did the sum of net European immigration start to match and then excel the cumulative influx from Africa In terms of immigration alone, then, America was an extension of Africa rather than Europe until late in the nineteenth century.⁴

True, one finds slavery in earlier historical periods, but the Atlantic-based slavery was unique. For the first time, slavery was an integral part of the global economy. Yes, the Romans had many slaves, but they became slaves mostly due to conquest. As Blackburn writes: “One

¹ From Marvin T. Brown, [Civilizing the Economy: A New Economics of Provision](#), to be published by Cambridge University Press in April 2010.

² Adam, Smith *The Wealth of Nations*, ed. Edwin Cannan (New York: The Modern Library, Random House, 1994), p. 15.

³ Robin Blackburn *The Making of New World Slavery: from the Baroque to the Modern, 1492-1800*. (London New York: Verso, 1998), p. 388

⁴ Quoted in Ronald Bailey “The Slave(ry) Trade and the Development of Capitalism in the United States: The textile Industry in New England,” *Social Science History*, Vol. 14, No. 3. (Autumn, 1990), pp. 373-414, p. 377

might say that many Roman slaves were sold because they had been captured, while many African slaves entering the Atlantic trade had been captured so that they might be sold.”⁵

In the commercial world of the Atlantic, slavery was an economic institution. This conclusion has been carefully documented in Eric Williams’s book, *Capitalism and Slavery*.⁶ He traces the history of the plantations in the British West Indies from first using indigenous slaves and then indentured servants brought from Europe. As the plantations grew and needed more labor, and as indentured servants heard of the hard times on the plantations, and refused to volunteer to move there, there rose the need for another source of labor, and African slaves were chosen. The origin of Negro slavery, Williams writes, “was economic, not racial; it had to do not with the color of the laborer, but the cheapness of the labor.”⁷ Only later, as whites became afraid of slave rebellions, did they begin to see Africans as racially inferior. As Williams says. “Slavery was not born of racism; rather, racism was the consequence of slavery.”⁸

Although Williams’s work has not been included in the canon of contemporary Anglo-American economics, recent scholarship has confirmed what has become known as the Williams thesis; namely, that slavery was essentially economic. Blackburn, for example, supports this thesis by describing how the sugar plantations in the West Indies were not just institutions of agriculture, but also commercial institutions:

The plantation evidently belonged to the world of manufacture as much as to that of commercial agriculture. The plantation crops, especially sugar and indigo, required elaborate processing, and both permitted and required the intensive exploitation of labour. . . . On the productive side, the plantation required the coordinated and meticulously timed activities of between 10 and 300 workers. Specialist slaves, working long hours but receiving some small privileges, came to work in the responsible positions in the sugar works, as planters discovered that this was cheaper than hiring specialized employees.⁹

Plantations, in other words, were part and parcel of the economic system that created the wealth that Adam Smith enjoyed when he was collecting material for his book *The Wealth of Nations*. Instead of telling us this history, which he knew not only because he would have witnessed it as a resident of Glasgow, but also because he met for years with the Glasgow merchants of tobacco, he tells us the story of the butcher, brewer, and the baker.

This image of economics, and others like it, such as the invisible hand or the “natural” dynamics of markets, has dominated the past decades of Anglo-American economics. The combination of Smith not telling us how wealth was actually created in his city, and of supplying images of commerce that left no room for such stories, created a legacy of market optimism that continues to shield us from seeing how the economy really functions today.

It is truly amazing that in the many current books on Adam Smith’s political philosophy, his ethics, and even his economics, one finds a total absence of reference to the Glasgow tobacco lords, or to the slave-based tobacco trade.¹⁰ After all, one of the first

⁵ Blackburn, *The Making of New World Slavery*, p. 11

⁶ Eric Williams *Capitalism & Slavery with a New Introduction* Colin A. Palmer (Chapel Hill & London: The University of North Carolina Press, 1994.

⁷ Ibid. p. 19.

⁸ Ibid. p. 7.

⁹ Blackburn, *The Making of New World Slavery*, p. 333-334.

¹⁰ Recent examples of such studies on Smith are Jerry Evensky *Adam Smith’s Moral Philosophy: A Historical and Contemporary Perspective on Markets, Law, Ethics, and Culture* (New York: Cambridge

principles of understanding a text is to understand the context in which it was written. It is as if Smith's context was as invisible as his "invisible hand" of the market. Still, one must admit that if one only studied the written text, one would not know that the "opulence" Smith enjoyed in Glasgow came largely from the exploitation of the kidnapped Africans who labored on tobacco plantations in Virginia and Maryland. As a consequence of not knowing this story, or at least not admitting it, Smith's economics have been used as the basis for believing that an unfettered market economy promotes human freedom.

Two writers who played leading roles in the recent popularizing of Smith were Milton Friedman and Michael Novak. Friedman proposed in his book with the apt title, *Capital and Freedom*, that Smith's "invisible hand" of the market system had been more "potent for progress" than the visible hand of government.¹¹ Michael Novak gave expression to Smith's influence in his thinking with the following formulation of Smith's vision:

Adam Smith's hope was that the self-love of human beings might be transformed into a social system which benefited all as no other system had ever done. Thus his purpose in granting human self-interest its due was to transform it into a system of order, imagination, initiative, and progress for all. . . Each individual would then participate in a good society, in such a way that his self-love would come to include the whole.¹²

In Friedman and Novak, one finds an optimistic economics that proposes that if we would just mind our own business, so to speak, market forces will provide us with the prosperity we desire. This message found its political voice in Ronald Reagan's 1980 campaign for the Presidency, where he contrasted his message of optimism and promised prosperity to Jimmy Carter's message of difficult challenges and the need for sacrifices. He won. "Reganomics," and in Great Britain "Thatcherism," became the basic economic framework for the policies of the final decades of the last century, providing the ideology for such influential organizations as the World Bank, the International Monetary Fund, and the World Trade Organization. The recent chair of the Federal Reserve, Alan Greenspan, continues this praise of Smith. Just before the advent of the financial disaster that continues to threaten our global community, he wrote in his autobiography:

It is striking to me that our ideas about the efficacy of market competition have remained essentially unchanged since the eighteenth-century Enlightenment, when they first emerged, to a remarkable extent, largely from the mind of one man, Adam Smith.¹³

Now we know that Greenspan's comment was more germane than he probably intended. Smith's ideas did emerge largely from his mind, rather than from the data that was available to him in the city of Glasgow. This is also somewhat true of Benjamin Friedman's use of Smith in his arguments for a positive relationship between economic growth and morality. In his book, *The Moral Consequences of Economic Growth*, Friedman writes of Smith's *The Wealth of Nations*.

University Press, 2005), Samuel Fleischacker *On Adam Smith's Wealth of Nations: A philosophical Companion* (Princeton and Oxford: Princeton University Press, 2004), and Deirdre N. McCloskey *The Bourgeois Virtues: Ethics for An Age of Commerce* (Chicago and London: University of Chicago Press, 2006).

¹¹ Milton Friedman *Capitalism and Freedom* (Chicago and London: The University of Chicago Press, 1982), p. 200

¹² Michael Novak *The Spirit of Democratic Capitalism* (New York: Simon & Schuster Publication, 1982), p. 149

¹³ Alan Greenspan *The Age of Turbulence: Adventures in a New World* (New York: The Penguin Press, 2007), p. 260.

For the first time people saw the possibility of acquiring wealth in a way that need not be inherently exploitive. At the individual level, the idea of voluntary exchange was that in any transaction both parties expected to come out ahead. But the same point applied even more strikingly at the level of the entire society. The route to national wealth was commerce, not conquest.¹⁴

Was the enslavement of millions of Africans not conquest? Was the occupation of and the extermination of native peoples merely commerce? What a mind-twisting game. It is time to repair this disconnect between the image of commerce we have inherited from *The Wealth of Nations* and the reality of the context in which this book was written, which was the world of the Atlantic slave trade. Part of the repair requires that we fully understand the economic aspects of slavery.

Today, of course, one is more likely to focus on the role of slavery in the development of racism in the United States than on its role in our economic development. My intention is certainly not to minimize the reality of racism, or to obscure the structures of white privilege. Still, if we are to understand the economy that continues to drive us toward an unsustainable future, we must recognize the role of slavery at the very beginning of its development. Part of the difficulty in seeing this clearly is the shifts in the seventeenth and eighteenth centuries between a political and an economic view of slavery, which we will sort out in the rest of this essay. We begin with the case of John Locke, who many consider the political philosopher behind the United States' Declaration of Independence.

The Case of John Locke

John Locke lived in the seventeenth, not the eighteenth century. British slavery was much more in the Caribbean than in North America. Still, in terms of the Atlantic slave trade, Locke was actually much more involved than Adam Smith. Although many of us learned about John Locke as a philosopher, he was an investor in the Royal Africa Company (the British slave trading business) as well as from 1673 to 1675 the Secretary of the Council of Trade and Plantations. So on the one hand, he argued for, as it is stated in the Declaration of Independence, man's "inalienable rights of life, liberty, and the pursuit of happiness," and on the other hand, he was deeply involved in the commerce of slavery. He actually invested his money in the business of buying and selling of slaves. How are we to understand this? I think it makes sense only if we separate the "economic" from the political or moral view of slavery. Locke never competed this separation, but he laid the groundwork for it, and that is what we need to understand.

In his *Second Treatise of Government*, Locke is clear that no man can become a slave of another except as a result of war.

But there is another sort of servants, which by a peculiar name we call slaves, who being captives taken in a just war, are by the right of nature subjected to the absolute dominion and arbitrary power of their masters. These men having, as I say, forfeited their lives, and with it their liberties, and lost their estates; and being in the state of slavery, not capable of any property, cannot in that state be considered as any part of civil society; the chief end whereof is the preservation of property.¹⁵

¹⁴ Benjamin M. Friedman *The Moral Consequences of Economic Growth* (New York: Vintage Books, 2007), p. 39

¹⁵ John Locke *Second Treatise of Government*, ed. C.B. Macpherson (Hackett Publishing Company, Inc., 1980), p. 46

If the only slavery that could be justified was the slavery that was the result of a just war, then why did Locke invest his money in the trading of slaves and serve on the Committee on Trade and Plantations, which supervised the slave trade? Surely the large-scale assaults on African communities to kidnap millions of men and women could hardly be described as a “just war.” So how could Locke justify his investments in the slave trade?

One possibility is that Locke turned away from the question to how Africans became slaves and focused only on the slave trade itself? If he separated the capture of Africans and their enslavement from the buying and selling of slaves—the slave trade—then he could invest in such trade, because the captured Africans were already slaves. To explore this possibility of understanding Locke’s behavior, we can review his view of the relationship between property and government.

In his introduction to John Locke’s *Second Treatise of Government*, C.B. Macpherson writes that what is unique about Locke’s arguments in the context of the seventeenth-century debates about the role of government was his theory of property and property rights.¹⁶ Locke’s theory of property begins with his imagined state of nature:

Though the earth, and all inferior creatures, be common to all men, yet every man has a *property* in his own person: this no body has any right to but himself. The *labour* of his body, and the *work* of his hands, we may say, are properly his. Whatsoever then he removes out of the state that nature hath provided, and left it in, he hath mixed his *labour* with, and joined to it something that is his own, and thereby makes it his *property*. It being by him removed from the common state nature hath placed it in, it hath by this labour something annexed to it, that excludes the common right of other men; for this labour being the unquestionable property of the laborer, no man but he can have a right to what that is once joined to, at least where there is enough, and as good, left in common for others.¹⁷

The question behind this statement is how does a property owner get to own property. Locke’s answer is that we gain ownership through improvement of the land. Property is something one acquires through labor, such as when one cultivates a field. European settlers certainly occupied land in the Americas in this manner, and it seems like Locke must have had such experiences in mind. There certainly was no unsettled land in England. In fact, the enclosure movements in England forced peasants off the land so the owners could treat it as their private property. Still, this idea of mixing labour with land to acquire property does not seem to help us understand Locke’s view of slavery. We need to add a couple more of Locke’s ideas to see the connections and the disconnections.

This acquisition of property through labor occurred in what he called the state of nature, which was prior to the formation of civil society and government. In the state of nature, property owners only collected as much as they could use or supervise, which was quite limited, until the introduction of money. Money allowed property owners to buy more land than they could cultivate themselves, and this land, through purchase, also became their property. Locke does not develop his ideas about money very much, but he does argue that it gives owners the opportunity to enlarge their possessions. Money, for Locke, also belongs to the state of nature, so there is no question here of it belonging to government. It exists prior to government.

¹⁶ C.B. Macpherson “Introduction,” John Locke *Second Treatise of Government*, ed. C.B. Macpherson (Hackett Publishing Company, Inc., 1980), p. xvi.

¹⁷ Locke, *Second Treatise*, p. 18

The final piece of the small Lockean puzzle we are creating here is the piece that states his belief about the formation of civil society and government. Because owners in the state of nature cannot feel secure without protection of their property, Locke believes that they formed a “Commonwealth” where in they gave up some of their freedoms in exchange for the protection of their property.

So how did slaves owners acquire slaves in the Americas? Locke never tells us. He knew they were shipped on slave ships from Africa. He knew they were then sold on auction blocks in the Americas. They were bought and sold. To participate in these market transactions, of course, one needed money, which was available in Locke’s version of the state of nature. So here is Locke’s dissociative economics. As a political philosopher, he believes that the only justification of slavery is the choice of the victors of war to enslave rather than to kill their victims. He also believes that the most precious thing we have is our property, which he understands as “life, liberty and estate.”¹⁸ For Locke, “life, liberty, and estate,” are properties. Property is not a thing for him, but really a kind of self-possession. Property, in other words, is the basis for human freedom. For Locke, slaves have lost their property. They have become the property of the property owner. And this is not the result of war, but the result of a market transaction. Slavery, in other words, perhaps for the first time, was solely an economic institution.

Or so it would seem. It actually depended on where the slaves were. On the British Isles, the buying and selling of persons was not supported by British law. In the British colonies, on the other hand, slavery was legal. This difference needs an explanation.

Slavery in Eighteenth Century Britain

It is well known that Adam Smith was against slavery. This is actually not so unusual for a Scottish intellectual of the eighteenth century. Scotland, and even the whole of Britain, did not tolerate slavery. As Blackburn points out, by the end of the sixteenth century, there were very few slaves left in Europe.¹⁹ In fact, emerging out of the late middle ages was the so-called doctrine of “free air.” Perhaps originating in some of the new towns, the idea was expressed in a 1569 court of common law: “England was too pure an air for slaves to breathe in.”²⁰ This doctrine was also used in a 1762 court case of *Shanely v. Harvey*: It stated: “As soon as a man sets foot on English ground he is free: a negro man maintains an action against his master for ill usage, and may have a Habeas Corpus if restrained of his liberty.”²¹

Ten years later, in the famous *Somerset* case, Lord Mansfield ruled that slavery was not supported by natural or common law. This case involved James Somerset, who had been brought from Jamaica to England as a slave. He escaped, and was captured by his owner and placed on a ship to be returned to Jamaica. The courts intervened and Justice Mansfield ruled that slavery was so odious that nothing but positive law could support it. In other words, slavery could not be supported by natural or any higher law, but only positive or in this case property law.

¹⁸ *Ibid.* p. 46

¹⁹ Blackburn, *The Making of New World Slavery*, p. 62

²⁰ Charles P.M. Outwin “Securing the Leg Irons: Restriction of Legal Rights for Slaves in Virginia and Maryland, 1625-1791,” *Early American Review*, (Winter, 1996), p. 14 retrieved from www.earlyamerica.com/review/winter96/slavery.html

²¹ Wright *Slavery and American Economic Development*, 35-36

Another case that was quite similar to the Somerset case involved Adam Smith's mentor and colleague, Lord Kames. An African born slave, Joseph Knight, who had been bought in Jamaica by John Wedderburn, was brought to Scotland in 1769. Three years later, Knight heard about the Mansfield decision that slavery was contrary to the laws of England, and asked for back wages for the work he had done for free. His master refused, Knight ran away, and then was captured. The case passed through the lower courts and ended up at the Supreme Court of Scotland, the Court of Session in Edinburgh. This Court, with Lord Kames as one of the justices on the bench, ruled that Knight should be free. Their argument was clear: "No man is by nature the property of another."²²

Adam Smith must have known about these cases, although there is no mention of them in *The Wealth of Nations*. There is another story that actually involved the Scottish Highlanders that is also missing from Smith's writings on slavery, which is the story of the settlement of the colony of Georgia.

In 1739, Thomas Oglethorpe was granted a trusteeship of the land between the Carolinas and Florida to create a buffer zone between the British colonies and Spanish Florida. It was to be a free colony without slaves. Oglethorpe enlisted 250 Scottish highlanders to settle in Darien, which was named after an earlier failed attempt by the Scots to have their own colony. The highlanders were selected because of their fighting capacity to guard the border between the British and the Spanish. In 1739, they signed a petition against slavery, branding it a sin and "shocking to human nature."²³ The slave free colony did not last, however, and by 1748, slaves were being sold on Savannah streets. Oglethorpe returned to England, and wrote a letter to David Hume, a friend of Adam Smith, disagreeing with Hume's assertion that dark-skinned people were genetically inferior to Europeans. His protests did not block the slave trade, but the story of the Scottish Highlanders in Georgia does help us recognize the diversity of opinion in the period when Smith was writing about the wealth of nations. These views, however, had little impact on the growth of slavery in the eighteenth century global economy. In the Americas, slavery was something else than it was in Britain.

Slavery in the Americas

In the British colonies, the colonists did not obey the same laws as those at home. In fact, colonists justified slavery by appealing to Roman law instead of the English common law tradition. Not the laws of nature or the common law, but only statutory law, in other words, protected a person's right to his property—to his slaves.

The slave status in the Americas was defined by two core features—namely that slaves were private property and that, after a while, only those of African descent were enslaved. The most important feature fixing slave identity in the Americas was the property regime and appropriate title deeds. The Roman *jus gentium* and its acceptance of private property in persons furnished elements of a model in all the slave colonies. But running it a close second was dark skin pigmentation; the terms back, negre or Negro were used interchangeable with that of slave. The presence of

²² Quoted in Arthur Herman *How the Scots Invented the Modern World* (New York: Three Rivers Press, 2001), p.105.

²³ Blackburn, *The Making of New World Slavery*, p. 464

some free people of colour could still allow for the assumption that blacks were slaves, a circumstance which affected the outlook of even colored slaveholders.²⁴

The position was tragically displayed in the famous trial involving the slave ship named *Zong*. In 1781, the captain of the *Zong* ordered his crew to throw 133 slaves overboard to their deaths. Many of them were sick because of their treatment during the voyage. The owner of the ship then made an insurance claim to be compensated for his loss of property. It turns out that the reason the slaves were killed was that if they had died of natural causes, such as illness, the insurers would not pay. If they were thrown overboard to save the ship, the insurers would. So the ship's captain claimed that there was a shortage of water on board, but it was later discovered that was not true. The ensuing trial was not about murdering slaves, but about insurance fraud. The insurers won the case. From an economic point of view, slaves are property.

As time passed, slaves were not only property for the plantation owners, but also the means of creating more property. According to Allan Kulikoff:

Once slaves achieved natural increase, masters no longer had to buy slaves to expand their labor force. Mid-eighteenth-century slave-owners, then, possessed both the means of production (land and slaves) and the means of reproduction of the means of production. The more slaves one owned, the more one would eventually possess, and the wealthier one would become.²⁵

To increase one's wealth through the increase in size of slave families seems odious to us today, and yet at the time, the possession of slaves was a sign of financial success.

At the center of this world were the privileges of ownership, which gave property owners the means to create a "civilized" world. In a slave society, Kulikoff explains:

Only slaveholders, moreover, possessed high social standing: The custom of the country is such" wrote a Baptist minister, "that without slaves, a man's children stand but a poor chance to marry in reputation," or even according to another commentator, "to appear in polite company."²⁶

This slave-based culture was the foundation for the economic growth of the slave states in the eighteenth and nineteenth centuries. Furthermore, even industrial development of the northern states depended on the slave production in the southern states and in the West Indies. As Gavin Wright points out: "As late as 1768-1772, the British West Indies were the largest single market for northern-colony commodity exports, accounting for more than half the overall total and dominating sales of such items as wood products, fish, and meat."²⁷ The famous textile mills of New England, in other words, were as involved in the economics of slavery as were the various industries in Scotland that exported their products to American plantations.

Perhaps no one recognized the economic aspect of slavery more than Abraham Lincoln. In a 1860 speech in Hartford Connecticut, Lincoln said:

The entire value of the slave population of the United States is, at a moderate estimate, not less than \$2,000,000,000. This amount of property has a vast influence upon the minds of those who own it. The same amount of property owned by Northern men has the same influence on their minds. . . Public opinion is formed relative to a property basis. Therefore the slaveholders battle any policy that

²⁴ Blackburn, p. 563

²⁵ Allan Kulikoff *Tobacco and Slaves: The Development of Southern Cultures in the Chesapeake, 1680-1800* (Chapel Hill and London: University of North Carolina Press, 1986), p. 381-382

²⁶ *Ibid.* 382.

²⁷ Wright, *Slavery and American Economic Development*, p. 30

depreciates their slaves as property. What increases the value of this property, they favor.²⁸

After the civil war, of course, slavery was abolished in the United States, but the structures of white privilege that were built on the economics of slavery remain with us. The privilege is essentially the same as when slaves were the providers of wealth for the tobacco plantation owners and the tobacco lords in Glasgow—the privilege of ignoring the plight of others who continually work to make our clothes, clean our offices, and provide us with the necessities of life.

This is not to suggest that slavery was instituted to meet basic human needs. In fact, the opposite was the case. It should not escape our attention that the reason for the enslavement of millions in the Atlantic globalization was for the production of such “luxury” products as tobacco and sugar. Especially tobacco, the product that enriched Adam Smith’s friends, the tobacco lords of Glasgow, was a controversial product even then, as well as today. As Blackburn points out, the use of tobacco was disapproved of in Europe in the sixteenth century.²⁹ Through shrewd marketing, it became, in Blackburn’s words: “the first exotic luxury to become an article of mass consumption.”³⁰

Would it have made a difference if slaves had been used for national defense or to supply primary goods such as food or housing? Not really. Here is another truth at the very core of capitalism, it does not matter what the product is or what harm it does, the only question is whether there is a profit in producing it. This is part of the freedom of free enterprise. In a property-based economy, all property is gray, whether it rests in the misery of slaves or the deadly risks of smoking tobacco. Any regulation of property is seen as an attack on free enterprise. This is also an economic view that continually uses Adam Smith’s *The Wealth of Nations* to buttress its position. Smith, of course, did not create this world, but his work does aptly illustrate it.

Adam Smith’s Economics of Property

Adam Smith never visited the Americas. It is hard to know how much he knew about the plight of slaves on the tobacco or sugar plantations, or how much his readers wanted to know. We do know that he knew a lot more than he told about the role of slaves in the creation of the wealth of Glasgow, and especially the wealth of the Glasgow tobacco lords. In a sense, his views about slavery repeat those of John Locke. Slaves in the Americas were not the result of war, but of purchase. They belonged not in the realm of politics, but of economics. In this sense, the slave trade was quite unique in terms of its justification. As we have already noticed, John Locke did not have a theory that justified slavery in the colonies. Adam Smith does. At least it seems that he does. It is the Enlightenment’s theory of human evolution—the four stages of history.

The four stages—stages of human communities from hunting, to shepherding, to farming, and finally to trading or commercial society—had been widely used in various forms before Smith employed them in his writings. The Scottish historian Arthur Herman believes that the legal scholar and judge Lord Kames presented the four stages in the form in which Smith used them. One finds them in Kames’ *Historical Law Tracts*, which were published in

²⁸ Quoted in Wright *Slavery and American Economic Development*, p. 72.

²⁹ Blackburn, *The Making of New World Slavery*, p. 149

³⁰ *Ibid.* p. 19

1758, so perhaps Smith borrowed the four stages from Kames.³¹ Other historians believe that Smith developed the stages himself. In Smith's early book, *A Theory of Moral Sentiments*, published in 1759, he did not use this four-stage model, although he did use it in his lectures of jurisprudence a few years later. His biographer, Ian Ross, says that he "adopted" the model for his lectures on law.³² If so, then he could have used Kames' four-stage theory. In any case, he appears to have repeated Kames' intention, which was to use the different stages as a story of the progressive accumulation of property, and with this increase of property, the increased role of government to protect property. As Herman suggests, for Adam Smith, the theme was "with the accumulation of property, the development of civilization."³³ To understand the importance of these stages for Smith, read the following passage from his *Lectures on Jurisprudence*:

It is easy to see that in these several ages of society, the laws and regulations with regard to property must be very different. – | In Tartary, [Asia minor] where as we said the support of the inhabitants consist(s) in herds and flocks, *theft* is punished with immediate death; in North America; again, where the age of hunters subsists, theft is not much regarded. As there is almost no property amongst them, the only injury that can be done them is depriving them of their game. Few laws or regulations will (be) requisite in such an age of society, and these will not extend to any length, or be very rigorous in the punishments annexed to any infringements of property. . . . In the age of agriculture, they are not so much exposed to theft and open robbery [as are herds and flocks], but then there are many ways added in which property may be interrupted as the subjects of it are considerably extended. The laws therefore tho perhaps not so rigorous will be of a far greater number than amongst a nation of shepherds. In the age of commerce, as the subjects of property are greatly increased the laws must be proportionately multiplied. The more improved any society is and the greater length the several means of supporting the inhabitants are carried, the greater will be the number of their laws and regulations necessary to maintain justice, and prevent infringement of the right to property.³⁴

As a careful reading of this passage indicates, the four stages are as much a story of property and property relations as a story of the evolution of the means of production. As we know, Smith never mentions the role of slavery in the commercial society he enjoyed, but here we do see how important it was that there were laws to protect an owner's property, or in the case of slavery, to protect the slave owner. For Smith, the economics of property always overrides the rights of humans, and especially the rights of those who did not belong to "commercial society." At the same time, it is always possible that Smith did not tell us about the role of slavery in the creation of wealth because he could not totally separate the political or moral dimension of slavery from the economic.

At one point in *The Wealth of Nations*, Smith writes the following:

The pride of man makes him love to domineer, and nothing mortifies him so much as to be obliged to condescend to persuade his inferiors. Wherever the law allows it, and the nature of the work can afford it, therefore, he will generally prefer the service of slaves to that of freemen.³⁵

How are we to understand this explanation? When Smith speaks of "the pride of man," does he have the tobacco lords in mind? Are these "men" members of the political economics club

³¹ Herman, *How the Scots Invented the Modern World*, p.94.

³² Ian Simpson Ross, *The Life of Adam Smith* (Oxford: Clarendon press, 1995), p. 83.

³³ Herman, *How the Scots Invented the Modern World*, p. 100.

³⁴ Adam Smith *Lectures on Jurisprudence* ed. Meek, Raphael, and Stein (Indianapolis, IN: Liberty Classics, 1978), p. 16.

³⁵ Smith *The Wealth of Nations*, p. 419.

he attended in Glasgow? We don't know. We do know that Smith lived in a world where it was common to see Americans, Africans, and Asians as inferior to Europeans. Still, the terminology of superior and inferior places both groups in the same species, instead of different types of things: humans and property. Perhaps the key here is the law.

Since the purpose of the law is to protect property, and slaves were property, the law, at least in the colonies not only allowed, but actually enforced slavery. If all of human history had been aiming for the stage of society Smith enjoyed, how could slavery be a mistake? At the same time, if the commercial stage of society required slavery, then how could Smith be right? Smith's decision in the face of this quandary was to omit the story of slavery in his account of wealth creation. The result: a dissociative economics that splits off the misery of the actual providers of wealth from the experiences of enjoying it. This is the legacy of the Scottish Enlightenment, and Smith is its best illustration.

The truth is that Africans were the providers for much of the wealth for the Atlantic trading nations. Until we recognize this truth at the very beginning and heart of capitalism, I wonder if we can ever really find adequate solutions to the challenges we face today. Furthermore, the economics of property, which still dominates Anglo-American economics, continually hides from us the living source of land and labor by treating them as property. To move forward, we need to recognize that the land (in fact the whole biosphere) is a living system and human labor, whether in the shop, the hospital, the home, or the classroom should be understood as providers of prosperity instead of forms of property.

The blind optimism of Smithian economics depends on ignoring the desperation and powerlessness of those who are used to produce goods and services, whether they are slaves, workers, women, children in sweatshops, or illegal immigrants. It depends on closing our eyes to the real consequences of economic growth, such as global warming, depletion of resources, and the destruction of the biosphere. Finally, it depends on maintaining the military capacity we need to protect our exclusive right to property against those who have none or not enough. We need a new economics; an economics that grounds human freedom in human dignity and civil society instead of in property. This does not require the elimination of free enterprise. If we are to be free to acquire what we have reason to value, freedom must become grounded in civic membership not property ownership.³⁶ We must see ourselves as members of this generation where the freedom of one depends on the freedom of all.

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³⁶ Amartya Sen *Development as Freedom* (New York: Alfred A. Knopf, 1999), p. 18.

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Why some countries are poor and some rich - a non-Eurocentric view

Deniz Kellecioglu¹ [International economist, currently based in Sweden]

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Part I: Introduction

All human beings are equal. This is the politically correct position around the world today. The position holds that individual *value* must correspond to individual characteristics, and not to ethnicity, gender, sexuality, disability, religion, and so on. And since discrimination is wrong based on those kinds of background features, it is understood that all kinds of human beings have the same *potential ability* in all aspects of life.

Of course, in reality, there are many different perspectives and approaches to this position. What is worse, the vast majority of the human population does *not* seem to hold that position to be true. Different degrees of racism and prejudice dominate societies all around the world. The consequences are clear and present for every disadvantaged human being. The discriminated people usually possess less political power, lower social status and acceptability, and endure lower economic standards. Ethnic polarizations are a common element in most societies. They vary from segregated public spheres, to discrimination for jobs, to ethnic cleansing. Perceived ethnic differences also often spark wars.

This study embarks on a sensitive exploration of the relevance of ethnicity in world economy. The expectation is that ethnic polarizations at national levels also have significance at the global macro level. The hypothesis is that there is a *systematic* correlation between the ethnicity a country represents and sustained economic levels. This is perhaps an intuitive expectation, but we need a presentation capturing the *character* of these inequalities. The purpose is to reveal this aspect of global economy and bring it into the context of economic development (Part II). This kind of analysis is not included in mainstream economics, yet is so important when describing economic circumstances and formulating policy recommendations. Analysis of this sort is also important in understanding international power structures, processes and outcomes. International negotiations, as the recent Copenhagen climate conference, are one type of example. It seems arrogance and prejudice, coupled with racist attitudes, are still evident in these arenas.

Another purpose of this paper is to use, once revealed, the aspect of the global economy described above as a point of departure to an alternative and non-Eurocentric *histography* capturing processes that have resulted in contemporary economic inequalities at the global macro level (Part III). In the social sciences this theme has provided national and regional analytical perspectives for explaining why some nations are rich and some poor. In the field of economics, some of the most obvious explanatory variables of low levels of GDP per capita for a country are low levels of investment, technology and education. These characteristics are, in turn, explained by other features such as corrupt leadership, civil wars, poor infrastructures, and poor health care facilities. This analysis is sometimes enhanced by factors such as ethnic based conflicts, undemocratic institutions, weak property rights, and other growth impeding factors (among others: Commission for Africa 2005, Gallup 1998, Huntington 2005, Jones 2002, North 2005, Sachs 2000, Sachs 2001).

¹ Thanks to Ari Liukko for inspirational challenges, my father Mehmet and brothers Ihsan and İlhan for discussing, and Stefan de Vylder for showing the way.

These aspects are most often true and relevant. **However, it is very important to remember that these “explanations” are an expanded picture of a country *in* poverty. They are additional characteristics for poor economic conditions, rather than fundamental explanatory factors. They leave us with some necessary questions. Why these countries? Why these regions? And, in the present context, why these ethnic groups?** Why do Sub-Saharan countries exhibit so many civil conflicts, vicious leaders, low education levels, and poor infrastructures? If they are trapped in a vicious poverty circle, why them?

One line of argument emphasizes different cultural mentalities as explanation of different cultural, political, economical, and societal outcomes (among others see Huntington 2000). As such, we are basically left with the belief that poor nations have had (and have?) denizens with a less economically efficient cultural mentality, and rich nations have had (and have?) denizens with a more economically efficient cultural mentality. But the argument is based on a static view of culture. Historically, culture must be one of the most dynamic aspects in human societies.

Other lines of argument point out slavery and colonialism as forces in shaping the economic differences between nations. Surely, these forces must have had severe determining effects. But there is a need to go further in the analysis. For one, we ought to ask ourselves, why did not other ethnic groups go imperial the way the western Europeans did?

Another school of thought emphasizes difficult geography in making some countries poorer than others. This perspective has its most influential proponent in the economist Xavier Sala-i-Martin (Artadi 2003), who particularly emphasizes the unfortunate aspects of African geography. In similar fashion Jeffrey Sachs (2001) identifies tropical climates as harsh for economic development. In addition, there is a growing literature (the mentioned authors among the writers) pointing out a 'natural resource curse' for many developing countries. The central argument is that natural endowments are economic rents, which can lead to rampant rent-seeking activities when abundance prevails.

Standing on the shoulders of existing research material, I want to build an additional perspective from which to understand contemporary gaps in economic levels between countries - by assessing countries as sets of ethnic groups. The purpose of this text is not to dismiss or critically examine the above-mentioned explanatory factors. Rather, the purpose is to emphasize neglected aspects of contemporary global economy and its history.

Part II: Empirics of global economic inequality and ethnicity

We will utilise macroeconomic statistics to proximate inequalities between ethnicities at the global macro level. The aim is to capture a picture of the significance, character and magnitude of ethnic related economic inequalities. The ideal way to show this would be to have a dataset with one column that represents an economic level figure, and one corresponding column of ethnic-belonging for every individual person in the world, and then make necessary computations. But of course we do not have this kind of dataset. Also, the ethnic variable would be hard to categorize and be unpractical in computations. But if we played devil's advocate and used the more concrete appearances of morphological traits as a proximate for ethnicity, and national Gross Domestic Product (GDP) figures as a proximate

for economic standards, we would have a workable dataset. The hypothesis must, in that case, be revised. Now the claim is that there is a significant worldwide correlation between nuances of human morphological traits and economic levels.

Naturally, this method does not come without shortcomings, particularly if we choose only one nuance of morphological trait for each country. Nowadays, most nations around the world are substantially multiethnic; and, since there are few datasets providing ethnic related economic figures, we would miss out on information at the national micro level. However, I am confident that information at the global macro level will be enough to exhibit a fair picture of economic conditions with regard to ethnicity as represented by nuances of morphological traits. Also, it is not our primary task to establish ethnic inequalities at all levels in the world, being an almost impossible task. Instead we are interested in capturing the *direction* of economic inequalities and understanding the approximate *magnitude* of these inequalities at the global macro level.

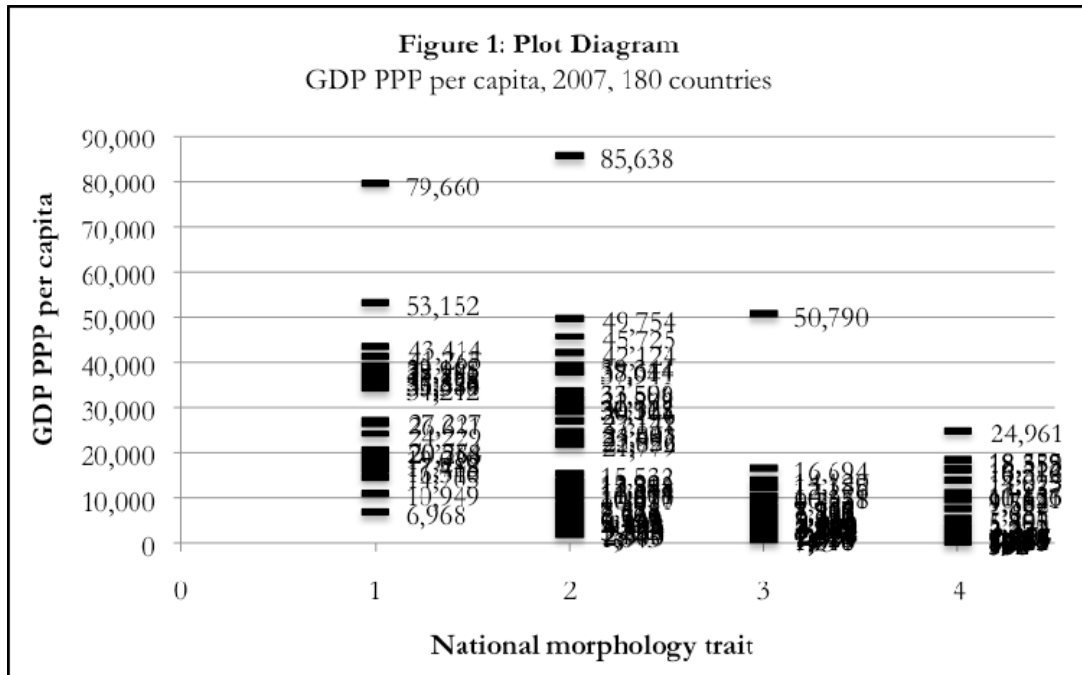
The statistical work is rather simple. We have one column with countries, a second column with corresponding GDP per capita figures, and a third column with corresponding ethnicity, mathematically represented by a morphological nuance scale from 1 to 4 (see Appendix 1). Countries with morphological trait 1 have their largest ethnic group characterized as having light coloured skin and light coloured hair. Morphological trait 2 represents light coloured skin and dark coloured hair, while morphological trait 3 represents darker coloured skin and dark coloured hair. And lastly, morphological trait 4 represents the darkest nuance of skin and hair colour. A brief summary of the geographical spread of this categorization would indicate that trait 1 is represented by countries in northern Europe and northern Asia, trait 2 by southern Europe, north Africa, and northern and southern America, trait 3 by south and southeast Asia, central America and few other countries in Latin America, and trait 4 is represented by countries in Sub-Saharan Africa and the subcontinent's diasporas by majority in the Caribbean countries. The geographical spread follows the acknowledged work of Nina G. Jablonski and George Chaplin (1999).

Empirics – the *direction* of global economic inequality and ethnicity

The results indicate that there is indeed a correlation between morphological traits and economic levels. In general, the darker morphological trait a country represents the lower its GDP per capita. Figure 1 displays the correlation picture for all but one country (Montenegro) from the International Monetary Fund's World Economic Outlook October 2008 database (2008).

Note that the picture is based on only one year, which could suggest misrepresentation. However, since the comparative GDP per capita levels follow the same pattern for recent decades, there is no reason to extend the time period.

It is also relevant to point out that additional existing economic disparities relevant to ethnicity are imbedded in national figures. It seems that whichever country one looks at, the darker morphological trait a person has the higher the probability of that person to be worse off than persons with lighter morphological traits. This pattern is particularly significant in countries such as South Africa (Budlender 2002), USA (US Census Bureau 2005 and Loury



2004), Brazil (Davis 1999), Colombia, UK, and Australia. These countries have descriptive and statistical empirics showing ethnic diversified national economies. Unfortunately, this pattern seems to be persistent in other developed countries such as Sweden (Vogel 2002), France, and Italy. In no country are we to expect a contrasting pattern.

Naturally, the meaning of these results does not suggest persons with darker morphological traits are never to be found wealthy, only that the probability and/or the fraction is lower than people with lighter coloured physical appearances. For instance, *Forbes* magazine's list of the wealthiest persons in the world reveals this fact at the global elite level. The vast majority of the tracked 793 billionaires belong to our first and second categories of morphological traits; few persons of darker bodily nuances are represented (*Forbes Magazine* 2009).

Empirics - the *magnitude* of global economic inequality and ethnicity

In this context, it is interesting to note the population composition of the categorized morphological traits and countries. The population of morphological trait 1 is 512 millions, being the smallest group (see Table 1). The largest group is trait 2 countries, where China represents half the group's population of 2.6 billions of people. Trait 3 countries are as big, with 2.6 billions of people, where India represents almost half the group's population. The fourth group is represented by nearly 800 millions of people. The total population of the dataset is almost 6,6 billion, representing nearly all the world's human population. It is noteworthy to mention that regression results are not dissimilar when excluding China and India from the dataset, representing traits 2 and 3, respectively.

	Morphological traits				World
	1	2	3	4	
Countries	26	53	44	57	180
Countries (%)	14	29	24	32	100
Population (millions)	512	2,636	2,621	783	6,552
Population (%)	8	40	40	12	100

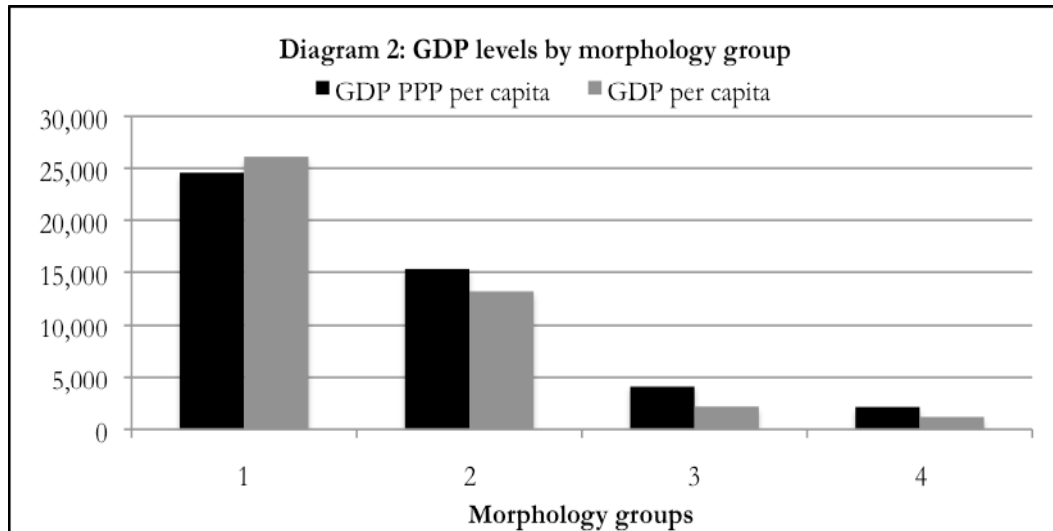
In current PPP US dollars, the lightest human ethnic group have about 1,6 times more GDP per capita than the second lightest group, six times more than the third group, and almost 12 times more than the fourth group. Put differently, the darkest ethnicities have only nine percent of the GDP levels of the lightest ones. This confirms the indication that there is a substantial *orderly* connection between nuances of morphological traits and economic levels in the world today: The higher the morphological number, the lower the GDP level (see Table 2). Again this relationship is not dissimilar when excluding China and India from the dataset.

	Morphological traits				World
	1	2	3	4	
GDP PPP (millions)	12 581 789	40 333 588	10 870 199	1 647 939	65 433 515
GDP PPP (%)	19.2	61.6	16.6	2.5	100
GDP PPP per capita	24 588	15 298	4 148	2 104	9 987
Trait 1 relation	1	1.6	5.9	11.7	2.5
Trait 2 relation	0.62	1	3.69	7.27	1.53
Trait 3 relation	0.17	0.27	1	1.97	0.42
Trait 4 relation	0.09	0.14	0.51	1	0.21

The results in current US dollars are even worse, although a similar orderly correlation prevails. Here, the lightest group makes two times more than the second, 12 times more than the third group, and 22 times more than the darkest group. People with the darkest morphological trait have only four percent of the lightest groups' income levels (see table 3). Again, it would be reasonable to expect even wider inequalities if we would be able to account for economic figures within countries.

	Morphological traits				World
	1	2	3	4	
GDP (millions)	13 346 009	34 796 521	5 612 424	914 108	54 669 062
GDP (%)	24.4	63.6	10.3	1.7	100
GDP per capita	26 081	13 198	2 142	1 167	8 344
Trait 1 relation	1	2.0	12.2	22.3	3.1
Trait 2 relation	0.51	1	6.16	11.31	1.58
Trait 3 relation	0.08	0.16	1	1.84	0.26
Trait 4 relation	0.04	0.09	0.54	1	0.14

Note also that while Group 1 consists of eight percent of world population, they have 24 percent of total world current GDP - three times their populace fraction. Group 2 has about 1.5 times more GDP than its populace fraction, while group 3 has four times less than their populace fraction. Of course group 4 is in the worst position with seven times less GDP than their populace fraction. The relative differences between groups of morphological nuances are even clearer by considering Diagram 2, which illustrates the economic relations between groups of morphological traits in graphic form.



Part III: Histography of ethnicity in global economy

The groundwork for the politically correct human equality position comes from biology. There is nowadays almost a complete consensus among biologists that there is only one human race, *Homo sapiens*, in the world today. One interpretation of this would be to hold that there are no differences in our capabilities by being an African, Asian, European, or any other ethnic related belonging.

However, the results above are in contrast with the biological concept of human equality. If human ethnicities are equal in value and ability we expect them to have at least similar levels of economic standards, as far as ethnicity goes. The question is then, why do we have *this* orderly ethnic segmented global economy? Why not the reverse? Are people with darker bodily nuances less economically productive? Are people with lighter bodily nuances more vicious by practicing racism and imperialism? Why did not Africans go imperial the way the Europeans did? *What makes us biologically equal, but economically unequal?*

In the following, a brief histography will be presented where the purpose is to highlight the main imprints to the creation of the colour-coded global economy of today as presented above.

Histography – the *direction* of global economic inequality and ethnicity

Western European kingdoms went imperial because they *needed* to - at the end of the fifteenth century Europe was in less good shape than other parts of the world. The continent had had its population size halved through long periods of epidemics like the so-called Black Death (Crosby 1999). Before this time period, poverty and richness seem to have been about at the same *levels* between societies (Maddison 2001). Furthermore, it is important to bear in mind that imperial ambitions and hegemony are not exclusive to Europeans. World history reveals that human groups have for long gone imperial against each other all over the world. In more recent times we have had the English, French, Dutch, Russian and others going imperial from Europe; in Asia we have had the Mongols, Chinese, Japanese, Turkish, Arabs and many others going imperial; in Africa there have been the empires of Egypt, Ethiopia, Ghana, Mali, Ashanti, Zulu and several others. In America there were the Aztecs, Inca and the Maya civilizations in particular, waging imperial wars and rule. In our context, this means European colonizers are not particularly vicious or intelligent, since every set of ethnic groups have been involved in colonial endeavour. In parallel, colonised people are not particularly kind or less intelligent, since every set of ethnic groups has been subject to colonial rule.

However, the expansion of Western Europe became significantly different from other colonial processes. In relevance to our context, the process particularly included:

- Global proportions,
- Ecological imperialism,
- Mass permanent settlements,
- Slaves embodied solely by darker skinned people, and
- Colour-coded racism.

Considering the first point listed above, before the outreach of the Iberian kingdoms, most imperial ambitions were continental or regional. Perhaps it was not a coincidence that it was the Spanish and the Portuguese who initiated this extraordinary expansion. Their geographical location is 'far out' from continental Europe and the Mediterranean shores, hampering beneficial interactions. In addition, the kingdoms had significant hatred for the Muslims of northern Africa, thus impeding potentially beneficial trade (Landes 1998). Perhaps the curiosity incentive was higher for naval exploration in such a location with surrounding sea. Of course, it was not their intention to discover a 'new' continent. They were lucky to do so, particularly when it turned out that their bacterial flora, together with the bacterial flora of their animals, were devastating and most often lethal for the Indigenous Americans. This is what Alfred W. Crosby (1999) calls *ecological imperialism*. This is very crucial, since the cost of the expansionary and extraction process became less costly. It was now easier to extract vast areas of landmasses and thus natural resources, which was followed by accumulations in economic, political and social power, which in turn created further spectrum for colonial settlements and expansions in other parts of the world.

Further, the great natural resources of the 'new' continent demanded huge quantities of labour for the extraction and production processes (Diamond 1997). This could be supplied cheaply through existing trade networks of slaves, from the geographically optimal continent of Africa. Slaves, inferior, as their societal status suggested, were now concretely observed as people with darker morphological traits. Now on one side were the people in governance: western Europeans with light body colours, on the other side were enslaved people under

direct rule: Africans with dark body colours. While in between there were other people under European sovereignty: Indigenous Americans, Indians, Chinese, Arabs, and other African and Asian people with darker morphological traits than Europeans. These perceptions in particular must have laid the foundations for the orderly colour-coded racism in Western Europe and their settlement nations.

For the colonisers, skin colours were one of the most important signifiers for the status of a person (Loomba 2006). This is most visible when considering the perspectives the British held towards Asians on one hand and Africans on the other. The British held Africans so low in value that they transported Indians and other Orientals to Africa to build necessary infrastructure for the production and transportation of goods. The Africans were believed not intelligent enough for the task. According to a compilation presented by Floyd Dotson (1975) the number of Orientals in Africa was nearly one million people at the end of the colonial period in 1950s, spread mostly in the British controlled southern and eastern parts of Africa. Even today, there are significant numbers of people with Indian ancestry in these regions.

These perceptions, together with xenophobia and related prejudice, received practical imprints through centuries of societal constructions, stigmatisations and mistreatment during the process of colonial rule around the world, but also within countries in Europe and Neo-Europe during and after colonial times (there are of course numerous studies on this subject, perhaps the most assessable one is Fredrickson 2002 and 2003). Together these forces created and augmented ethnic related rifts in socioeconomic standards around the world.

Histography – the *magnitude* of global economic inequality and ethnicity

It was, however, not until the advent of the nineteenth century that significant differences in economic levels became a reality at the global level. Before that time economic levels between various regions of the world were practically equal, particularly over longer time periods (Maddison 2001). That is, large economic differences at the global level have only existed for about 200 years. Although economic inequalities were existent, particularly within nations of the Americas between Europeans on one hand and Indigenous Americans and Africans on the other, it was not until the spur of *industrialism* that these ethnic divergences in economic levels reached greater magnitude at the global level.

Furthermore, we are able to pinpoint some factors that had significant relevance in shaping this greater magnitude in ethnic related economic inequality at the global level:

- Industrialism
- Capitalism
- Cold war
- Imperial competition
- Scientific racism
- Distorted decolonisation

It is not a coincidence that industrial creativity emerged in Britain and spread to other western European nations first. Higher economic levels are interlinked with higher technical and social development. Colonial nations enjoyed higher economic levels, and had thus a friendlier atmosphere (culture mentality, if you will) to creativity, which stimulated technological progress (Acemoglu 2001). In relation, technological spillovers had a regional and ethnic bias.

A significant economic gap was created, for instance, between western and eastern Europe at the more mature stage of industrialism, and more so between Western Europe and the presently developing South (Landes 1998). Where technology did extend to other regions, it was basically to meet the interests of the imperial power and its settlement processes. Moreover, it took significant time for technology to transfer to other regions, even to relatively close areas. It took, for instance, nearly 100 years for industrial capacity to reach Sweden after its emergence in Britain (Rider 1999).

Industrialism worsened inequalities between (ethnic) societies through a much faster paced economic process, particularly in the twentieth century. According to the statistical works of Angus Maddison (2001), economic growth was close to zero before the 1820s - before the spur of industrialism. This is because industrial production is characterized by increasing returns to scale - ideas create more ideas (Sachs 2000).

Another exacerbating aspect of industrialism is the development of more advanced and exploitative economic forces, *capitalism*. From a global ethnic related perspective, capitalist development had unequal conditions as a starting point. Since money makes money, the ethnic groups that suffered deteriorated economic and social conditions had more difficult circumstances in which to make money.

Moreover, *competition* was always fierce for the new conquests of land and people, the latter in the form of African slave trade and labour. In fact, it is relevant to speculate about the possibility of greater wealth accumulation for the western empires if they had not fought each other for such a long time. Although, from competition there follows not only destruction but also creation. With vast new resources at their disposal on the one side, and competition on the other side, the nations had fundamental drivers for faster development and where, for instance, a lot of the development was initially in weaponry and warfare.

The increasingly developed powder guns and naval techniques proved crucial in the conquests of Asia and later Africa at the end of the nineteenth century, extending ethnic related economic inequalities. In Africa, some of the valuable natural endowments have been (and still are) gold, diamonds, rubber, coffee, copper, cacao, tea, bananas, bauxite, and oil. Access to cheap labour was also a driving force, at least in the extraction process of the natural resources. The continent had until then been experienced as one-step-from-death for Europeans, whose resistance to the bacterial flora of Africa was very weak. But now, at the end of the nineteenth century, medical support had been developed so that the hardship was minimized. The scramble for Africa between the European nations was initiated in a political conference in Berlin during 1884-1885 where seven empires divided the continent geographically among themselves. The simplicity of this division is very explicit when looking at a political map of Africa, most countries having straight lines as borders. This had fatal consequences for the African people, on top of being invaded and ruled over. This is because many ethnic groups were forcefully divided and then compelled to sustain life in a made-up nation under foreign rule that also included many other ethnic groups who in turn had different cultures and languages.

At the end of nineteenth century, Europeans were more powerful than before and probably also more racist. They were extracting resources and accumulating wealth from America, Asia and Oceania. With this confidence, *scientific racism* established Europeans as the most superior 'race', and dark skinned people from Sub-Saharan Africa the most inferior. As a matter of fact, dark skinned people were hardly regarded as humans, making it easier

to act ferocious. Comparative analysis of the tools, methods and behaviours of colonizers, implies a correlation between their manners and body colours of their victims. Africans paid the highest cost under colonial rule. Thus, these practices further widened the economic differences between ethnic groups.

New times, new struggles for humankind: only about 60 years ago, a *decolonisation* process began in Asia and Africa (Davidson 2001). However, political independence is not automatically emancipation, freedom, and development. The colonisers left behind clustered countries, not societies as initially. They left behind a gap in human development. During oppression times, people were hindered in developing their societies, and were instead kept busy in the colonial apparatus, and/or were involved in emancipation struggles. While the Europeans and their descendents in the Americas and Oceania had developed significantly through the industrialisation process, the colonised groups' societal and economic development deteriorated. Thus, the wide economic disparity that grew between nations, and indirectly between ethnic groups, became a significant fact.

During this short time they have been politically independent countries, but vulnerable and weak ones, with unskilled, uneducated, frustrated, and alienated populations. As a result, the new nations were easy prey for ambitious elites, domestic or foreign. *Cold War* tactics forced the newly independent countries, like nearly all countries around the world, to choose a side. The regimes had to choose between the socialist empire of the Soviet Union and the capitalist empire of the USA. The incentives were financial and political support; the deterrent was international intervention. It is important to note that, although other countries suffered the same Cold War pressures, the newly liberated countries were more vulnerable to the political order. They had less political, economical and social power to influence the character of the tensions and their consequences to their societies. In general, the two empires did not care what kind of leaders they got support from, nor to whom they gave financial aid and loans.

Part IV: Concluding remarks

This study has explored the relations between human body colours and levels of economic attainment. In so doing it offers an alternative **and non-Eurocentric** approach to the classical question of why some nations are rich and some poor. In this respect, the study has reached two original conclusions.

1. The poverty and wealth of nations are significantly and orderly correlated with the representative morphological trait of their citizens.
2. This correlation stems from colour-coded colonial practices, created from a spectrum where ethnic groups of light morphological traits were the colonizers – a group on top of the societal hierarchy, and where ethnic groups of dark morphological traits were the enslaved ones – a group on the bottom of the societal hierarchy.

The basis for the first conclusion lies on the empirical results of correlations between morphological traits, represented by four nuances of bodily colours, and sustained economic levels, represented by GDP per capita figures. Countries with the majority of their citizens with lighter morphological traits are in general richer than countries with the majority of their citizens with darker morphological traits. In other words, the systematic *direction* is that the lighter a country, the higher the probability of that country having a higher economic level. The importance of the results is also shown by the statistical showcase, which highlights the

magnitude of these inequalities. For instance, in current PPP US dollars, the darkest ethnic groups have only about nine percent of the GDP per capita level the lightest group enjoy, 14 percent of the second lightest group, and 51 percent of the third darkest group, while having only 21 per cent of the world average income of nearly 10 000 PPP US dollars.

The second main conclusion means that the above results are neither coincidental nor a simple reflection of geography. Colour-coded polarisations are a force in practically all societies around the world, and thus a harsh reality for countless people regardless of geographic location. In our context, a global histography provided an overview of processes and turns of events shaping and enhancing the ethnically biased economic levels. Adopting an original perspective and piecing together rather familiar facts from various disciplines brought an insight to the metaphysics of our colour-coded global economy.

In particular, the correlation between GDP levels and ethnicity at the international macro level exist *primarily* because it happened to be lighter ethnic groups of western Europe that were the colonisers, while it happened to be darker ethnic groups of Sub-Saharan Africa that where the enslaved ones. This social condition sparked and established colour-coded perceptions in colonial practices during nearly 500 years. Note that this does not mean colour-coded racism or other ethnic polarisations have not existed before. Here, the emphasis is on the creation of colour-coded polarisations relevant to contemporary global economy. Nor does it mean that ethnicity is the single shaper of economic inequalities. Here, the aim has been to highlight it as a variable that has determined international comparative development.

Moreover, another original conclusion in this study deals with the question of why it happened to be western Europeans, and not for instance West Africans, who went globally imperial. It was argued that Europe had, at the time, a greater need to explore external economic opportunities than other regions. This is because the continent was in relatively worse shape, and had a longer distance to the flourishing trade routes between east Africa, Middle East and south Asia. In relation, we are able to conclude that forced labour was suffered by Africans, mainly because Indigenous Americans where perishing under imperial warfare (mainly due to differences in bacterial flora), and Africa was closer to the shores of conquered Americas than Asian regions.

Having reached the conclusions regarding the colour-coded *direction* of the ethnic related global economy, we may turn to its *magnitude*. This study confirms previous conclusions that the western European colonial process started a division of the world through the mere character of colonial practices. That is, colonial powers gained higher socioeconomic levels, while those of people under their rule deteriorated. Another confirmation is that industrialism happened to emerge in Europe because of a more developed socioeconomic framework, made possible via gains of imperial hegemony. Yet another important shared conclusion is that this technological progress sparked (positive) economic growth, a rather new concept, increasing the economic differences between nations further. However, this study extends these conclusions by incorporating the ethnic aspect. In other words, we conclude that contemporary differences in GDP per capita levels were reached through an *ethnically excluding technology-driven economic development*.

In addition, we are able to understand why it is that sub-Saharan Africans happen to be the poorest ethnic group today. Western Europeans where more racist and powerful than before, when, at the end of the nineteenth century, they also embarked on the political invasion of the sub-continent. Since the darkest people where perceived at the bottom of the

human hierarchy, the sub-continent and its peoples suffered the cruellest imprints of colonial hegemony and economic exclusions. Societies were ferociously altered and natural resources exploited, taking the ethnically divided global economy to new extremes.

Moreover, we are able to understand these historical imprints as foundations to structures and norms that still prevent certain countries and peoples from gaining the benefits of technology, finance, and socioeconomic development in general. Not only do low development levels create forms of vicious circles of poverty, it is also possible that they spur vicious circles of ethnic related perceptions. A country's development level might be perceived as reflections of attributes and competences of its people. In particular, majority ethnic groups in high-income nations might be seen as superior to majority ethnic groups in low-income nations. This would lead to further reluctance in incorporating certain countries and ethnic groups into economic and political processes, while the unequal conditions worsen through the global capitalist forces at play.

It would be naïve to consider our contemporary world as free from ethnocentrism. This infection spreads from local, to regional, to national, to continental levels. But this need not be controversial or shameful as long as we do something about it. It seems that information restrictions are to blame. Our life span and immobility put restrictions on the number of people we can really get to know. We know ourselves and the people close to us the best. We care most for them and less for people unfamiliar to us. And because more importance is given to people that one feels closest to, we tend to have polarisations and segregations based on ethnic belonging. This means these individual preferences, at first sight natural and harmless, can become ethnically divisive, or even racist, at the aggregated level. Hopefully, with the development of information technology we may overcome this aspect of human relations. We have the potential to be less ethnocentric than we are. This study is an information package for that endeavour, and the struggle for a more equal human society.

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Appendix is on the next page.

APPENDIX: Countries with their representative morphological trait

Country	M.T.	Country	M.T.	Country	M.T.	Country	M.T.
Afghanistan	3	Dominica	4	Lebanon	2	Saudi Arabia	2
Albania	2	Dominican Republic	3	Lesotho	4	Senegal	4
Algeria	2	Ecuador	3	Liberia	4	Serbia	2
Angola	4	Egypt	2	Libya	2	Seychelles	3
Antigua and Barbuda	4	El Salvador	3	Lithuania	1	Sierra Leone	4
Argentina	2	Equatorial Guinea	4	Luxembourg	1	Singapore	2
Armenia	2	Eritrea	4	Macedonia	2	Slovak Republic	1
Australia	1	Estonia	1	Madagascar	4	Slovenia	1
Austria	1	Ethiopia	4	Malawi	4	Solomon Islands	3
Azerbaijan	2	Fiji	3	Malaysia	3	South Africa	4
Bahamas, The	4	Finland	1	Maldives	3	Spain	2
Bahrain	2	France	2	Mali	4	Sri Lanka	3
Bangladesh	3	Gabon	4	Malta	2	St. Kitts and Nevis	4
Barbados	4	Gambia, The	4	Mauritania	4	St. Lucia	4
Belarus	1	Georgia	2	Mauritius	4	St. Vincent	4
Belgium	1	Germany	1	Mexico	3	Sudan	4
Belize	3	Ghana	4	Moldova	2	Suriname	3
Benin	4	Greece	2	Mongolia	2	Swaziland	4
Bhutan	3	Grenada	4	Morocco	2	Sweden	1
Bolivia	3	Guatemala	3	Mozambique	4	Switzerland	1
Bosnia and Herzegovina	2	Guinea	4	Myanmar	3	Syrian Arab Republic	2
Botswana	4	Guinea-Bissau	4	Namibia	4	Taiwan	2
Brazil	3	Guyana	3	Nepal	3	Tajikistan	2
Brunei Darussalam	3	Haiti	4	Netherlands	1	Tanzania	4
Bulgaria	2	Honduras	3	Netherlands Antilles	2	Thailand	3
Burkina Faso	4	Hong Kong SAR	2	New Zealand	1	Timor-Leste	3
Burundi	4	Hungary	1	Nicaragua	3	Togo	4
Cambodia	3	Iceland	1	Niger	4	Tonga	3
Cameroon	4	India	3	Nigeria	4	Trinidad and Tobago	4
Canada	2	Indonesia	3	Norway	1	Tunisia	2
Cape Verde	4	Iran	2	Oman	2	Turkey	2
Central African Republic	4	Ireland	1	Pakistan	3	Turkmenistan	2
Chad	4	Israel	2	Panama	3	Uganda	4
Chile	2	Italy	2	Papua New Guinea	3	Ukraine	1
China	2	Jamaica	4	Paraguay	3	United Arab Emirates	2
Colombia	3	Japan	2	Peru	3	United Kingdom	1
Comoros	4	Jordan	2	Philippines	3	United States	2
Congo, Republic of	4	Kazakhstan	2	Poland	1	Uruguay	2
Costa Rica	3	Kenya	4	Portugal	2	Uzbekistan	2
Cote d'Ivoire	4	Kiribati	3	Qatar	2	Vanuatu	3
Croatia	2	Korea	2	Romania	2	Venezuela	3
Cyprus	2	Kuwait	2	Russia	1	Vietnam	3
Czech Republic	1	Kyrgyz Republic	2	Rwanda	4	Yemen	2
Denmark	1	Laos	3	Samoa	3	Zambia	4
Djibouti	4	Latvia	1	Sao Tome and Principe	4	Zimbabwe	4

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Declaring victory at half time

Steve Keen [University of Western Sydney, Australia]

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Why debt-deflation causes depressions

"Declaring victory at half-time" is a syndrome which afflicts the entire debate (and debates within the debate: see **Appendix**) over our current economic situation: optimists are of the opinion that the crisis is all over now, while pessimists think it's only just begun. On this front, as always, I regard history as the best indicator of who may be right, and I can't commend highly enough the site [New from 1930](#), which from January 1 2009 began publishing summaries of the Wall Street Journal from January 1 1930. The last few entries include these pearls of wisdom from February 1931:

An Old-Timer believes **the market rally "will do more to restore prosperity than anything else."** Total security values have increased over \$20B since start of year; barring another dive in the market, this assures a recovery since the 10M-15M US owners of stock feel richer. Bulls say the ease with which considerable profit-taking has been absorbed recently is "the surest indication of a strong healthy market." Market has rallied very substantially; "if it runs true to form, it will have one of those 'healthy reactions' that will, according to the bulls, strengthen its 'technical position.'" "The buying power of the people and the corporations still is large ... In other words, **the country never was in a better position to stage a comeback after a depression** ... (Feb. 25th)

One banker cites plenty of evidence that the backlog of consuming power is largest its been in years: corp. inventories are down 20% from a year ago, and even more from 2 years ago; corps. are holding more cash; production of many products is below requirements; products have been wearing out for 18 months of deferred buying; security values up \$20B since Jan. 1; easy credit; record-breaking savings deposits. Last year there were few rallies on which to sell; this year there have been few dips on which to buy. Public interest has grown this year, but is still small compared to 1928 and 1929; **"a market with a growing public interest is a dangerous market to sell short."** (Feb. 26th)

Yeah, right: in both 1930 and 1931, the belief was widespread—at least in the financial community—that the Depression was over, and recovery was just around the corner. As [Australia's Alan Kohler noted](#) when he first discovered this blog, at least early on during the Great Depression, people didn't realise that they were in it. They too, were declaring victory at what turned out to be not even half-time.

Ultimately, the debate over whether we're in a complete recovery or merely a temporary recess from the GFC will only be resolved by time. But well-informed theory can also give a guide as to what we can expect, and here I regard Hyman Minsky's [Financial Instability Hypothesis](#) and Irving Fisher's [Debt Deflation Theory of Great Depressions](#) as the outstanding guides. However they are complex theories, especially when most economists have been mis-educated by neoclassical economics into ignoring money, debt, and

disequilibrium dynamics. So the following numerical example might make it easier to understand their arguments:

- Imagine a country with a nominal GDP of \$1,000 billion, which is growing at 10% per annum (real output is growing at 4% p.a. and inflation is 6% p.a.);
- It also has an aggregate private debt level of \$1,250 billion which is growing at 20% p.a., so that private debt increases by \$250 billion that year;
- Ignoring for the moment the contribution from government deficit spending, total spending in that economy for that year—on all markets, both commodities and assets—is therefore \$1,250 billion. 80% of this is financed by incomes (GDP) and 20% is financed by increased debt;
- One year later, the GDP has grown by 10% to \$1,100 billion;
- Now imagine that debt stabilises at \$1,500 billion, so that the change in debt that year is zero;
- Then total spending in the economy is \$1,100 billion, consisting of \$1.1 trillion of income-financed spending and no debt-financed spending;
- This is \$150 billion **less** than the previous year;
- **Stabilisation of debt levels thus causes a 12% fall in nominal aggregate demand.**

What about if debt doesn't actually stabilise, but instead grows at the same rate as GDP, so that the debt to GDP ratio stabilises? Then we get the following situation:

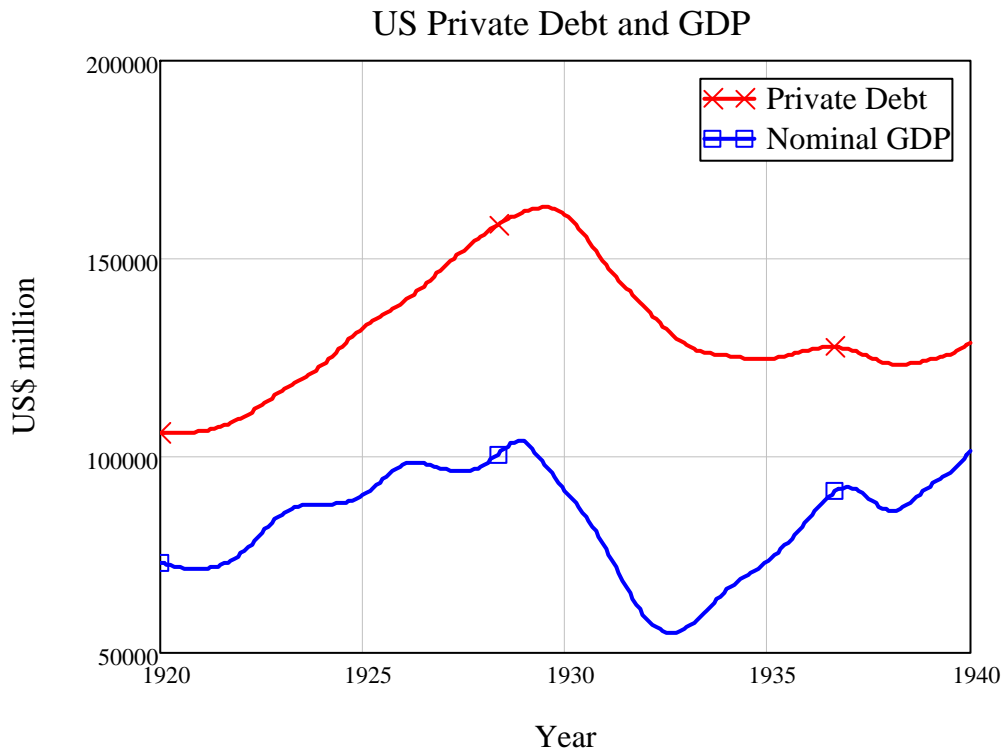
- In the first year, total demand is \$1,250 billion, consisting of \$1,000 billion in income and \$250 billion in increased debt;
- In the second year, total demand is also \$1,250 billion, consisting of \$1,100 billion in income and \$150 billion in increased debt;
- Nominal aggregate demand is therefore constant;
- But after inflation, **real aggregate demand will have contracted by 6%.**

This is the real danger posed by debt: once debt becomes a significant fraction of GDP, and its growth rate substantially exceeds that of GDP, the economy will suffer a recession **even if the debt to GDP ratio merely stabilises.**

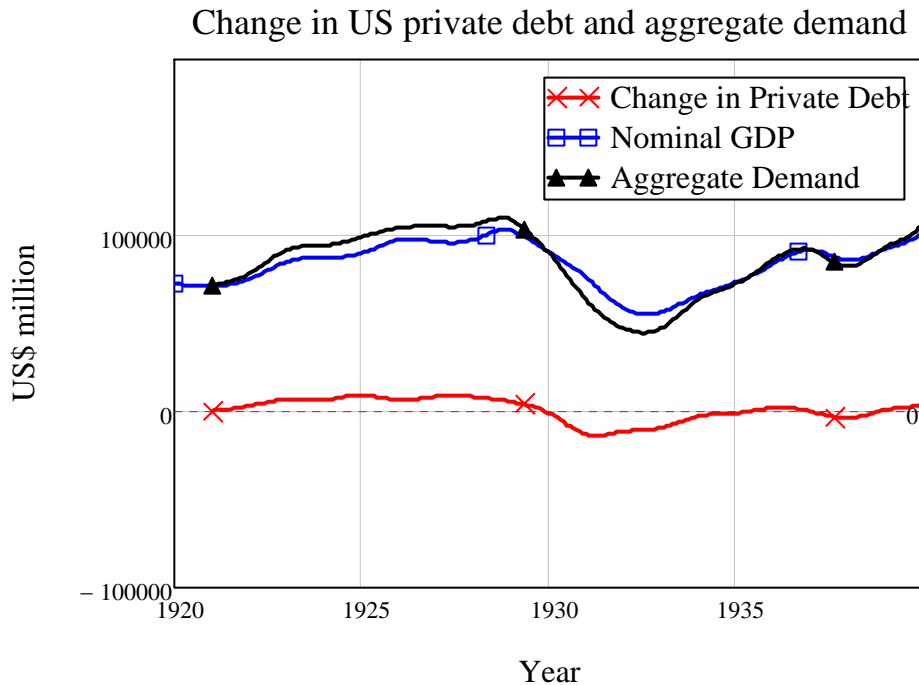
A debt-dependent economy has no choice but to record rising levels of debt to GDP every year to avoid a recession. Unfortunately, this makes a debt-servicing crisis inevitable at some point, especially when a large fraction of the increase in debt is financing Ponzi-speculation on asset prices, since this adds to debt without increasing society's capacity to finance that debt.

That is why falling debt levels caused the Great Depression, as Irving Fisher argued back in 1933, and the phenomenon is obvious in the empirical data. The next few charts illustrate this argument.

Private debt and GDP levels in the USA from 1920 to 1940:



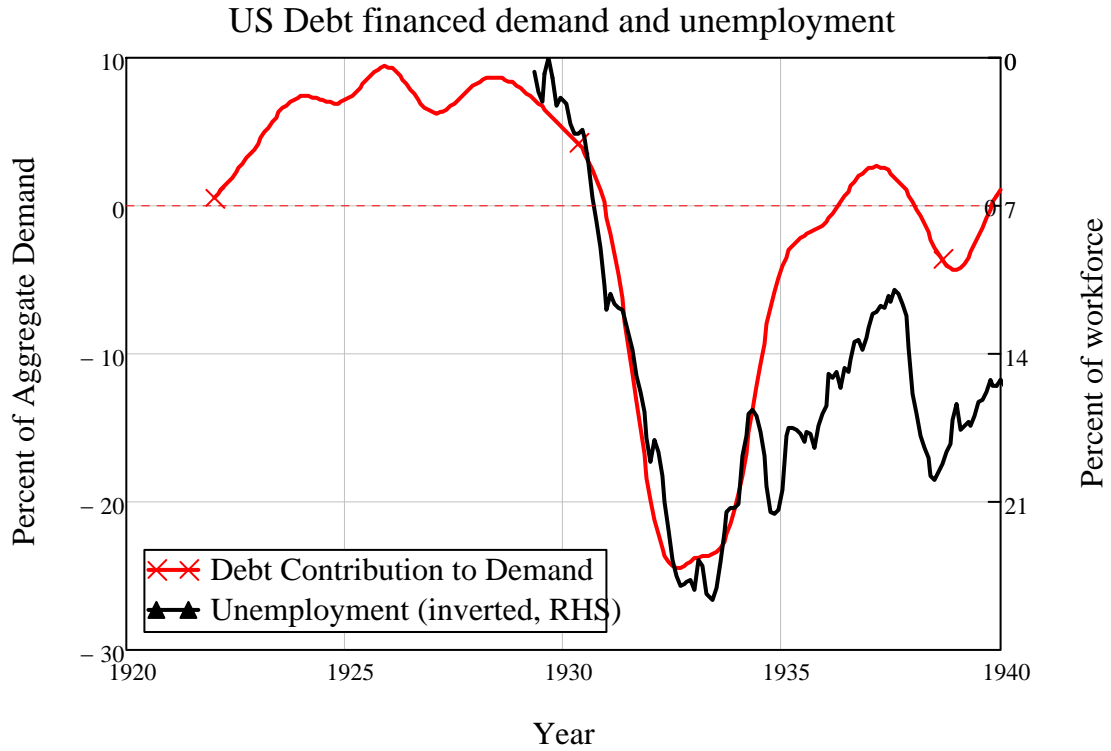
The change in private debt, added to GDP to show aggregate demand as the sum of GDP plus the change in debt:



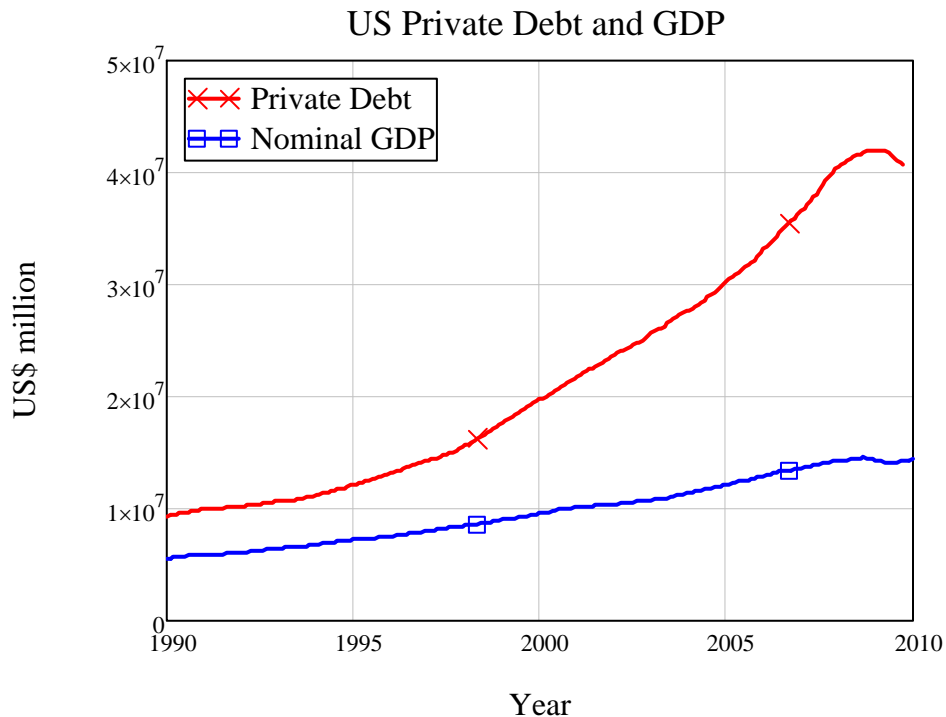
Now I calculate the proportion of aggregate demand that is debt-financed, by dividing the change in debt by the sum of GDP plus the change in debt. The formula is:

$$\text{Debt Contribution to Aggregate Demand} = \frac{\text{Change in Debt}}{\text{GDP} + \text{Change in Debt}}$$

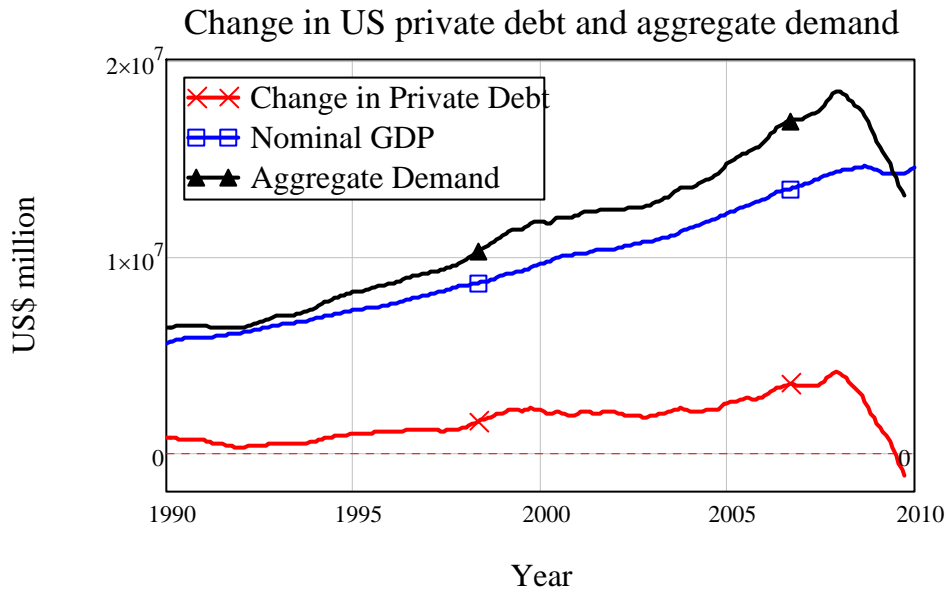
The correlation of the fraction of demand that is debt financed (lagged one year since the data is end-of-year annual) with unemployment is minus 0.77. Roughly speaking, this tells us that when the debt-financed fraction of demand rises, unemployment falls, and the correlation of these two series accounts for 77% of the change in unemployment between 1920 and 1940:



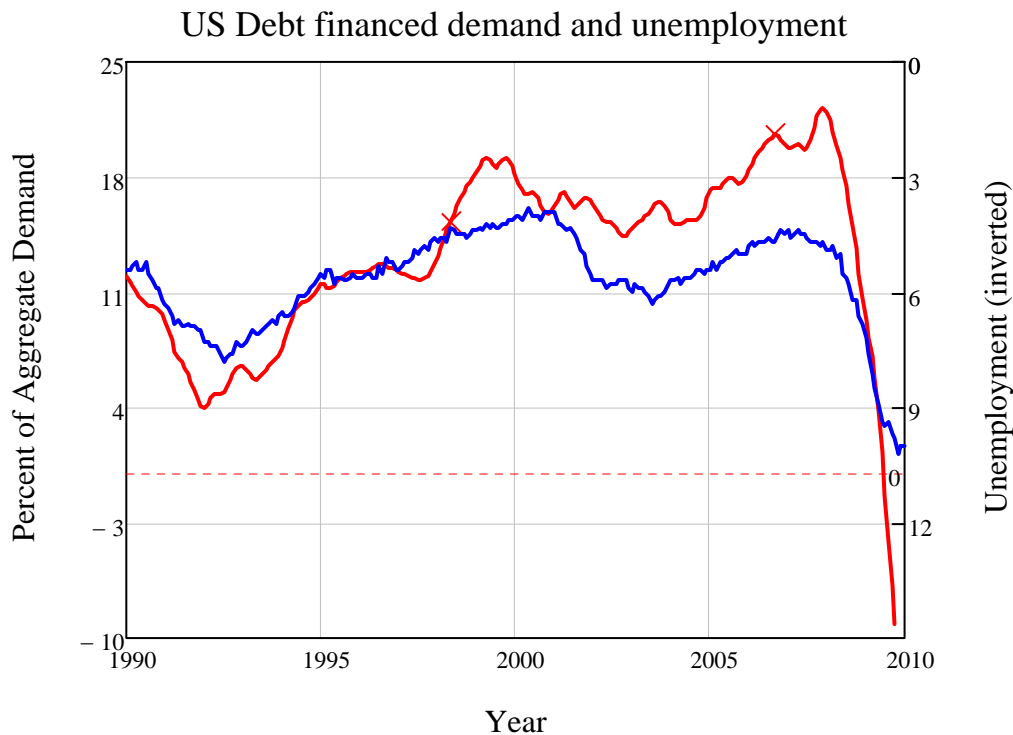
Now let's repeat the same exercise with the data from 1990 till 2010. Firstly, private debt and GDP levels in the USA from 1990 to 2010:



The change in private debt, added to GDP to show aggregate demand as the sum of GDP plus the change in debt:



Finally, the correlation of the fraction of demand that is debt financed (unlagged since we now have quarterly data on debt) with unemployment (the correlation coefficient is now minus 0.84):



This is why debt-deflation matters, and it's also why we are barely at the half-time mark in the GFC. Though government spending has countered the fall in debt-financed spending to some degree, that fall has only hit 40% of the level that applied during the Great

Depression, even though debt levels are substantially higher (relative to GDP) than they were back then.

The numerical example given above is, by the way, not too far removed from the empirical data for both Australia and the USA prior to the GFC. In the year before the crisis, Australia's GDP was roughly A\$1.1 trillion, and the increase in debt that year was A\$260 billion, which was a 17% increase on the previous year; for the USA the comparable figures were roughly US\$14 trillion, a US\$4.5 trillion increase in debt, and a peak rate of growth of debt of about 10% p.a.

The example also illustrates why the rate of inflation matters, and why a low rate prior to a debt crisis is a serious danger. If inflation is high when the crisis hits (say 20% p.a.) then most of the decline can be taken by a fall in the rate of consumer price inflation itself. But if the commodity inflation rate is low, then the hit will be taken by asset prices and actual output as well as by a fall in the inflation rate.

The process can be countermanded to some degree by the government running a deficit, which counteracts the fall in aggregate demand caused by private deleveraging. But the government deficit would need to be far higher than current levels to return us to prosperity if nothing is also done about the astronomical level of private debt.

With the deficits that are being contemplated today, I expect the outcome to be that the rest of the OECD will "turn Japanese" and enter a long-running, low level Depression. Actions that limit those deficits—or even worse, force countries in crisis like Greece to impose austerity measures to reduce deficits back to zero—will turn this from a drawn-out Depression into a sudden and deep one.

Of course, at the same time that economic policy makers—misled by neoclassical economics—are imposing austerity programs on national governments, they are trying to restart the private debt binge mechanism that gave us the crisis in the first place. On this point I recommend the post on [Vox](#) by Peter Boone and Simon Johnson, "[The doomsday cycle](#)".

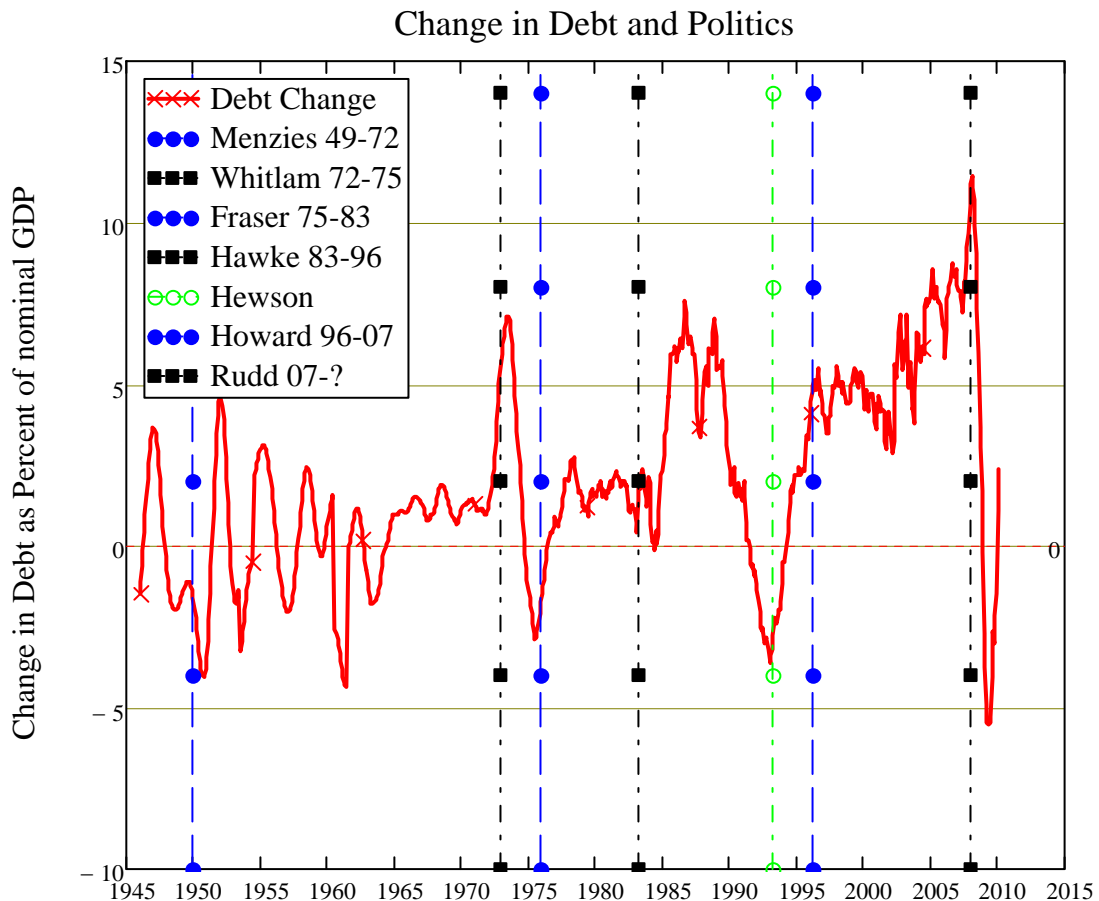
Why has Australia done so well?

Australian Government policy during 2009 boosted household disposable income dramatically, and Gerard Minack of Morgan Stanley recently pointed out just how much: "household disposable income increased by 10.1% over the year to the September quarter, while labour income – the biggest component of household income and traditionally the largest swing factor – increased by just 0.4%." (Morgan Stanley Australia Strategy and Economics, February 24, 2010: The Odd Expansion). The primary factors driving household disposable incomes higher were the government's stimulus package (which boosted incomes by about 4%) and the RBA's rate cuts (which added another 5% to disposable incomes).

As Gerard commented when he first publicised this outcome (Morgan Stanley, Downunder Daily October 9, 2009: Antipodean Lessons), "If that's recession, bring it on!". It's unheard of for household incomes to rise during a recession, and that's a major reason why Australia avoided a downturn last year.

But it's not the only reason: the other one, as my numerical example above illustrates, is what happened to debt levels. In our debt-dependent economies today, a recession almost always means a fall in debt levels relative to GDP (while a Depression results from absolutely falling debt). We began that process early in 2008, only to dramatically reverse direction in 2009 so that, once again, debt was growing faster than GDP.

The key cause of this was that other government policy, the [First Home Vendors Boost](#), which enticed Australians back into mortgage debt in droves (both First Home Buyers who actually received the Boost, and the Vendors who sold to them who took levered the extra \$15-40K The Boost added to the sale price into another \$100-200K for their next house purchase). This policy gave us the fastest turnaround in debt levels in our post-WWII economic history. The next chart shows the annual change in the private debt-financed fraction of aggregate demand against the backdrop of political change in Australia, from the conservative Liberal Party, whose victories are marked in blue, to the progressive Labor Party, whose victories are shown in black (one anomaly, when the Liberals certainly should have won but were defeated by a brilliant negative campaign by the Labor Party, is shown in green).



Note that the period prior to 1965 had as many periods of the debt to GDP ratio falling as rising—which is the sign of a cyclical but non-Ponzi economy. Then from 1965 on, the trend was for debt ratios to rise faster than GDP except during the recessions of 1973-76 and 1990-94. The period of the Howard Government involved the longest sustained period of rising private debt ever—though notably this trend for rising debt began while the Labor Party's Paul Keating was still Prime Minister.

Then the GFC hit virtually as Rudd came to office, and the rate of growth of private debt plunged—a similar coincidence to the one that had done the Whitlam government in decades earlier (note that the debt bubble whose bursting brought Whitlam undone had also commenced under the preceding Liberal government of Billy McMahon).

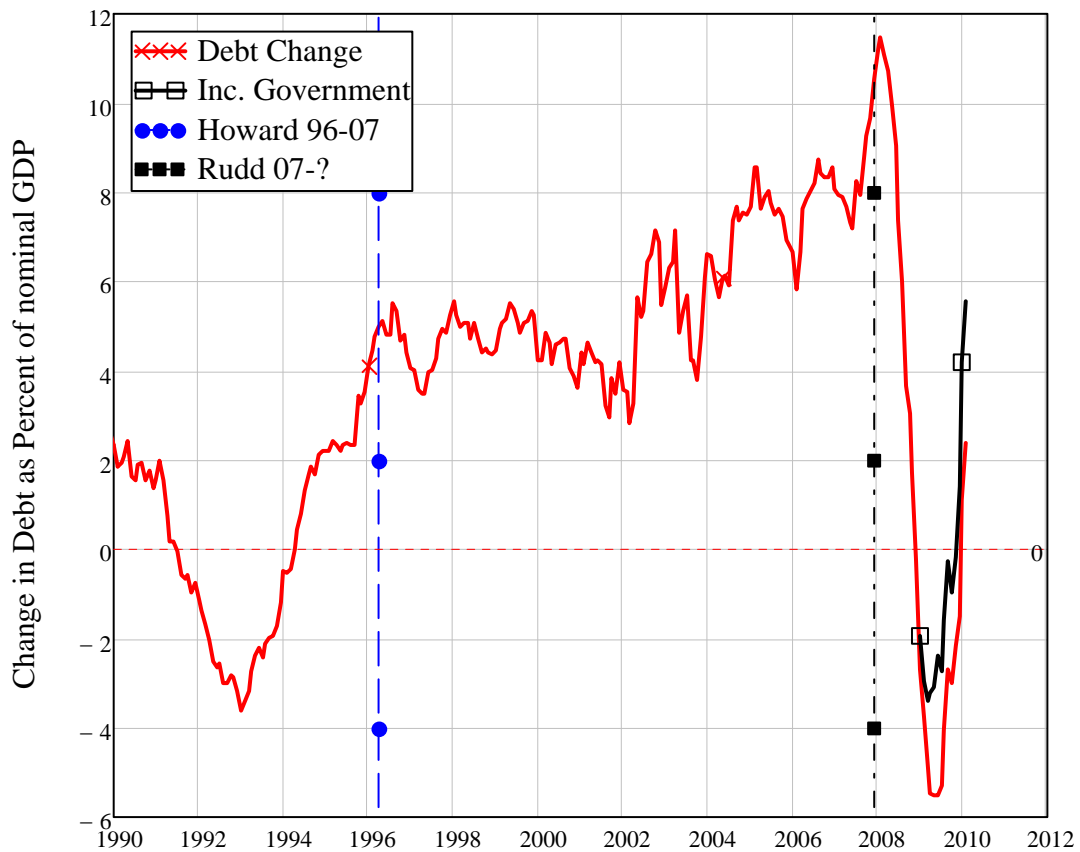
Rudd deserves no blame for the bursting of the debt bubble—as I warned since December 2005, this was inevitable and when it happened, a serious global recession would begin (because the phenomenon was global and not merely limited to Australia). But his government does deserve whatever is deserved—credit or blame—for the rapid turnaround in debt. This wouldn't have happened without the First Home Vendors Boost, since as is illustrated below, the only source of this increase in private debt has been rising mortgage debt.

Had this trick been pulled back in the 1990s, then Rudd would have received credit for it in the long run, since it would have set off a prolonged boom as debt to GDP ratios rose for many years and gave us a strong if illusory recovery from the preceding recession.

But this is 2010: household debt has risen from under 30% to almost 100% of GDP, and I simply don't believe there's capacity for it to continue rising. So I expect that the trend will rapidly reverse itself back into a falling private debt to GDP ratio, and the recovery this rising debt has helped engineer will evaporate.

That will leave government spending as the one prop to keep the Australian economy afloat, and it is a prop that shouldn't be underestimated, as the next chart illustrates: though the private debt to GDP ratio turned around from falling at 5% p.a. to rising at 2% p.a. courtesy of government policy, the increase in government debt added another 3% to the mix.

Change in Debt and Politics

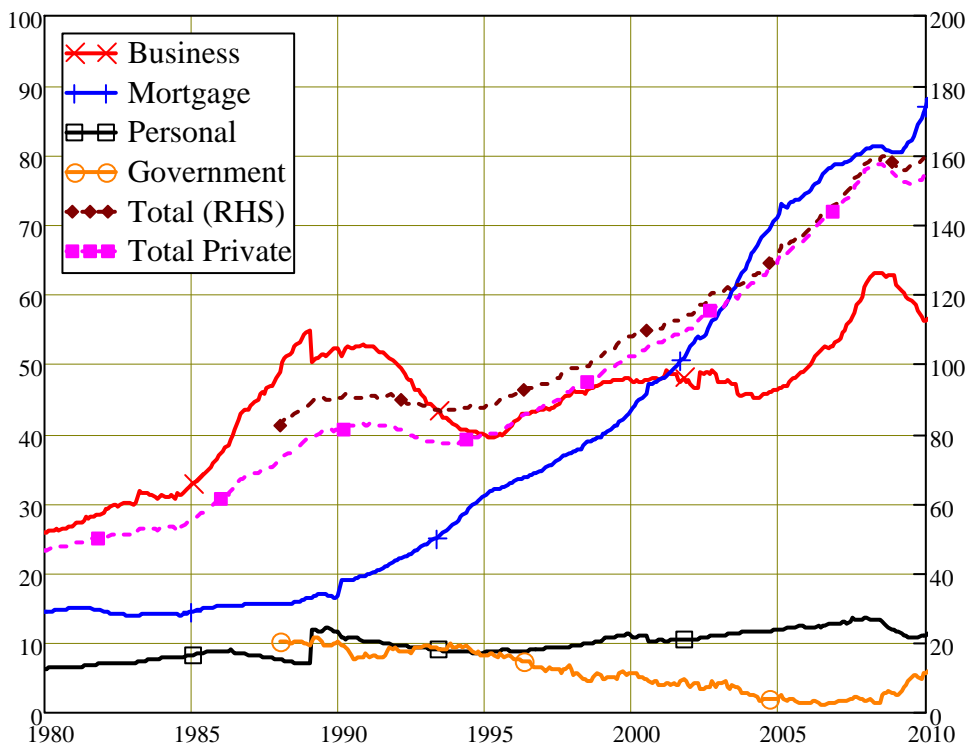


The sum of changing private and government debt thus substantially boosted spending in the Australian economy in 2009—enough to stop the GFC in its tracks here. But in 2010, it is highly unlikely that the private sector will continue re-leveraging. That will leave increased government debt-financed spending as the only boost.

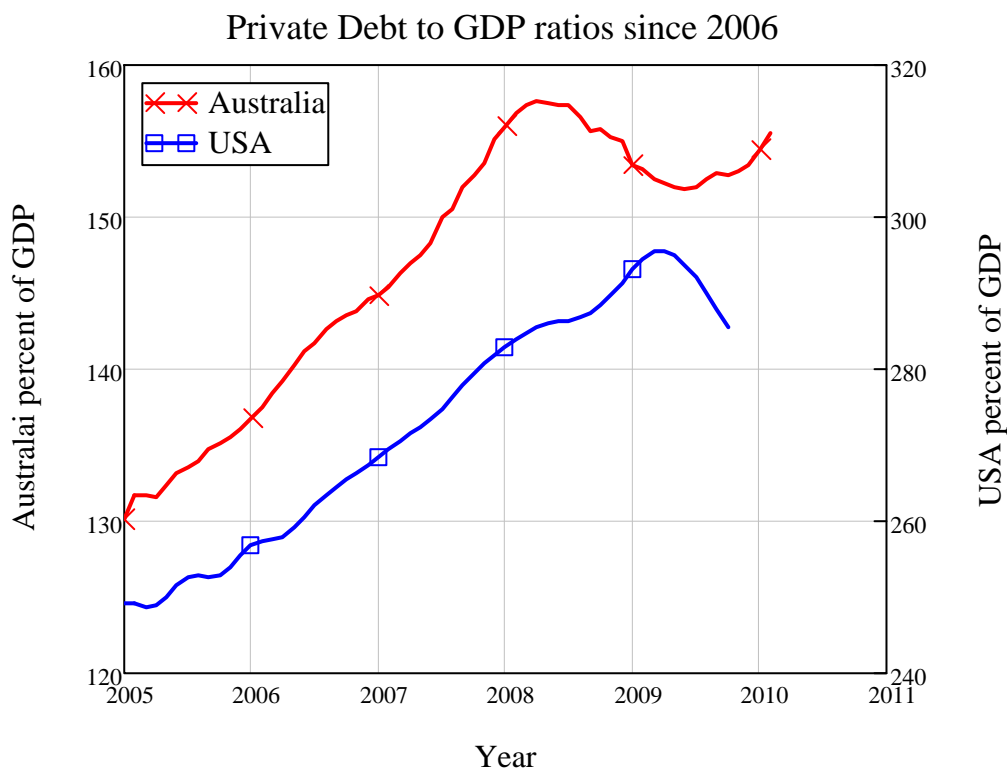
If the government's contribution remains at about the level of 2009—roughly a 3% boost—and the private sector continues the deleveraging it was doing before government policy kicked in—at a rate of close to 6% p.a.—then the net outcome will still be a falling debt to GDP ratio. While that is necessary in the long term to get us out of the Ponzi cycle we have been trapped in for the last 4 decades, it will still mean pain: private sector deleveraging will outweigh government sector pump-priming.

The reason is simple: so much debt has been taken on already by the Australian private sector that its capacity to take on any more is virtually exhausted. Even as households slapped on more mortgage debt under the influence of the FHVB, other personal debt was falling (until just recently) and the business sector has been rapidly deleveraging—and even so, business debt today still exceeds the peak it reached in 1990.

Debt to GDP Ratios



So the Australian gambit out of the GFC—get back into debt as fast as possible—may soon run its course. Australia should then find itself in the same situation as in the rest of the OECD—deleveraging. The fact that it took the "hair of the dog" approach to a debt-hangover (get drunk again on debt the next morning) is readily apparent in this comparison of Australian and US private debt levels: Australia actually began to delever before the USA did, but just as they hit deleveraging with a vengeance, Australia's aggregate private debt started to grow once more.



Just like the "hair of the dog" approach to getting over a hangover, this may work once or twice, but not forever: the ultimate destination is DA: "Debtors Anonymous". Australia has merely delayed its entry into the club.

Some positive lessons

That said, there are some positive lessons in why Australia has fared better than the USA given the composition of its rescue package. Obama's package and the actions of the Federal Reserve have been strongly directed at the financial system, as [Obama's speech](#) explaining his package acknowledged. The basis for this policy bias was the proposition that it was more effective to "rescue the banks" than it was to "rescue the borrowers", which in turn relies upon the "money multiplier" model of money creation:

"there are a lot of Americans who understandably think that government money would be better spent going directly to families and businesses instead of banks – 'where's our bailout?,' they ask"... the truth is that a dollar of capital in a bank can actually result in eight or ten dollars of loans to families and businesses, a multiplier effect that can ultimately lead to a faster pace of economic growth. Obama (2009, page 3)

This perspective on money creation was shown to be false over 30 years ago by Basil Moore Moore (1979), and even staunch neoclassicals have contradicted it in good empirical research Kydland and Prescott (1990). Yet still it is the basis of advice that Obama receives from his economic advisers.

In fact, following this model may be one reason that the USA has had substantially less success with its bailout than has Australia. The static equilibrium money multiplier model

portrays money given to banks as being easily levered to additional credit money to borrowers, when in fact from a dynamic perspective, putting money into banks' reserves during a credit crunch results in a far smaller level of circulation than if the money is put into depositors' accounts.

I have recently developed a model of endogenous money creation based on Moore's work and that of the European Circuitist School Graziani (1989), and those these models are very skeletal they can explain why Australia's rescue has been more effective than America's when a comparable sum of government money was deployed.

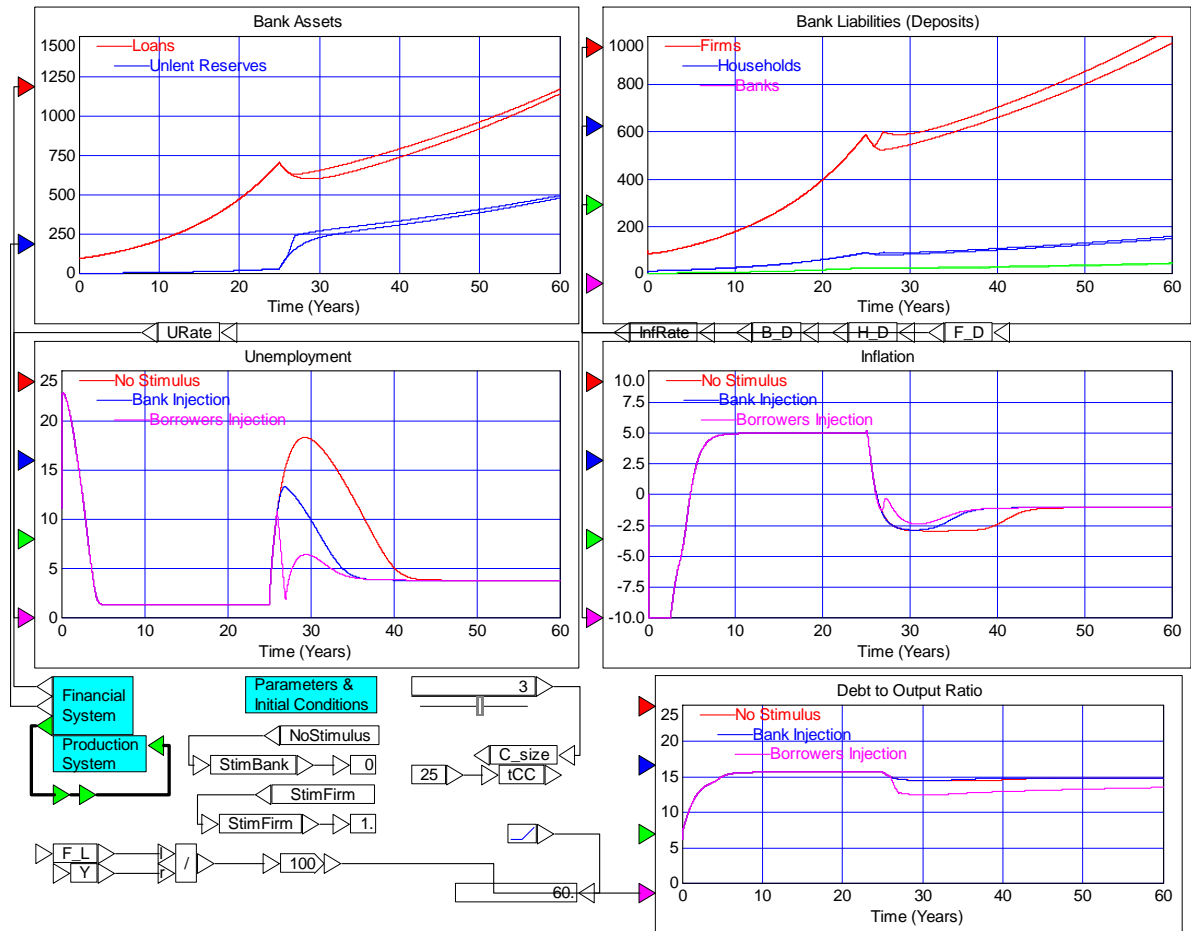
Though the model is a superficially foreboding set of differential equations, its financial essence is rather easily understood when the financial flows are laid out in a 'double-entry book-keeping format' as shown in the first table below (the second table explains what each entry in the first table represents). This model considers a pure credit economy with three classes –capitalists, workers and bankers – where all transactions occur via bank accounts maintained by the banking sector. The government rescue is then shown as a *deus ex machina* injection of fiat money that can be made into either the banking sectors reserve or to the firm sector's deposit accounts.

Each row in the table is a specific financial transaction—accrual of interest, payment of wages, etc.

Bank Accounts		Assets (Reserves & Loans)		Liabilities (Deposits)		
		Reserves (B_R)	Loans (F_L)	Firms (F_D)	Workers (W_D)	Banks (B)
1	Compound Interest		A			
2	Pay Interest		-B	-B		+B
3	Deposit Interest			+C		-C
4	Wages			-D	+D	
5	Worker Interest				+E	-E
6	Consumption			+F+G	-F	-G
7	Loan Repayment	+H	-H	-H		
8	Money relending	-I	+I	+I		
9	Money creation		+J	+J		
1	Rescue Banks	+K				
0	Rescue Firms			+K		

Action		Description	Terms
1	Compound Interest	Outstanding debt F_L is increased at the rate of interest on loans r_L .	$r_L.F_L$
2	Pay Interest	Accrued interest on outstanding debt is paid. This involves a transfer from the firm sector's deposits F_D to the bank sector's income account B_i , and the recording of this transfer on the debt ledger F_L .	$r_D.F_L$
3	Deposit Interest	Interest is paid (at the lower rate r_D) on the balance in the firm sector's deposit account	$r_D.F_D$
4	Wages	This is a transfer from the firm sector's deposit accounts to workers' deposit accounts W_D , using two insights from Marx: firstly that the surplus in production is distributed between workers and capitalists (in shares that sum to 1 in this model—so workers get $1-s$ and capitalists get s); secondly that there is a turnover period (τ_s as a fraction of a year) between M and M+ (see Capital II Chapter 12).	$(1-s).F_D/\tau_s$
5	Worker Interest	The deposit interest rate times the balance in workers' accounts.	$r_D.W_D$
6	Consumption	This employs the concept of a time lag—the length of time it takes workers to spend their wages is 2 weeks (say) or 1/26th of a year so that τ_w equals 1/26. Wealthier bankers spend their account balances much more slowly.	$W_D/\tau_w+B_i/\tau_B$
7	Loan Repayment	The rate of loan repayment is proportional to the outstanding level of loans divided by the time lag τ_L in loan repayment (for a standard housing loan this would be shown as $\tau_L=25$)	F_L/τ_L
8	Money relending	The rate of new money creation is the balance in the banking sector's unlent reserves, divided by a turnover lag representing how rapidly existing money is recycled.	B_R/τ_R
9	Money creation	The rate of new money creation is the balance in the firm sector's deposit account, divided by a time lag that represents the length of time it takes for the money supply to double.	F_D/τ_M
10	Rescue Banks	This is a ' <i>Deus Ex Machina</i> ' injection of 100 currency units one year after the crisis begins, for a period of one year, into <i>either</i> the banking sectors reserves B_R <i>or</i> the firm sector's deposit accounts F_D .	100
	Rescue Firms		

The model is shown as a systems dynamics flowchart below, with three simulations of a credit crunch: one where no policy intervention occurs (in red), one where the sum of \$100 (billion) is injected into the reserve accounts of the banks (in blue), and the other where the same sum is injected into the accounts of the debtors in this model, the firms (in purple).

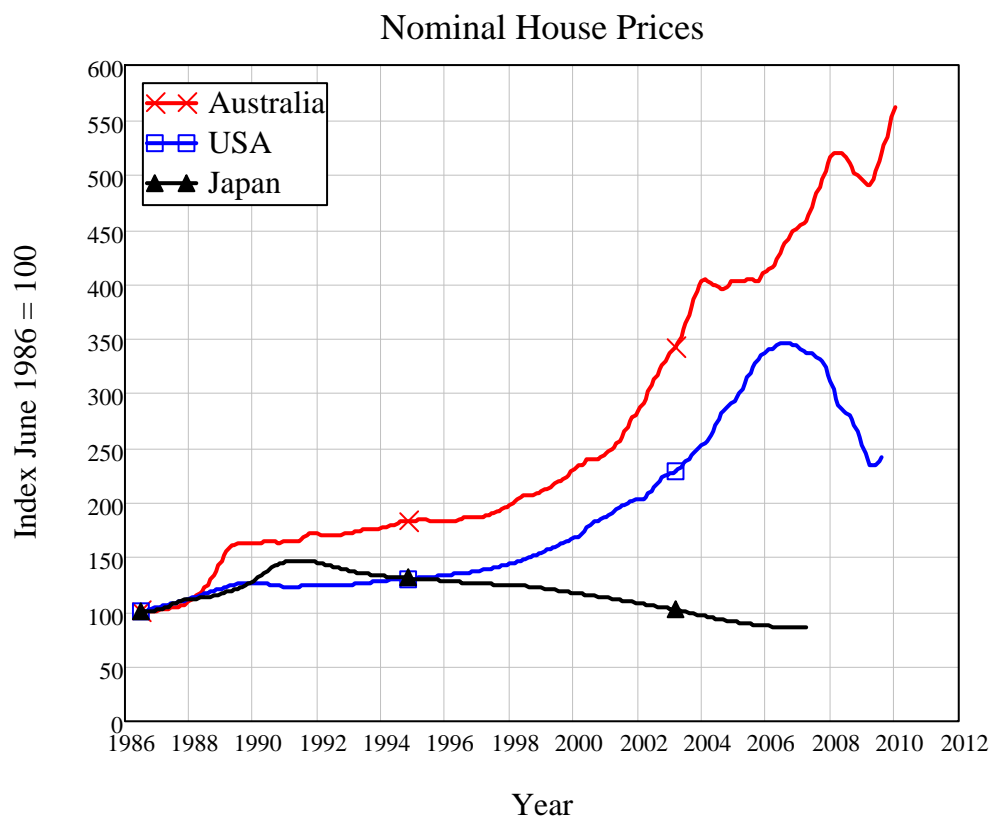


The difference between the three scenarios is stark. If nothing is done, unemployment peaks at 18% and takes 15 years to return to the higher equilibrium value implied by the lower financial turnover parameters; if the banks are rescued, unemployment peaks at 13% and the economy returns to equilibrium after 10 years; while if the debtors are rescued, the recession is over in less than 2 years and unemployment peaks at only 10%.

Much more work is needed to develop a general model of money creation applicable to the mixed credit-fiat world in which we actually live. But this basic model emphasizes the superiority of a dynamic Post Keynesian approach to economic policy over the neoclassical approach that failed to see the GFC coming, and now advises remedies that weaken rather than strengthen the impact of government policy.

Appendix

I took part in a debate entitled "The Great Residential Housing Debate - the next Bubble or a legitimate Boom?" at the annual conference for the Australian investment management firm [Perennial Investment Partners](#) in late February 2010; I put the Bubble case and Chris Joye of [Rismark International](#) presented the Boom case (here is my [paper](#) and my [presentation](#)). As is well-known, Australia is one of the few countries in the OECD not to experience two quarters or more of falling GDP as a result of the GFC, and probably the only country that has not experienced a fall in its property market.



The conference was held twice, firstly in Melbourne on Wednesday February 24th, and then in Sydney on Friday 26th. There were roughly 400 people in the audience on both occasions, all of whom were customers of Perennial—with the majority (roughly 75%) being financial planners. The conference employed an electronic voting mechanism that let participants answer general questions, as well as rate the speakers. In our debate, it was used to work out where people stood on the "Bubble vs Boom" spectrum both before and after the debate. A "1" indicated a complete Bear who expected property to crash and advised getting out now, while a "10" was a complete Bull who advised "Buy, Buy, Buy".

Prior to our debate in Melbourne, the average score was 4.9. This surprised me, because I expected the audience to be generally pro-property; however a score of below 5.5 indicated that overall the audience was bearish on property (since the average of the ten numbers from 1 to 10 is 5.5).

After our debate, the score was 5.2—a small move in favour of the bullish position, but still slightly in the bearish camp. Chris commented that this was "about even" and "too close to call" as he left the stage, which I thought was a fair enough summary of the outcome.

So I was stunned when the Australian national Internet daily paper [Crikey](#) asked me to respond to the report Chris had given them of the Melbourne debate ("[Reflections on Cage Match Mk 1](#)"), which included the statements that:

So I think I pretty comprehensively monstered Steve Keen at our debate in Melbourne yesterday. That was certainly the feedback from those who attended (there were 500)...

While I felt I was able to intellectually tear Steve apart limb-by-limb, I will say this: he is a lovely guy. Very diplomatic and humble in defeat...; and

Unfortunately, the electronic scoring in yesterday's debate was a bit convoluted: it measured the shift in the audience sentiment from bearish (Steve) to bullish (Chris) before and after the event. On that basis, I won. But I think a simpler Chris versus Steve voting system would have made the difference much more striking...

Huh? The rest of the post was of a similar vein—though there were occasional caveats such as "As I noted in my presentation, Steve has made some valid criticisms of conventional economics, and its neglect of debt capital market imperfections. And he deserves some kudos for anticipating a credit crisis" (gee, thanks!), even this was immediately followed by "But whatever strengths he possesses are overwhelmed by his propensity to make silly statements."

I had no intention of commenting on the debate prior to seeing this hit a national news site, but of course this couldn't be ignored—though at the same time it didn't deserve to be taken seriously. So I took a facetious approach—opening [my reply](#) with "I don't know what Chris consumed after our talk at Perennial's conference yesterday, but if he has any spare I'd like to try it at a party tomorrow night", and concluding with the advice to Chris that, "Next time, after a conference, don't consume anything, just take a cold shower" (I also pointed out the statistical fact Chris apparently missed, that the middle point in scores from 1 to 10 is not 5, but 5.5).

And so we proceeded to Sydney. There the audience was slightly less bearish than in Melbourne: the average score prior to the debate was 5.3, just slightly below the neutral level. But after the debate, there was a significant shift towards the Bear case. The post debate score was 4.6.

Chris had made the classic mistake of declaring victory at half-time, only to get a cold shower with the full-time result.

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Steve Keen, "Declaring victory at half time", *real-world economics review*, issue no. 52, 10 March 2010, pp. 54-68, <http://www.paecon.net/PAERReview/issue52/Keen52.pdf>

Modern finance, methodology and the global crisis

Esteban Pérez Caldentey and Matías Vernengo¹ [ECLAC, Chile and University of Utah, USA]

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Abstract

Modern finance has a conceptually unified theoretical core that includes the efficient market hypothesis (EMH), the relationship between risk and return based on the Capital Asset Pricing Model (CAPM), the Modigliani-Miller theorems (M&M) and the Black-Scholes-Merton approach to option pricing. The core has been instrumental to the growth of the financial services industry, financial innovation, globalization, and deregulation. The significant impact of the core is explained by their success in elevating finance to the category of a science by extracting the acquisitiveness associated with economic freedom from the workings of a free market society. This success was somewhat of a paradox. The core theories/theorems were based on wildly unrealistic assumptions and did not stand out for their empirical strength. Overcoming this paradox required a methodological twist whereby theories were devised to create rather than to interpret or predict reality. This view led to a series of financial practices that increased the fragility and vulnerability of financial institutions setting the context for the occurrence of financial crises including the current one.

Keywords: History of Finance, Economic Methodology
JEL Codes: B230, B410

Introduction

Financial crises, from the Tulipmania in the 17th century and the South Sea Bubble in the following one to the current one initiated with subprime lending, are inexorably related to processes of mispricing and misperception of risk based on individual decision making in the context of financial deregulation and innovation. In all of those processes there are purposeful actions of market insiders to gain from the excesses of market euphoria, and as such financial booms and busts should be seen as intrinsic to the way in which capitalists promote accumulation. After all the collapses there are repeated calls for drastic financial reform, which may be effective, as in the case of the 1929 crash, or fruitless, as in the Savings and Loans crisis. Significant reform, however, must result from a careful rethinking of the theoretical and methodological foundations that were at the heart of the policies that led to the crisis.

The problem is that the current crisis has made no dent in the very conceptual foundations that provided the justification for the processes of mispricing of risk that in the first place led to the development of the crisis. Indeed, the conceptual foundations of finance and their policy implications are viewed by the mainstream as having little relevance for an understanding of the current crisis situation. This paper takes the contrary view. It argues that ideas matter and that these shape to a greater extent the policy orientation of institutions, including financial institutions, and the conduct of economic agents. Nor matter their origin, their conceptual formulation (whether formal or not) and their transmission mechanisms, they are inexorably linked to methodological issues and concerns. It would not be an exaggeration to argue that many key ideas in economics and finance sprung from concerns with methodology.

¹ The authors are respectively Economic Affairs Officer at ECLAC (Santiago, Chile) and Associate Professor at the University of Utah. The opinions here expressed are the authors' own and may not coincide with those of the institutions with which they are affiliated.

The importance of methodology is illustrated by the 2007-2008 Global economic crisis, which is from our point of view partly a by-product of the development of the theories of modern finance that sought to provide a 'scientific foundation' for the action and behaviour of economic agents. The scientific foundation expressed in hypotheses such as that asset prices move randomly, that returns are stationary, that risk and return have a definite linear relationship that finance can, under very specific assumptions, be irrelevant to investment decisions, or that it is always possible to create a risk-free portfolio, gave legitimacy to capital and stock market activity within a free market economy. It proved that no agents could obtain 'excess' profits within this institutional framework and the creation of a pyramid of financial assets and innovation was a good thing as it could eventually lead to the elimination of risk.

Viewed in the light of the history of economic and financial thought, scientific finance was a crowning achievement to separate *laissez-faire* from moral issues, a pervasive concern present since at least the 16th century, by extracting the acquisitive nature of economic behaviour from the workings of the free market economy.

However, the theories' 'wildly unrealistic assumptions' and the fact that these did not provide fertile ground to empirical corroboration proved to be an obstacle to their consideration as legitimate science. A way to overcome this obstacle was to impose a methodological twist whereby theories instead of interpreting and predicting reality were conceived to shape and transform reality. This led eventually to practices by financial institutions that in fact amplified risk and financial and real fragility.

The remainder of the paper is divided in four sections. The following section presents the main building blocks of modern finance, and shows that their core propositions have a common conceptual and methodological unity. The second section shows that these theories had an important influence not only on the growth and development of the financial services industry, but also in promoting the process of financial liberalization and deregulation. The third section argues that modern finance is an offshoot of Arrow-Debreu General Equilibrium theory, and as such was seen as scientific by the economic profession. The elevation of finance to the status of legitimate science, on the other hand, required a methodological shift whereby theory was devised to shape reality. In other words, as Veblen said in a different context, invention is the mother of necessity; the invention of modern finance led to the "need" for a series of financial products and practices that proved to increase financial fragility and the chances of a crisis. The final session provides an assessment of lessons to be drawn from the crisis.

Modern finance and the myth of market efficiency

The core of modern finance can be encapsulated in four components, namely: the efficient market hypothesis (EMH), the trade off between risk and return encapsulated in the Capital Asset Pricing Model (CAPM), the Modigliani-Miller Theorem (M&M) and the Black-Scholes-Merton approach to option pricing. The efficient market hypothesis is the basis for the three other components of the core. It was formulated initially in its strong form stating that asset prices fully reflect all available information. This excludes the possibility that trading systems such as the stock market 'based only on current available information ... have expected profits or returns in excess of equilibrium expected profit or return' (Fama, 1970, p. 384).

As a result on average, asset prices cannot be too low or too high and will adjust rapidly to reflect new information, and they will behave randomly.² Prices are equal to their fundamental value and thus investors receive what they pay for. Two other variants of the EMH include the semi strong and weak form efficiencies. The semi strong version states that current prices fully reflect all publicly available information. Finally the weak form states that the current price fully incorporates past information. In any case, these two variants do not alter in any significant way the fundamental implications of the strong form of market efficiency. Since security prices behave randomly, no matter the variant of the market efficiency hypothesis, the best predictor of tomorrow's prices are today's prices and excess profits are ruled out.

The side effect of this particular view of market efficiency is that agents' cannot predict market prices, since random shocks to preferences, endowments and technology would lead to unpredictable changes in prices. In terms of market applications this would suggest that an investor would have no capacity of beating the market in a persistent way, and that investing in index funds would be as good as any other strategy. According to the EMH, success stories, like Warren Buffett's, are just a fluke.

The second component of the core of financial economics is the relationship between risk and return expressing that higher risk must be accompanied by a higher expected return. In other words, in order to obtain higher returns an investor must be willing to accept greater risk. This follows from the fact that utility theory assumes that investors are risk-averse.

In financial theory the relationship between risk and return focuses on the explanation of the risk premia (the difference between expected returns and the riskless rate of interest) analyzed by the Capital Asset Pricing Model which is an extension of Harry Markowitz's mean-variance portfolio model.

Markowitz's model argues that, given the risk-averse characteristics of agents, they focus only on the mean and variance of their returns. In particular, investors chose portfolios to minimize the variance of returns, which is the measure of risk, for a given expected return and maximize expected returns for a given risk (Fama and French, 2003). The CAPM analyzes the relationship between risk and return under conditions of market equilibrium. In the CAPM model portfolio optimizing agents meet in the marketplace, their interaction drive prices to market equilibrium and they agree on the joint distribution of asset returns.

The return of an asset above that of a risk free asset such as a government bond, the premium of the asset, is proportional to the Beta statistic. Beta is a measure of the elasticity of the rate of return of an asset with respect to that of the market, that is, of its systematic risk. Thus, according to CAPM assets with higher systematic risk have a higher return than do assets with lower systematic risk, and assets with the same systematic risk should give the same return. The importance of CAPM is that it allowed financial markets to quantify the risk of a portfolio.

The third component of the core of financial economics is the Modigliani-Miller theorem. It states that under certain assumptions (the financial markets work perfectly, there are no taxes and no bankruptcy costs) the way in which a firm finances its real activities, say

² Fama defined efficient markets in 1965 based on his 1964 doctoral dissertation and also concludes that stock market prices follow a random walk. Samuelson (1965) provides mathematical proof that in well-informed and competitive markets prices will behave randomly.

whether with equity, debt or a combination of both, does not affect the cost of capital and has no bearing on its own market value or on the production and consumption decisions of other economic agents (Hoover, 1988). As put by Modigliani (1980, p. xiii):

“... with well-functioning markets (and neutral taxes) and rational investors, who can ‘undo’ the corporate financial structure by holding positive or negative amounts of debt, the market value of the firm – debt plus equity – depends *only* on the income stream generated by its assets. It follows, in particular, that the value of the firm should not be affected by the share of debt in its financial structure or by what will be done with the returns – paid out as dividends or reinvested (profitably).”

Thus investment decisions are independent of finance or to put it another way, finance is irrelevant to investment decisions. This can be stated in terms of a firm’s average cost of capital that is shown to be equal to the real rate of return on capital and independent of the firm’s capital structure (Hoover, 1988, p.107).

The final pillar of modern finance is the Black-Scholes-Merton option-pricing model. An option is defined as a contract between a buyer and a seller that gives the buyer the right but not the obligation to buy or sell a particular underlying asset within a certain time period at a specified price (i.e., the strike price or the price at which the contract can be exercised). The underlying asset in question can include common stock, property, or a physical commodity. Central to option pricing theory is the determination of the cost or value of the option.

The value can depend on many factors including the current market price of the underlying asset, the exercise price of the option, the maturity date of the option contract, the speculative premium of the option (estimated deviation with respect to the price of the underlying asset over the life of the option), and the risk free interest rate. Using these variables, as noted by Taleb (2007, pp. 278-79), Black, Scholes and Merton “improved on an old mathematical formula and made it compatible with Gaussian general financial equilibrium theories.” The formula already existed, but was not compatible with the risk free general equilibrium environment, and that was the contribution of Black, Scholes and Merton. Their model showed that it was possible to construct a riskless portfolio through dynamic hedging, that is, by taking positions in bonds (cash), options, and the underlying stocks. According to their reasoning changes in the value of the option would be offset by equal changes in the value of the underlying stock and cash.

The four building blocks of modern finance were developed separately, at different stages of the thinking in financial economics, under different circumstances and for different purposes (Fox, 2009). Nonetheless, these four theorems share, in the main, a common set of fundamental assumptions. These theorems assume some form of existence of perfect capital markets – no taxes, no transactions costs and in the case of M&M also no danger of bankruptcy – that agents have equal access to information and capital markets; agents and prices adjust rapidly and continuously to new information and that decisions are made solely on the basis of expected values and standard deviations of the returns on the portfolios and that all agents have homogenous expectations. Their conceptual similarity allows these to be articulated to form a coherent framework of analysis with definite implications for the practice of finance.

It should be noted that not only is there a notion of a perfect market, but also that the notion of market efficiency used by modern finance is in line with the Arrow-Debreu model of

General Equilibrium. The dominance of general equilibrium models of the Arrow-Debreu family is a very recent development in the profession, and a complete departure from the previously held view of market efficiency. While for classical authors, like Smith, Ricardo or Marx, efficiency meant that the economy would be more dynamic and capable of accumulation of capital (the wealth of nations) for the now dominant dynamic stochastic general equilibrium (DSGE) models every price, based on factor endowments, agents' preferences, and perfect information, is an equilibrium price. Market prices do not fluctuate towards long run equilibrium prices. In other words, every short-term price is an equilibrium one, if agents have the correct model and all the information. Allocative efficiency is what the modern neoclassical version rational markets mean.

The adoption of the Arrow-Debreu notion of efficiency is no accident, and provides authority to modern financial theory. Taken jointly, the core propositions state that any asset (whether of the more standard type such as the common stock or the more sophisticated kinds such as options and derivatives) is tradable, and has a price and a rate of return determined in an efficient market. In such a market there are no arbitrage opportunities and the prices must equal to the present discounted value of expected future payoffs over the asset's life (EMH). The riskless rate of interest obtains because, the risk of any asset is independent of how the asset is financed (M&M) and is determined only by systematic risk (CAPM). However, through hedging and thus increased trade in financial instruments (Black & Scholes), the systematic risk can be reduced significantly, and all assets can be made to be risk free.

However, over the years, the empirical evidence for the EMH has been shown to be less and less convincing, to the point that Eugene Fama, the high priest of market efficiency, suggested that markets produce consistent mistakes, even though that may not imply that a professional investor would be capable of beating the market. Shiller (1981) has shown, for example, that even though financial theory argues that stock prices are the current value of expected dividends, the evidence shows that the former are considerably more volatile than the latter. The critiques of financial theory within the mainstream are based on what has been called behavioral finance.

The main critique of behavioral finance is that agents are not completely rational, and if one adds the developments of information economics, one would conclude that market inefficiencies are somewhat pervasive and that bubbles, and crashes, should be relatively common features of the economy (Shefrin, 2000). At heart, behavioral economics aims at greater psychological realism than the standard neoclassical models. Behavioral models start from empirical regularities and try to find assumptions that would lead to that particular result. In general, the empirical regularity implies that agents follow a simple rule of thumb and then derive the consequences, which may not be efficient in the aggregate.

Behavioral finance results undermine the basis for some of the EMH conclusions; however, behaviorists still would agree that informed investors would be unable to beat the market, even if markets are less than rational. The important implication is that bureaucrats that try to regulate the market would not be better than markets in evaluating risk, and as a result a hands off policy would still be recommended.

Modern finance and the real world

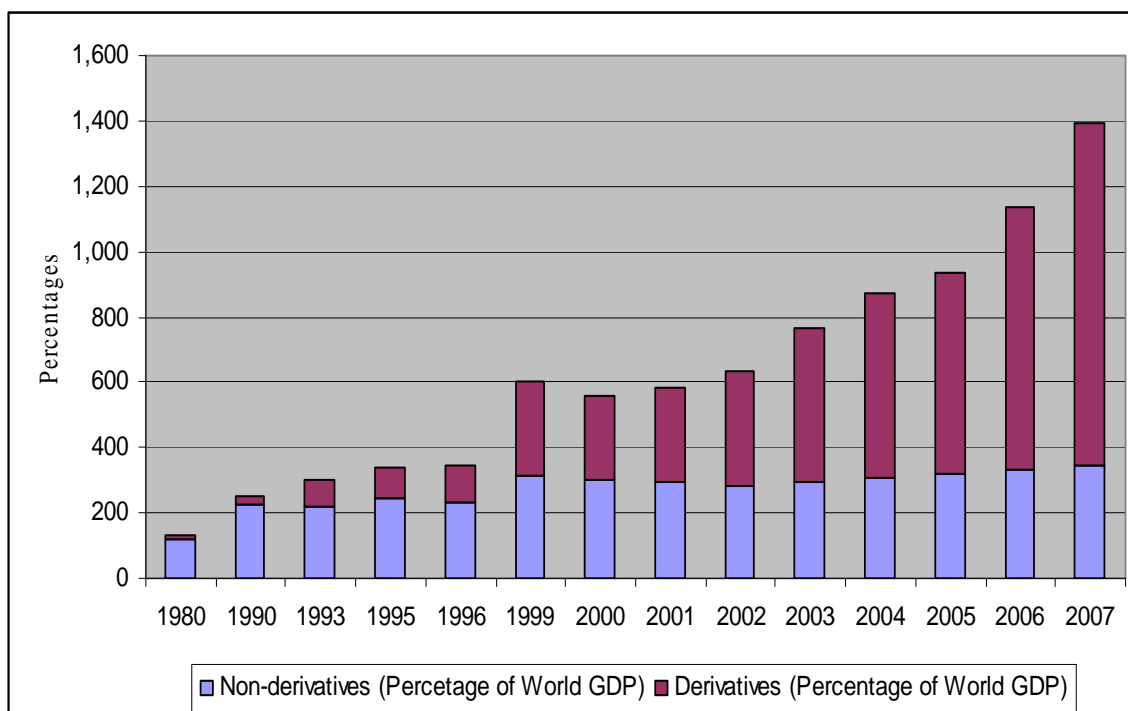
The core theorems of finance provide a premier and perhaps unique case where academic research has affected to a great extent real world views on finance, research on

financial economics as well as the daily practice of all those engaged in financial transactions. The influence and interaction between financial theory and the growth of finance schools and that of the financial sector in terms of size, volume and instruments is well documented.

In the past five decades the output of business master's degrees has expanded considerably. In the mid-1950's, the annual output of US business masters was a little over 3,000. Close to three decades later, in 1981, the number of business master's degrees reached 55,000 (Rosett, n.d.). By 1997-1998, the number had expanded to reach over 100,000. In comparative terms to other professions, the number of MBA degrees surpassed the combined output of Lawyers and Medical Doctors in the 1980 and in 2000 doubled the BAs awarded in engineering (Steinbock, 2005; Capital Flow Analysis, 2009). In 2001, as a sign of the times, Bush became the first MBA graduate to assume the US presidency. The expansion of business schools was not unique to the United States as attested by the experience of a similar trend in other countries.³

Finance theory not only encouraged the rise in business schools, but also was instrumental in the growth and extensive development of the financial sector, in particular since the middle of the 1980s. Available data for the period 1980-2007, show that in 1980, the value of the stock of financial assets, including derivative contracts, was slightly above that of GDP (129% of GDP including derivatives). In 1990, the value of the stock of financial assets was more than twice that of GDP (253% including derivatives). By 2001, the value of the stock of global financial assets was roughly six times that of world GDP and by 2007 it represented 13 times the value of world GDP.

Figure 1: Global financial depth (Value of the stocks of assets as percentage of World GDP, 1980-2007 (Selected years)



Source: MacKinsey Global Institute (2006 and 2009).

³ China and India are two illustrative examples. In China the enrolment in MBA programs increased from 86 in 1990 (the year the first MBA program was introduced) to 10,000 in 2004. India also registered an important growth in MBA programs and enrollment. According to Global Study Magazine there are currently over 900 MBA programs in India.

The rise in global financial depth is explained mainly by the exponential growth in derivatives. Between 1980 and 2007, derivative contracts expanded from 1 to roughly 600 US\$ trillion. In percentage terms derivative contracts represented 7% of the global stock of financial assets in 1980 and 28% by the middle of the 1990's becoming the most important contributor to financial asset growth. In 2007, the value of derivative contracts represented 75% of the global stocks of financial assets. The unprecedented expansion of derivatives was accompanied by a shift away from banks and towards market institutions as the main financial intermediaries. In 1980 the value of equity and private debt securities equaled that of bank deposits (US\$ 5 trillion dollars). By 2007, the value of equity and private debt doubled that of bank deposits (US\$ 110 and 56 trillions respectively).

The contribution of the modern theories of finance to the development of financial derivatives is recognized in the communiqué of the Committee, which awarded the The Sveriges Riksbank Prize in Economic Sciences in 1997 to Merton and Scholes. As well, the Counsel of the Chicago Board Options Exchange, which was one of the 'first modern financial derivatives exchanges and a prototype of other derivative exchange centers such as the London International Financial Futures Exchange (LIFE) and the Deutsche Terminbörse (Eurex),' explains the influence of financial theory on practice. As he puts it, "the Black-Scholes was really what enabled the exchange to thrive" (quoted in MacKenzie and Millo, 2003, p. 121, Mackenzie, 2003, p. 854 and MacKenzie, 2005, p. 18).

However, the influence of option price theory was not only limited to the development of derivatives and actually had an important impact on the entire financial services industry. In his Sveriges Riksbank Prize Lecture, Merton emphasizes that the influence of option price theory was not limited only to the derivatives markets. In his words (1997, p.87):

"The influence of option price theory on finance practice has not been limited to financial options traded in markets or even to derivatives securities generally. ...Option pricing technology has played a fundamental role in supporting the creation of new financial products and markets around the globe. In the present and in the impending future, that role will continue expanding to support the design of entirely new financial institution, decision-making by senior management, and the formulation of public policy on the financial system."

Finally, and most important, Merton argues that, while cognizant of the feedback between financial theory and financial innovation, the expansion of the derivative industry was also largely accountable for the rate and pace of financial globalization. It is worth to quote him at length on this point (ibid, p. 89):

"A central process in the past two decades has been the remarkable rate of globalization of the financial system...This was made possible in large part by the derivative securities functioning as 'adapters'. In general, the flexibility created by the widespread use of contractual agreements, other derivatives, and specialized institutional designs provides an offset to dysfunctional institutional rigidities. More specifically, derivative-security contracting technologies provide efficient means for creating cross-border interfaces among otherwise incompatible domestic systems, without requiring widespread or radical changes within each system. For that reason, implementation of derivative-security technology and markets within smaller and emerging-market countries may help form important gateways of access to world capital markets and global risk-sharing. Such developments are not limited only to the

emerging-market countries with their new financial systems. Derivatives and other contracting technologies are likely to play a major role in the financial engineering of the major transitions required for the European Monetary Union and for the major restructuring of financial institutions in Japan.”

While the quotes of Merton and Counsel of the Chicago Board Options Exchange refer to the Black-Scholes-Merton equation for option pricing, the rest of the theories also had important practical implications. The CAPM is known to have provided the foundation for ‘a vast industry in portfolio management’ (Jarrow, 1999, p. 3). As well the M&M theorem had important ramifications for the choice of the composition of capital structure and its relation to the asset side of firms.

Finally, the EMH is a central component of the Black-Scholes-Merton, the CAPM and the MM and thus indirectly contributed to the policy impact of these theorems. The EMH foundations of these theories certainly contributed, at least in part, to the spur for deregulation and liberalization of financial markets. It must be noted, in this context, that modern finance was not primarily an instrument for understanding the functioning of real financial markets, but a device to promote its transformation, and for favoring certain social groups at the expense of others.

Invention is the mother of necessity

From our point of view, the practical triumph and significant influence of the core financial theories can be explained, because they provide a successful attempt to constitute economics and finance into a scientific discipline rendering irrelevant the moral concerns associated with capitalism and *laissez-faire*. That was possible, to some extent, because modern finance freeloaded on the prestige of Arrow-Debreu, with which it shares several assumptions, and because the Sveriges Riksbank committee was “largely responsible for giving credence to the use of the Gaussian Modern Portfolio Theory” by giving prizes to several of the authors that developed theories described in the previous section (Taleb, 2007, p. 277).

Historically, the wealth gathering and moneymaking activities associated with capitalism and *laissez-faire* were looked upon with disdain and suspicion and stood lower in the scale of societal values than other activities. Political economy, and its underlying belief system, played a fundamental role in making the pursuit of mercantile and banking activities appear legitimate.

This was accomplished initially by showing the compatibility of self-interest with the well being of society as epitomized by Adam Smith’s ‘invisible hand’ metaphor. In a similar way, it was argued as demonstrated by Hirschman (1977) that an acquisitive society could harness dangerous passions that could flourish under capitalism such as greed and avarice into being benign interests. This line of argument in defense of the free market permeated economic thought well into the 20th century as shown by the following quote of Keynes (1936, p. 374):

“Dangerous human proclivities can be canalized into comparatively harmless channels by the existence of opportunity for money making and private wealth, which,

if they cannot be satisfied in this way, may find their outlet in cruelty, the reckless pursuit of personal power and authority and other forms of self-aggrandizement.”

A further step in this direction was undertaken in the 19th century by the Marginal Revolution theorists, mainly William Stanley Jevons and León Walras, who explicitly and definitively removed moral issues and the problem of good and evil from the concerns of political economy. In order to become a science as warranted by Jevons and Walras, political economy had to exclude those issues not amenable to the calculus of pain and pleasure or to utility analysis.

In this regard, in his *Elements* (1952, p. 21), Walras explains that there is no point in considering the morality or immorality of the need satisfied by a good. Modern finance sharpened this line of thought by making moral concerns an irrelevant issue to the workings of the free market. It accomplished this by postulating, as analyzed in a previous section, a series of assumptions including arbitrage and informational efficiency.

As a result no market participant could beat the market and make excess profits and on average every market participant receives what he pays for. Since no market participant could predict nor influence the market for securities, fluctuations in prices were purely exogenous to economic behavior and external to the financial system. Also, given information, initial endowments, and the preferences of participants all prices are equilibrium prices, and any kind of regulation would distort market efficiency.⁴ Finally, it could be shown that financial market activity could create risk free portfolios of financial assets, no matter their characteristics.

This view is reminiscent of the approach taken by the Marginal Revolution theorist, William Stanley Jevons which understood market forces to lead to a configuration ‘insuring maximum happiness ... that could only be deflected’ by exogenous forces outside human activity and control such as solar cycles (Mirowski, 1984; De Goede, 2001). As a matter of curiosity, Jevons’ sunspot theory provided the basis for the computation of the Dow Jones Industrial Average in 1896 by Charles Dow and for the introduction of informational efficiency to describe stock market behavior (Brown *et al.*, 1998).

In other words, modern finance rendered legitimate stock and capital market activity by extracting the acquisitive nature from the workings of the free market and in general of capitalism. Moral issues simply had no place in this scientific approach to finance. The statement of the former counsel of the Chicago Board Options Exchange puts it succinctly with respect to the Black-Scholes-Merton equation and its influence on the view of derivatives and option prices as casino like activities: “It wasn’t speculation or gambling, it was efficient pricing. I think the SEC [Securities and Exchange Commission] very quickly thought of options as a useful mechanism ... and it’s probably the effect of Black-Scholes” (apud McKenzie, 2009, p. 18).

The influence of modern theories of finance on the change in the perception of the acquisitive nature of market activities was not limited to the stock and capital markets but, in fact, permeated also the rest of economic activities. Indeed, the formulation, formalization and development of the main tenets of modern finance including informational and arbitrage efficiency, predated the Rational Expectations Revolution which gave birth to modern

⁴ Self-fulfilling expectations can give rise to rational bubbles, since the asset prices would move towards the expected ones with no change in fundamentals (Blanchard, 1979).

macroeconomics. These assumptions are at the heart of modern macroeconomics and it is difficult to assume that agents form their expectations rationally without at the same time assuming that markets, asset, goods and factor markets are also efficient.

As put by Fama (2007): "...rational expectations stuff is basically efficient markets; they're pretty much the same thing. If you are talking about the macroeconomy, I don't see how you can avoid financial markets." And further: "you can't test models of market equilibrium without market efficiency because most models of market equilibrium [and we assume this includes New Classical models] start with the presumption that markets are efficient. They start with a strong version of that hypothesis, that everybody has all the relevant information. Tests of market efficiency are tests of some model of market equilibrium and vice versa. The two are joined at the hip."

Legitimizing the theories of modern finance by elevating them to the rank of a scientific discipline requires not only the formalization of theory, as epitomized by the introduction of the Brownian equation of motion as an integral part of the Black-Scholes-Merton approach to option pricing but also to show that these theories are useful in practice.

Yet as explained above their assumptions are simply very unrealistic and stringent as recognized by the authors themselves. As well, these theories are not known for their capacity to explain the past or to replicate the workings of the real world. In general the empirical validity of all of these theorems and their propositions has been a constant source of controversy and it is not uncommon to find critical and harsh judgment of their practical applicability.

Economic theories, whatever their methodology, are formulated to interpret reality, events or explain types and modes of economic organization or predict behavior. In one of the earliest methodological essays, Lionel Robbins (1940, pp. 99-100) explains the nature of economic analysis consists of deductions from postulates derived mainly from 'universal facts of experience.' Friedman (1953) saw theory as serving a predictive function. More recently Lucas (1980, p. 697) understood theory as: "an explicit set of instructions for building a parallel or analogue system – a mechanical imitation economy."

Contrarily, Merton and Scholes used their model to transform reality, the reality of markets, so that that reality was conceived as an empirical replication of a theoretical construct, and in this case of an equation (the option price equation). In a nutshell, Merton and Scholes by logical and methodological construct became market creators. This was made clear in Merton's Sveriges Riksbank Prize Lecture (1997, p. 109):

"There are two essentially different frames of reference for trying to analyze and understand changes in the financial system. One perspective takes as given the existing institutional structure of financial service providers ... and examines what can be done to make those institutions perform their particular financial services more efficiently and profitably. An alternative to this traditional institutional perspective – and the one I favor – is the functional perspective, which takes as given the economic functions served by the financial system and examines what is the best institutional structure to perform those functions."

The empirical replication of theory requires by logic that reality conform to its assumptions. In the particular case of the Black-Scholes-Merton equation, the replication of

its main message, that everything is an asset, every asset has a price and is tradable, and almost any risk is diversifiable through dynamic hedging, demanded that reality conform to the assumption of perfect capital markets (complete markets with no transactions costs).

This required the creation of, at least, as many securities as there are states of nature, that trading in securities must be a continuous on-going and growing activity and that agents be able to transfer income between the different states of nature by trading in securities. As put by De Goede (2001, p. 158): “Merton was dedicated to finding the ‘right’ price for all kinds of explicit and implicit uncertainties and called his market vision the ‘financial-innovation spiral’ in which limitless amounts of custom-designed financial contracts spiraled towards the utopia of ‘complete markets and zero marginal transaction costs.’”

The consequence of this methodological twist – the invention of modern finance that led to the creation of new financial instruments – was to promote strategies that actually have created more risk. In that sense the regulatory failure cannot be separated from the intellectual background that provided the fuel for the incredible expansion of financial instruments.

Also, the question posed by the current global crisis is not whether we need more and better mathematical models that can deal with the complexity of economic reality (Colander *et al.*, 2009) or better understanding of the institutional and historical features of real economies (Lawson, 2009), even though better models are possible and the mainstream lacks the tools for understanding institutional complexity. The problem is at a deeper level than the methodological use, or not, of mathematical modeling.

From our point of view, there is a strong need for discarding the methodological presupposition enshrined by modern finance according to which theory can shape reality, and to recognize that this methodological stance was an instrument for promoting the increasing the power of financial groups at the expense of other groups in society. It should not come as a surprise that the incredible rise in finance was connected with increasing inequality around the globe. This also suggests that the validity of theories that do not recognize the role of social conflict for the determination of income and wealth distribution, as is the case with the mainstream neoclassical that is the basis of modern finance, should be seriously questioned. Financial reform can only be effective if the ability of financial practitioners to transform the market is severely constrained.

Conclusion

The interaction of ideas and policies is central for the understanding of the evolution of social and economic change. Ideas shape policy, and the effects of policies on the real world feedback and produce new ideas. The dialectical interaction between financial theory and the policies that shaped financial practices and outcomes is no different than in other human activities. However, modern financial theory went beyond the conventional methodological stance, according to which theories are built to understand and/or predict reality (which may have indirect implications on how we comprehend and, hence, intervene in the real world), and directly promoted a significant transformation of reality.

The long history of financial institutions in capitalist societies indicates that the new methodological stance should be seen as a new instrument to promote capital accumulation.

It should be noted that in the process of creating wealth, capitalism has always had the paradoxical effect of destructing a lot of the pre-existing riches. That is the basis of Marx's view that in capitalism everything that is solid melts in the air, and everything that is holy is profaned, and of Schumpeter's notion of creative destruction. It must also be noted that accumulation sometimes means simply the extraction of surplus from less privileged groups in society, rather than the construction of material wealth. The use of new financial instruments, and the push for deregulation allowed certain groups to amass incredible riches. But history also teaches that those that play with the Promethean fire may very well end up burned. It is the task of those responsible for financial reform to make sure that the second lesson is also learned.

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A Keynes moment in the Global Financial Collapse

Thodoris Koutsobinas [Athens University, Greece]

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Abstract

This paper presents an analysis of the international financial crisis of 2007-2009 and demonstrates that behavioural (non-rational) expectations were all pervasive during the housing and the financial cycle. It concludes that this behavioural explanation is distinct from accounts of market fundamentalism, which tend to emphasize only forces such as financial regulation, financialization and monetary policy. Moreover, it concludes that the impact of conventional and pseudo-diagnostic evaluations that were inherent in rational models of risk-management during the crisis is reminiscent of Keynes's notion of conventional expectations. This implies that the crisis was marked also by a "Keynes moment" that stands as a distinct process within the so-called "Minsky moment".

JEL Codes: D03; D81, D84, E12, E32, E44, E58, G18, G21

Keywords: financial instability; subprime crisis; Minsky model; central-bank intervention; credit and liquidity risk; expectations; behavioural economics; Keynes; Post-Keynesian

1. Introduction

The current international economic and financial crisis has stirred a great interest into revisiting the causalities inherent in the conceptual apparatus of the monetary theory of production. A fundamental aspect of this crisis is associated with the impact of financialization and the process of securitization. The latter takes place through financial engineering and structuring that stresses liquidity, something financial institutions generally seek to do to increase profits during stable, prosperous times. Securitization through financial engineering and, as a consequence, financialization has raised substantive concerns among scholars for various reasons. One is the claim that financial engineering creates bad assets since often purely and complex financial transactions are not supported by real underlying assets or by expected profitability streams (on financialization, see Epstein (2005); Palley (2008)).

Often, the process of securitization of assets of lower quality is exorcised. To do so overlooks the fact that securitization of variable quality assets and expected profitability streams (such as junk corporate bonds, distressed sovereign emerging market bonds, start-up high tech bonds) has been witnessed extensively in global capital markets for quite a while since the eighties. This approach fails to incorporate the important role that behavioural (as opposed to rational) expectations play in endogenously causing strikingly divergent valuations in low quality assets across prosperous and recession times. The main conclusion of the present paper is that in fact it is behavioural expectations that transform financial engineering to toxic finance.

This paper takes the view that the striking realities of the current international financial crisis associated with the collapse of the market for collateralized debt obligations (CDOs) and the underlying real estate market provide an extraordinary once-in-a-lifetime opportunity to teach the economics profession at large very valuable (and, sometimes painful lessons) and to push it to reconsider carefully some of its assumptions. What follows is a Post-Keynesian inspired exploration of how the realities of the international financial crisis test the most fundamental assumptions of our theories.

The analysis covers different fundamental aspects of the economic reality associated with the current crisis. These include shifts from traditional banking to financialization, miscalculations in monetary policy, institutional failures of market players, regulation

inefficiencies, errors in derivative structuring of low quality assets in the process of securitization, reliance on complex quantitative models, etc. Furthermore, it looks at the credit sector and the alluring low adjustable mortgage rates offered to unsuspecting home buyers.

The evidence to be presented suggests that although all those above-mentioned economic mechanics that could fit in an analytical framework of market fundamentalism are more or less highly relevant, the all-encompassing force that causes the severe (and, often catastrophic) divergences in market evaluations is the role of behavioural expectations in the presence of aforementioned inefficiencies.

This evidence is presented through an extensive analysis of various aspects of the real world woes of the major investment banks. For example, there is a discussion of Lehman Brothers' collapse and of Merrill Lynch's strategy of taking the top tranches of CDOs onto its own balance sheet at a critical moment in the expectation that the credit market turmoil would ease and the bonds would once again be easy to sell. The variability of valuations during the crisis that led eventually to the adoption of the more conservative end of the range and to the report of huge losses for Citibank and Merrill Lynch is examined. Finally, the fact that the rating agencies enormously underestimated the chance of default in subprime mortgages is also discussed.

This paper explores the reversal in actual human expectations as opposed to rational expectations. It uses a set behavioural concepts, including overconfidence, illusions of control, availability heuristic, framing, feedback and conformity effects, non-traditional time discounting and agency costs.

It is shown that despite the labelling of the current crisis as a "Minsky Moment", the behavioural evidence is linked more closely with Keynes' analysis of asset speculation in the *Treatise* and of variable liquidity-premium demands across different classes in the *General Theory*. In the latter, these portfolio choice demands were associated with the state of confidence of investors and the impact of conventional expectations. A key force is that, unlike asset prices, actual profits cannot increase at an increasing rate in the course of an expansion. Thus, the rise in profits increasingly lags behind the upward movement in asset prices. As demand and economic performance begins to fall short of the level of expectations that are capitalized in asset values, the view that asset prices are excessive begins to take hold in financial markets and the bear position gains strength. This bear position is asymmetric across assets of variable quality. In this context, pessimistic expectations and higher uncertainty is more prevalent for assets of low quality such as CDOs. In this environment, the assets financialized through derivative structuring transform into toxic finance.

As we will see, the analysis of the role of behavioural expectations in transforming financial engineering into toxic finance in the current international financial crisis highlights certain challenges with respect to well-known assumptions utilized in Post-Keynesian economics. Several important insights are drawn with important implications for future research. It is shown that in an environment of a sharp reversal of behavioural expectations, the capacities of banks as money-makers, big-institution comforters and unlimited liquidity providers at the going rates set by monetary authorities are severely constrained.

The paper develops as follows. It opens with a review of the main questions arising regarding the role of expectations in the 2007-2009 international financial crisis. There follows an overview of the stages of the 2007-2009 international financial crisis. Then there is a detailed description of the role of expectations during different stages of the housing cycle, the financial cycle and the policy response cycle. The results of this survey are then gathered into a concluding discussion.

2. The 2007-2009 International Financial Crisis and the importance of expectations

Since the subprime crisis broke in August 2007, several papers within the mainstream attempted to examine how lending behaviour of banks was affected during the lending boom (see Dell’Ariccia et al. (2008), Bhardwaj and Sengupta (2008) and Keys et al. (2008)). The notion that the price and performance of the securities sold in the secondary market are heavily dependent on house prices is in line with the views of Gordon (2008) (see also Fabozzi (2008), Demyanyk and Van Hemert (2008)). The boom in house prices, both in terms of its size and duration, as well as in terms of its lack of relation to underlying costs (Shiller (2007)) have also sparked considerable interest. There have been claims that this boom was due to alternative mechanics including a bubble in the housing market (Shiller (2005)) and some pricing irrationality (Julliard (2008)) but there is also considerable counterargument on this issue (e.g. see Himmelberg et al. (2005)). Moreover, research by Mian and Sufi (2008) and Mayer and Pence (2008) provided empirical evidence that the expansion of mortgage credit in areas with a high underlying demand was associated with fundamental house price appreciation. Overall, despite the variety of approaches, the mainstream literature features prominently the role of expectations in the 2007-2009 international financial crisis since it emphasizes excessive psychological reactions (Shiller, 2009) and the role of animal spirits (Akerloff and Shiller, 2009).

On the other hand, although there are diverse responses among notable Post-Keynesians with respect to the origins and the processes underlying the subprime crisis, they appear to focus on the endogenous “financial instability hypothesis”. Wray (2007) and Whalen (2008) suggested that there is a “Minsky moment” in the subprime crisis (a term coined by Magnus (2007)) while others like Davidson (2008) claim that the subprime crisis appears to be not a “Minsky moment.” For Kregel (2007), the current crisis differs in important respects from the traditional endogenous analysis of a Minsky crisis although it involves both non-traditional Ponzi finance schemes and decreasing margins of safety. In those frameworks above, there are certain other important issues that arise also such as the conditions of risk repricing (Kregel, 2007) and the market-making activities of banking conglomerates (Davidson, 2008).

One important feature of this line of Post-Keynesian research is that psychological considerations are acknowledged but are undermined. For example, Wray (2007) argues that excessive psychological reaction is the end result of a Minsky’s financial instability hypothesis in which policy-validated, financial innovations become predominant in influencing excessively asset prices while Minskian psychological concepts such as the “radical suspension of disbelief” are not elaborated further in connection to the crisis. In addition, Kregel (2008) claims that the subprime boom was not developed on euphoria or excessive optimism since positive economic fundamentals during a cyclical expansion improved the confidence and optimism of agents in a manner that constituted a rational reaction to the past events. This seems surprising in terms of a pure Keynesian framework in view of the emphasis of Keynes

(1936) in the *General Theory* on psychological propensities in capital markets and elsewhere and of the subsequent development of a Post-Keynesian theory of strong uncertainty, in which factors affecting expectations such as the state of confidence of investors and conventional valuations become predominant. It appears therefore that the role of psychological expectations in the crisis has to be reconsidered more closely.

3. Overview of the stages of the 2007-2009 crisis

There are several stages in terms of which the international financial crisis can be described. A list of stages representing Minskian transformation of the financial structure has been identified by Wolf (2007) (as quoted by Wray (2007)). First, there was a long period of stability characterized by positive economic fundamentals and an improvement in people's perceptions. This period was characterized also by a favourable monetary policy of low interest rates introduced in the last years in the U.S. market (expansionary monetary policy), which helped stimulate aggressive growth of the credit industry (mortgage lending) and sustain a steady growth of the real estate industry and housing asset prices. This was accompanied by the increasing levels of leverage of U.S. citizens (consumer credit/mortgage lending).

The second stage, which corresponds to increasing levels of leverage for financial institutions was the utilization of securitization (through innovative financial engineering of products such as derivatives placed on external vehicles – like special purpose vehicles (SPVs)) on the basis of which mortgaged assets got repackaged by issuers of securities as collateralised debt obligations (CDOs) which are asset based securities (ABSs) or Mortgage backed securities sold to investment banks while the latter re-sold these asset based securities to other financial institutions (money-managers, hedge funds etc.). Financial innovation eased further credit to the housing sector causing much higher price appreciation, in particular in the subprime housing segment. On the other hand, market prices of these structured finance assets determined the returns to the investor.

The third stage was the culmination of euphoria for all involved agents such as borrowers, developers, mortgage lenders, issuers of structured finance, institutional and private investors that led to overtrading in the sector with a “fresh supply of ‘greater fools’.” In this euphoric environment, the profitability incentives/objectives of the financial sector management stirred up even more speculative behaviours by bankers, shareholders and investors to pursue more aggressively short-term financial benefits. In such an environment, short-termism evidently reigned. At the end of this euphoric period, there were warnings about the possibility of an asset bubble but they were often undermined and ridiculed. Some insider profit-taking took place but the agents (i.e., investment banks, hedge funds, etc.) involved still supported heavily the sector's development.

The outbreak of the subprime mortgage crisis became obvious in August 2007 with the default of a large portion of subprime loans, mainly those which were the latest in terms of loan origination. This failure to service debt led to foreclosures of mortgage deals and to heavy losses for ABS issuers and investment banks. Sentiment reversed sharply as those who stayed too long panicked and sold ABS causing sharp declines in the market and losses for other financial institutions which held such assets. The realization of the explosion of credit risk under the new circumstances led to panic, heavy selling and the outbreak of liquidity crisis highlighted by the run on Bear Stearns, with the spread of contagion effects on other

investment banks with similar portfolio characteristics (most notably, Lehman Brothers and Merrill Lynch) or exposed to such portfolios (most notably, AIG). The absence or insufficiency of lending of last resort led to massive flight to liquidity by investors (Orlowski, 2008) and to the ultimate crash of financial markets around March 2009.

4. The role of market expectations

4.1 Expectations during the housing cycle

Dymski (2007) argues that one of the two roots of the subprime crisis was the optimistic assumptions that had been made regarding the growth of the price of housing, in the sense that everybody was expecting it. Borrowers' expectations remained high during the housing boom. Many rational-sounding arguments were used by the experts - chiefly analysts and economists from realtors and mortgage associations - to make economic sense and to convince Americans that a reversal could never happen. The housing myths included one or more of the following presumptions. First, as long as job growth is strong, prices can't go down. Second, builders learned their lesson in the last downturn and they won't swamp the market with new houses when the market turns. Another argument was that low interest rates will keep values rising or, at the very least, put a floor under prices. Finally, restriction on development in the suburbs will ensure low supply and guarantee rising prices.

This line of arguments discounted the possibility of a *future* oversupply of houses and encouraged prospective buyers. These arguments were advanced despite the presence of other fundamental economic warnings. The most important was that prices had risen far more than could ever be justified by declining mortgage rates and that affordability could not be maintained in the future just because home price gains over the past years outpaced wage growth. Furthermore, hard economic facts started to become evident. When the peak was reached by August 2007, a record 3.85 million homes were up for sale, and buyers were becoming scarce.

The housing boom was also based on the expectation of a "soft landing," where, for example, a three-bedroom colonial in a suburb would not only hold onto its huge price gains, but also keep appreciating indefinitely at a "normal," "sustainable" rate of 6 percent or so. The extrapolation of the recent boom in the housing sector to the future and the reliance on certain seemingly positive economic indicators with simultaneous discounting of other plausible adverse possibilities was not a rational reaction. Americans wanted to believe, and they did by focusing on and inflating the positives and ignoring the negatives. The contrarian view, the so-called bubble believers, were ridiculed as the "Chicken Littles".

The series of events has been much reported. Quite suddenly the housing market turned downward in August 2007 and it became apparent that it had switched from a seller's market to a buyer's market. Defaults by subprime borrowers, those with poor credit histories or high levels of debt, were the highest in a decade and starting to drag down the value of homes and of bonds that contained subprime mortgages.

According to DataQuick (2007), most of the loans that went into default in the third quarter of 2007 originated between July 2005 and August 2006. The median age was 16 months. Loan originations peaked in August 2005. The use of adjustable-rate mortgages for

primary purchase home loans peaked at 77.8% in May 2005 and has since fallen. Over 75 percent of loans originated in August 2005 were adjustable-rate mortgages.

4.2 Expectations during the financial cycle

4.2.1 Expectations during the financial boom

House price appreciation has been often linked to optimism in the financial sector. Mian and Sufi (2008) suggested that greater securitized subprime usage leads normally to house price appreciation. Mayer and Sinai (2007) found a correlation between subprime lending and higher price-rent ratios. How were collateralized debt obligations (CDOs) able to offer premium yields on their bonds? Most of them did it by purchasing the riskiest, lowest-rated mortgage-backed bonds - the ones built on loans to borrowers with spotty credit and dubious *risumis*. Such bonds paid what were considered in 2006 as super-high rates of 9% to 11%. Although the low-quality loans that appeared during the last stage of the boom obviously carried a high risk of default, during the early years of the housing boom, default rates on all mortgages were unusually low. That led bankers - and more important, rating agencies - to build unrealistic assumptions about future default rates into their valuations by overweighting historical default rates. The question for many is why supposedly clever financial professionals failed to ask obvious questions.

Short-termist euphoria and greed blinded those who should have known better to what could occur. And it is obvious that they knew. The highest-paid executives on the planet, the so-called best minds in business backed by their teams of math and computer experts looked elsewhere. The fee engine became eventually so huge that these products took on a life of their own. This engine affected not only those at the highest echelons but also those much further down the chain, even the individual lenders. Everyone (pseudo)-rationalized that it was safe to invest in the subprime market because they were making so much money. But it was far from safe. The fee engine led to insufficient attention to the risk management aspects of mortgages loans and derivatives and to limited auditing and supervisory controls. Doubt vanished because as a mindset it was short-termism that dominated. But, in the short-term, the only sure and safe thing was the rapid portfolio growth that certainly strongly contributed to the salaries and bonuses of financial executives and shareholder gains. In this context, competition among management groups and financial institutions became more intense. The bonus culture rewards people for making things happen - not stopping them. They were paid for quantity, not quality. As the fees rolled in, one firm after another abandoned itself to the lure of easy money.

Again, as in the case of warnings in the housing market, there were also signs in the financial sector of a possible trend reversal. The market for CDO debt changed starting as early in 2006. Reports began to appear in the newspapers with information that in the Mid-West and in Florida borrowers faced occasional difficulties to pay a down-payment item on their higher-rate mortgages. Those reports did nothing to lower the euphoria in New York and London. There was still euphoria with regard to trade in CDOs; the ratings agencies were still highly approving; and property prices were rising, as if nothing had taken place to justify second thoughts.

However, in February 2006, international bank HSBC, which owned Household, a US sub-prime lender, suffered big losses on its subprime portfolio. Yet, instead of rising, rates on

subprime mortgage bonds remained abnormally low until the summer of 2007 and in some months even dropped below 2006 levels. The feeling, though, was that this was a correction, that in their exuberance, the US lenders had overexerted themselves. It wasn't serious and it wasn't "coming here". Ben Bernanke, Greenspan's successor at the Federal Reserve, said as much, saying sub-prime would have little bearing on the overall US economy.

So it was obvious that the financial industry knew about a near future trend reversal. But, instead of making those worries public and backing away from subprime paper, Merrill Lynch and other big players prepared for a soft-landing by gobbling all they could, because they needed to maintain the CDO market stable enough to minimize wealth loss and to be able to take profits gradually in the future. But by August 2008 things escalated with negative news about BNP-Paribas (regarding heavy losses of two of its funds that were holding large amounts of American low-income mortgages), Northern Rock, Royal Bank of Scotland and Bear Stearns, escalating fears and uncertainty over other major players such as Lehman Brothers. The moment arrived when markets froze.

4.2.3 Expectations during the financial bust

Perhaps no aspect of this downturn would have been a major problem for big players, such as Merrill, if they hadn't gone from simply manufacturing CDOs and reaping fees to becoming huge investors in the CDOs they created. Merrill was willing, even eager, to speculate with its own balance sheet because of a dramatic change in culture. Until 1997 Merrill did not engage in a lot of speculative trading for its own account; its trading unit concentrated on making markets for clients. Merrill made its money from relatively safe, fee-generating business, courtesy of its army of brokers and a thriving underwriting operation for assets. But, with financial engineering and structured finance growth, Merrill and other major players became venture capitalists in new exotic financial markets.

As venture capitalists in the midst of the crisis, Merrill apparently made a pivotal - and reckless - decision. It bought big portions of the AAA paper itself, loading the debt onto its own books. Merrill and other major players took the top tranches onto their own balance sheet. The question is why Merrill would purchase bonds its customers were rejecting. Merrill has not given a detailed explanation of how it came to own such a large volume of subprime bonds. Merrill executives apparently believed that the credit market turmoil would ease and the bonds would once again be easy to sell. That, of course, turned out to be far too optimistic. But the most persuasive explanation is probably that Merrill became addicted to the fees that flowed from financing CDOs, which reached \$700 million in 2006 and sought to keep the CDOs market afloat. In doing so, top management had their eyes on returns coming overall from the fees and not the risk. Other big players followed the same script. That turned out to be one of the worst miscalculations in contemporary financial history.

It has been suggested by Davidson (2008) that the buy-back and accumulation of tranches of mortgage-backed assets of major financial institutions in the subprime market after its reversal was due to liquidity "puts" obligations and/or because they attempted to function as market makers. A "market maker" is a third-party institution that claims to guarantee holders of assets that the market for resale of these assets always will be well organized and orderly so that, by buying sufficient quantity and maintaining an inventory, a transaction is made at some orderly price change in case there was a possibility of sharp decline in price.

However, the “market-maker” explanation of the buy-back of exotic assets does not consider constraints that exist in the activities of the market maker as evidenced in the standard research literature on initial public offering (IPO) situations, limit order books and adverse selection. First, it is generally assumed that the typical market maker posits simultaneous buy and sell orders, and one implicit assumption of this process is that the risk of the market maker is similar for both buy and sell orders (i.e., the direct transactions costs as well as the information uncertainty). This was not the case with major buy-back transactions of tranches of asset-backed securities (ABS). Furthermore, although the lead underwriter engages in stabilization activity for less successful IPOs, she is always concerned to reduce her inventory risk (Ellis, Michaely and O’ Hara, 2000). In this type of research, although for stocks trading below their offer price the underwriter as a market maker accumulates substantial inventory positions, this inventory accumulation appears to continue normally for twenty-one days, suggesting a particular limited time dimension for her stabilization activities in order to minimize inventory risk. This process means that large inventory exposure is not good for a market maker because he can go broke as a consequence of sour trades. The *risk of market maker* losses is determined by the loss limit at the current market prices minus the market maker’s net balance from previous transactions. In the case of a non-typical market maker the returns one earns (i.e., from across the board fees and asset appreciation) need to be demonstrably higher to compensate the risk of market maker collapse. Typically, market makers charge a higher price for larger trades because they face adverse selection risk (Sandas, 2001). On the other hand, the limit order book is a good basis for the study of adverse selection risk that the market makers and traders assume (Hedvall, Niemeyer, Rosenqvist, 1997; Rosu, 2009).

In this context, an alternative explanation for the buy-back behaviour of major financial institutions during the subprime crisis is offered from the literature of public offerings of venture capital projects. To the extent that the exotic financial products produced by financial engineering were a new venture in which the major players in the financial industry were involved, the latter acted more as venture capitalists whose public offering was distressed and who have an interest to minimize wealth loss. Entrepreneurial owners have incentives to minimize total wealth losses and under-pricing and to promote their public offering (Habib, and Ljungqvist, 2001) and this, in periods of pressure, can be done by overspending in inventory holdings.

Furthermore, sentiment plays a role in the development of a new market for assets (Ljungqvist, Nanda, and Singh, 2005). As the optimism of sentiment investors increases, there is a greater incentive for public offerings as it was the case with the massive supply of subprime exotic financial products. However, as the difference in opinion between rational and sentiment investors increases, long-run performance of the new asset class worsens. To avoid this adverse outcome institutional investors choose to reverse their strategies towards unloading their past portfolio holdings.

4.2.4 Expectations and systemic risk

This was catastrophic also for the reason that the subprime asset class became over time too big, adding to the financial fragility of the system. The size of the financial innovation products that were created in an environment of rising assets prices and narrowing credit spreads and risk premiums at extraordinarily low historical levels became just too big. Many

of these securities and products were held in leveraged money or capital market vehicles, and financed with substantial liquidity risk. And yet, by historical standards, the overall level of risk premiums in financial markets remained extraordinarily low over this period. The non-bank financial system grew to be very large, particularly in money and funding markets. In early 2007, asset-backed commercial paper conduits, in structured investment vehicles, in auction-rate preferred securities, tender option bonds and variable rate demand notes, had a combined asset size of roughly \$2.2 trillion. The combined balance sheets of the then five major investment banks totalled \$4 trillion. By then \$6 trillion of CODs and other mortgage bonds had been issued. In the US, they became bigger even than the hallowed US Treasury bonds. It is in this connection that the issue of systemic risk is raised. Credit markets became "disintermediated" - instead of banks acting as intermediaries between savers and borrowers, the markets took over. Investment banks, such as Lehman Brothers, Merrill Lynch and Goldman Sachs, are (or were) at the centre of this process, taking on massive amounts of debt relative to their capital base (that is, becoming highly leveraged) in order to deal profitably in the complex web of markets. Guiding their operations are their risk models. The firms claimed they could manage risky markets, and the regulators swallowed that claim. Faith in transparency, disclosure, and risk management by firms became the mantra of the financial regulation. However, systemic risks, like a global credit crunch and a financial crisis, were not and are not controlled. Such risks are externalities; their cost to the economy as a whole is greater than the cost to a firm whose actions are creating the risk and best practice is required if risk pricing is to be correct. However, because overall risk is mispriced, the appearance of systemic market failures means that the market is inefficient (Eatwell, 2008).

The recognition of intra-bank systemic correlations for market risk (BIS, 1996) and for credit risk (BIS, 1999) has however not been extended from within the banks to the economy at large, where a similar consideration arises due to inter-bank correlations. Here, the fee engine machine and excessive sentiment becomes relevant again. The most relevant application seems to be in delegated portfolio management (Gai, Kapadia, Milard, Perez, 2008). The bonus schemes of traders in banks are often implicitly based on group performance, which is influenced by excessive optimism. Losses to a single desk could generate lower compensation for all other traders. This is a negative externality of the failure of one trader on the profitability of others. Given their limited liability, the traders have an incentive to undertake trading strategies such that they survive together and fail together rather than see their profits subsidize the failure of others.

Overall, the system became vulnerable to a self-reinforcing cycle of forced and very fast liquidation of assets, which further increased volatility and lowered prices across a variety of asset classes. Investors' loss of confidence was not restricted to securities related to subprime mortgages but extended to other key asset classes. Notably, the secondary market for private-label securities backed by prime jumbo mortgages also contracted, and issuance of such securities dwindled. Even though default rates on prime jumbo mortgages have remained very low, the experience with subprime mortgages has evidently made investors more sensitive to the risks associated with other housing-related assets as well. In response, margin requirements were increased, or financing was withdrawn altogether from some customers, forcing more de-leveraging. Capital cushions eroded as assets were sold into distressed markets. Confidence eroded in a greater spectrum of markets and assets. The funding and balance sheet pressures on banks were intensified by the rapid breakdown of securitization and structured finance markets. Banks lost the capacity to move riskier assets off their balance sheets and at the same time they had to fund, or to prepare to fund, a range of contingent commitments over an uncertain time horizon.

4.2.5 Expectations during the global financial distress

The crisis of confidence exploded beyond the subprime market to Wall Street and global financial markets driving the dollar to record lows and helping send the prices of commodities, especially oil, soaring to historic highs. How was it that bonds, which were rated AAA, took the kind of hit you would expect on junk bonds? One reason is that the rating agencies enormously underestimated the chance of default in subprime mortgages. Perhaps, they never deserved to be AAA. After the subprime meltdown more conservative valuation assumptions resulted in larger realized losses for investment banks. One particular factor that accelerated share declines of financial conglomerates was lack of access to immediate liquidity to cover the losses. This sounds astonishing given the overall market capitalization of those big investment banks and validates, as we will see below, strong concerns about the applicability of the too-big-to-fail doctrine. For example, in the wake of the crisis, Merrill's \$41 billion exposure to subprime paper was more than its entire shareholders' equity of \$38 billion. That this huge position went unhedged astonishes everyone on Wall Street. The \$7.9 billion write-down meant that Merrill lost 19% on its bonds. At the end of 2003, Lehman had \$11.9 billion of tangible equity and \$308.5 billion of tangible assets on its balance sheet. The ratio: just under 26 to 1. As of the first quarter of 2008, it showed \$782 billion of tangible assets and \$20 billion of equity. The new ratio was around 39 to 1, leaving relatively little cushion to absorb losses, and forcing the company to shed assets and raise capital in the second quarter. However, when big investment banks desperately sought fresh capital, the liquidity-preference of institutional and private investors caused sharp declines in their share price. This turned out to be a major turning point, as major players lacked the time that was sufficient to raise capital and became exposed to bankruptcy or takeovers. Global markets lost confidence and became disillusioned since there was continuous (cycle of) hope leading to disappointment. The crisis spread to the real economy. Hundreds of thousands of jobs were lost. Even some positive news, including some better-than-expected retail sales and factory orders, was not enough to restore investor confidence.

What surprised the practitioners and the markets was the fragility of the too big to fail doctrine (on the impact of the doctrine on financialization, see Parenteau, 2005). In the Asian crisis, large conglomerates took excessive risks in the knowledge that they were too big to fail because the government would come to save them (Chang, 2000). But the recent crisis in US and Europe showed that no bank was too big to fail and that the FED was constrained in controlling failures in the equity markets. Even so, this brought forth the issue of the insufficiency of the FED as lender of last resort and the relevance of the Treasury to attempt to bail out partially or fully the distressed financial institutions (on this issue, see Davidson, 1996; 2008; Minsky, 1982; 1986).

4.3 Expectations, Monetary and Fiscal Policy

To fight the crisis, the Federal Reserve's response has followed two tracks: efforts to support market liquidity and functioning, and the pursuit of macroeconomic objectives through monetary policy. To help address the significant strains in short-term money markets, the Federal Reserve has taken a range of steps with respect to cutting the discount rate, narrowing the spread between the federal funds rate and the discount rate, facilitating the provision of discount window financing and providing enhanced financing responding to dysfunctional inter-bank market conditions. Central banks in a number of industrialised economies, including the United States, the euro area, Japan, the United Kingdom, Canada,

Switzerland and Australia, adjusted their operations to ensure that they continued to implement their monetary policy effectively, retaining control over the relevant short-term rates, and to promote orderly conditions in the term market segment (Borio, 2004). Ultimately, unconventional measures by the standards of orthodox theory were often used. One class of such measures is associated with asset-intervention in the bond and stock market to combat “bad” deflation – as it happened earlier in Japan’s case. Theoretically, such intervention reflects a “portfolio rebalancing effect” and “quantitative easing”, which stems from the imperfect substitutability of financial assets (see Tobin, 1969; 1982; and, earlier, 1961). The outcome of such interventions remains still unclear as long-term interest rates remained high in 2009. In the case of Japan, intervention was ineffective because the capital positions of the private-sector financial intermediaries had already been impaired by an accumulation of nonperforming loans following the fall in asset prices in a prolonged recession (Fukui, 2003). Therefore, bailout practices by the Treasury standing outside the realm of monetary policy become more necessary.

By December 2008, taxpayers had provided about \$1 trillion for rescues of private companies, which Paulson, the Treasury Secretary in Bush administration has called “terribly objectionable” to his belief in free markets. For celebrated advocates of free markets, government activism has become a “necessary evil” to help pull the global economy out of recession. Even Bush, who had run for the U.S. presidency espousing smaller government, told a CNN interviewer that he has “abandoned free-market principles to save the free-market system.” While bigger government is the unavoidable result of dealing with the turmoil, this outcome still remains an overlooked point. It is the lender or the bailout investor of last resort that it is the ultimate gatekeeper for market confidence. This comes as a major surprise to orthodox accounts in which monetary policy is predominant and in safer times plays this role.

The limitations of monetary policy become more profound in the case of central bank reaction to various asset movements. There was considerable discussion in the past years that the central bank should react to all asset price misalignments (Cecchetti et al., 2000). In line with earlier contributions, Gruen, Plumb and Stone (2003) demonstrated that the containment of the bubble is possible only under certain circumstances, such as when the bubble has become already very big, but not in other situations (i.e., when it is developing). According to Goodhart (2005), the overall evidence stands against the effectiveness of an asymmetric approach of monetary policy to the equity market (the so-called “Greenspan Put”), in the sense that severe asset price corrections cause policy responses, whereas equity bubbles do not (see Rudebusch and Wu (2007)).

This becomes more obvious when one considers the impact of the liquidity-preference of financial institutions, since they have different degrees of liquidity preference in different circumstances (Chick and Dow, 2002). Liquidity preference is obviously relevant when it is considered a shorthand way of referring to the complex behavioural functions of households, firms, banks, and the central bank (Wray, 1995). The current financial crisis provides support for the structuralist view of endogenous money (for developments of this account see non-exhaustively, Chick and Dow (2002); Arestis and Sawyer (2006)) in which behavioural expectations play a major role. On the contrary, it makes apparent that some presumptions of the accommodationist view (Moore (1988) of endogenous money do not hold in situations of financial distress. Despite its role as a lender of last resort, the central bank cannot accommodate the demand for reserves of banks in response to changes in firms’ demand for capital. Banks can not *fully* accommodate, at a given interest rate, the demand for additional funds.

5. Discussion

The above analysis demonstrated that behavioural (non-rational) expectations were all pervasive during the housing and financial cycle. The role of expectations in housing price appreciation and in the implicit conception of financial affordability provides a modern link of the impact of the relation of finance-impacted money wages to the monetary production economy. On the other hand, during the financial cycle, the role of agent motivation on the basis of the fee structure was important in an all-or-nothing mindset. Excessive sentiment and behavioural expectations (animal spirits) led to self-denial in financial choices and conventional evaluations (in the form of pseudo-risk assessments stimulated by the fee engine and short-termism). Some illustrative points of the Turner Review (2009) of the crisis indicate that all liquid markets are inherently susceptible to periodic swings in sentiment which produce significant divergence from rational equilibrium prices. Accordingly, individual behaviour can not be considered entirely rational. There are moreover insights from behavioural economics, cognitive psychology and neuroscience, which reveal that people often do not make decisions in the rational front-of-brain way assumed in neoclassical economics, but make decisions which are rooted in the instinctive part of the brain, and which at the collective level are bound to produce herd effects and thus irrational momentum swings. Mathematical sophistication ended up not containing risk, but providing false assurances that other *prima facie* indicators of increasing risk (e.g. rapid credit extension and balance sheet growth) could be safely ignored. In this sense, historical valuations of risk were actually utilized as ad hoc, conventional, pseudo-evaluations.

The wealth loss minimization attempts that subsequently took place (as opposed to typical market making) explain the high inventory risk undertaken by the major financial institutions who essentially acted as venture capitalists in a market for financial engineering products. This led to the failure of the too-big-to-fail myth and the underlying belief of ultimate policy efficiency. The fast financial distress and fast share collapse contributed to high liquidity-preference of financial institutions after the financial trend reversal. With respect to the policy response cycle, it was shown that not only the prolonged policy of very low interest rates but also the inadequacy of monetary authorities as asset bubble busters and lenders of last resort were key factors in the failure to contain the crisis despite late non-orthodox approaches of portfolio rebalancing. The divergence of actual market expectations from market reaction convergence to monetary policy targets points towards a post-Keyesian structuralist view of endogenous money. On the other hand, the state established itself as a systemic investor of last resort through its actions of fiscal intervention. In this vein, the state acted as the ultimate gatekeeper of market confidence.

One important feature of the crisis is that its determinants are visibly heterogeneous. They are not influenced only by economic fundamentals, because behavioural/psychological forces are also involved. More or less and sooner or later economists appear to have an inclination to attribute the crisis to a framework of market fundamentalism with its emphasis on financial regulation, loose competition, financial engineering and innovation, monetary policy characterized by low interest rates and high liquidity and wealth effects with flows from China, Russia, etc.. However, the impact of human psychology expectations (animal spirits) as opposed to rational expectations in the crisis is autonomous and appears justified. As it was mentioned above, the Turner Review (2009) identified the impact of periodic swings of sentiment which cause divergences from rational equilibrium prices. In the presence of sentiment, the focus turns asymmetrically on return rather than on risk. Thus, in subprime markets the standard return-risk ratio was increasing for almost 15 years. In financial markets,

returns from fees from structuring, issuing, developing, distributing and trading in the housing ABS market became explosive over time. As a result, financial executives focused more on returns (inclusive fees) and less on risk in line with a behavioural (non-rational) process.

The existence of this process demonstrates that euphoric ignorance (rather than forced misguidance) was one of the most important causes of the crisis. Accounts of monetary policy and financial architecture appear to imply that financial practitioners were forced or were “misguided” to mispricing. But, in reality, those executives knew the facts and they chose to ignore them, caught up in euphoria for as long as the bull market went on (even till tomorrow as an indication of short-termism). This is the culture of contentment and privilege that is reminiscent of Galbraith’s and Veblen’s political economy.

Therefore, there is substantive justification to move away from accounts of fundamentalism and develop enhanced theoretical frameworks inclusive of behavioural considerations. An important mechanic of such theoretical accounts may be that the euphoric sentiment and contentment influences the forward-looking scenario choices. The 10 million dollars-a-year high finance executives in their Seville Row suits long accustomed to the dark multiplicities of idiosyncratic non-systemic inefficiencies of the markets were not ignorant. They knew that mixed packages of mortgage backed assets were of underlying low quality despite positive credit ratings. They also knew that inventory exposures to mortgage backed assets after the market collapsed were too high and that the market has grown too much relative to other markets. As a consequence, they knew that there was increasing risk in deteriorating ratios of tangible assets to equity (i.e., for Lehman it reached 39 to 1) leaving relatively little cushion to absorb losses. They were aware that counterparties in mortgage backed asset markets were trading heavily for speculative reasons underlying weak thin low-quality markets. Finally, they new that there was a conservative end in their forward-looking scenarios, yet escalated sentiment led them to choose scenarios near the optimistic end.

The most important finding is that conventional valuations were used in a non-optimal pseudo-diagnostic manner on the basis of rational models of risk perception and management. The role of conventional evaluations was a distinctive element of Keynes’s (1936) *General Theory* regarding interest rate expectations and, consequently, asset price expectations. In the contemporary context of behavioural economics, this idea implies that although there are rational models of risk, expectations still rely on discrete scenario choice and the choice and conformity towards an optimistic scenario (Merrill, Lehman etc.) is essentially a conventional sub-optimal pseudo-diagnostic evaluation influenced by excessive optimism. The same process applies in other bubble markets such as the one involving the debate between housing bulls and housing “little chicken” bubble believers.

As a consequence, *the main proposition of the present paper is that there is a “Keynes moment”* which is decisive within the longer cyclical “Minsky moment.” The former moment refers to human psychology conventional evaluations and it provides a sound behavioural foundation for Minsky’s central notion of “radical suspension of disbelief.” Overall, expectations cannot always be tamed. This constitutes a substantive methodological issue for macroeconomics with consequences for the development of new theoretical approaches of behavioural nature. For example, with respect to conventional evaluations, Shiller (2009) and Akerloff and Shiller (2009) link clearly the crisis to “excessive psychological reaction”. Koutsobinas (2008) suggested the existence of human psychology origins of conventional expectations inherent in Keynes’s (1936) theory and linked it to modern behavioral approaches of non-optimal pseudo-diagnosis in inferential judgment (Lieberman

et. al. 2002; see also, Gilbert (2002)) as well as to social psychology evidence regarding conformity, herding and habit and highlighted their favorable implications for Post-Keynesian economics.

With respect to the share collapse of global financial institutions, it comes as a shock that financial giants like Merrill and Lehman collapsed in view of their massive market capitalization. The decisive point is that, in the absence of government intervention, they lacked the time that was sufficient to raise fresh capital and they eventually became immediately exposed to bankruptcy or takeovers. The liquidity-preference of institutional investors caused sharp and, without government bailouts, ultimately fatal declines in the share prices of the giants. It is time to restore clearly in macroeconomic modelling the liquidity-premium component of the portfolio-choice in the structural endogenous money approach. Other findings imply that excessive optimism and the fee structure explains the large buy-back behaviour of ABS by giant banks and self-denial of negative reports. With large buy-backs, banks ignored inventory risk and limit-order strategies that are typical of market makers and acted as wealth holders of venture capital projects of financial engineering product development.

6. Concluding remarks

Although a substantive part of the Post-Keynesian literature focuses on the connection between the 2007-2009 international financial crisis and the so-called “Minsky moment,” the discussion conducted in the present paper highlighted the fact that the role of psychological expectations was encompassing and very important. There are several aspects that so far have been in the Post-Keynesian literature and merit greater attention. These include the role of expectations in housing price appreciation and in the implicit conception of financial affordability, the role of agent motivation on the basis of the fee structure, the role of excessive sentiment and animal spirits that led to self-denial and allowed reflective knowledge and conventional evaluations to be presented in the form of pseudo-risk assessments which stimulated the fee engine and short-termism, the wealth loss minimization attempts of major financial institutions as venture capitalists of financial engineering products, the failure of the too-big-to-fail myth, the fast financial distress and share collapse attributed to liquidity-preference, the insufficiency of monetary authorities as lenders of last resort, the divergence of market expectations from market expectations of monetary policy in favour of a structuralist view of endogenous money and the establishment of the state through its fiscal policy as an investor of last resort and as the ultimate gatekeeper of market confidence. These phenomena appear intriguing and need further and careful investigation before embarking on regulation recommendations. Finally, if one has to discern the one distinctive feature that was unfolded in terms of the bottom-to-top approach of this paper is that a decisive force through the boom and the bust was the conventional valuations that were using in a pseudo-diagnostic manner rational models of risk perception and management. Conventional evaluations were a distinct observation of Keynes (1936) in the *General Theory* regarding interest rate expectations and, consequently, asset price expectations. When the focus is on the role of expectations in the 2007-2009 international financial crisis, the role of conventional evaluations becomes so prevalent that one should wonder why it has not been labelled yet as a “Keynes moment”. Overall, explanations of the crisis cannot be reduced solely to mechanics of market fundamentalism. Behavioural and, more precisely, human psychology considerations were independent, important determinants and their role must be reflected fully in economic analysis.

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koutsobinas@aueb.gr

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Tragedy, law, and rethinking our financial markets

David A. Westbrook* [University at Buffalo, State University of New York, USA]

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The twentieth century man of affairs and pivotal corporation law scholar Adolf Berle is said to have aspired to be the Marx of the capitalist classes. What we need now is more like the Walter Benjamin of the capitalist classes. Benjamin was a painfully insightful critic, and a great interpreter of, among other things, Berthold Brecht, who wrote *Threepenny Opera*, a scathing attack on capitalism that was a huge commercial success. All of which is meant to suggest that current events present financial policy intellectuals not least with problems in interpretation, issues of how to engage or interrogate – literally how to begin thinking about – the largest financial crisis in several generations.

The collapse of a way of thinking

Former Chairman of the Federal Reserve Alan Greenspan was right, in his famous testimony to the U.S. Congress: the modern risk management paradigm collapsed. At one level, Greenspan was merely pointing out that the emperor had no clothes. In a wave of insolvencies, households, commercial institutions, regulators and more than one sovereign government demonstrably failed to manage risks. The modern risk management paradigm, however, is an expression of what variously might be called an imaginary, ideology or *Weltanschauung*, a way of looking at the world that, in its time and place, makes sense to a group of people. So, at another level, Greenspan's remark invites us to consider if, and how, recent events might be significant as a matter of intellectual history. A way of thinking collapsed; in 2007 and 2008, financial policy elites witnessed the embarrassment of financial policy. So how, if at all, will financial policy thinking change?

One of the purposes of this essay is to suggest ways to think about financial policy – and so financial markets, and even political economy – as a set of intellectual traditions, with aspirations and vulnerabilities, and implicitly, possibilities for reformulation, evolution, development. The transformation of received ideas about finance is of considerable academic interest, of course, but also could be of substantial practical significance. Intellectual history and social history are intertwined. After all, the “modern risk management paradigm” served as the basis for economic policy on both sides of the Congressional aisle, and indeed in public and private institutions around the world. What would seriously rethinking finance mean for the shape of our financial markets, and so our society? Thus, at a third level, Greenspan (of all people) raises the possibility of a fundamental renewal in not just our thinking, but our conduct of financial policy, which, in a capitalist global society, amounts to a constitutional opportunity. The possibility of rethinking and even redoing our capitalism is slim, to be sure, but nonetheless worth exploring.

* Floyd H. & Hilda L. Hurst Faculty Scholar and Professor of Law, University at Buffalo, State University of New York. This essay is rooted in a series of talks given as it became clear that this financial crisis was historically significant, notably at San Diego School of Law, on October 10, 2008; at the London School of Economics and Politics, January 19th, 2009; at the China Banking Regulatory Commission, the Chinese Academy of Social Sciences, Peking University, and elsewhere across China, as part of the State Department's U.S. Speakers Program, in February and March of 2009, and for the Tobin Project (White Oak, Florida, April 24, 2009). My thinking on these matters is more fully expressed in [Out of Crisis: Rethinking Our Financial Markets](#) (Paradigm 2009). Insofar as this text overlaps with that of *Out of Crisis*, Paradigm's permission to reproduce is gratefully acknowledged.

Caution is in order not least because, without being in any way unkind, there is little reason to believe that this generation of policy thinkers, who were trained in the old, now largely discredited, paradigm, really knows how to tackle the problems before them. Nor, for that matter, is it clear how to teach finance. The ways, or many of the ways (but which ones?) that these problems have been considered are compromised, perhaps simply wrong. That is what it means to say a paradigm is broken. For much the same reason, various contemporary efforts at “fixing” the situation, from the isolation of toxic assets to fights over executive compensation or proprietary trading by commercial banks, are unlikely to be very successful, even heroically assuming the existence of political will. Our real problems lie deeper, in our understanding and practice of finance, and so political economy.

The possibility of new thought

There seem to be two general prerequisites for a fundamental renewal of policy thought: first, a big event or set of events, and second, the emergence of a substantively new consensus.

The week of Monday the 15th of September, 2008, should have provided sufficiently big events to occasion rethinking. To recall: Lehman Brothers, an ancient firm with global operations, was bankrupt, and its failure to trade would trigger a global wave of insolvencies. AIG, which recently had been world’s largest insurer, was failing, and received the first tranche of many billions of dollars. Merrill Lynch, the nation’s largest securities broker, was sold under duress. An entire financial industry, investment banking, was essentially abolished, at least in form. During and after that unreal week, a slew of rationalizations issued, efforts to preserve the traditional way of seeing things, like the epicycles used to square the Ptolemaic model of the solar system with observations of planets that were not where they were “supposed” to be. Despite the efforts at rationalization, the week closed dramatically – the largest bank collapse in U.S. history, followed by the government’s failure to authorize a \$700 billion dollar rescue package nominally agreed upon by both parties, a failure met by the largest point drop in New York Stock Exchange history. Such drastic changes, especially the death of prestigious institutions, many of which had survived for a century or more, would seem to require a fundamental reconsideration of what the financial policy communities think they understand – and what we teach students – about our capital markets.

The second requirement for a substantial rethinking of our financial markets, the emergence of a new consensus, remains elusive. Thinking is hard, and innovation is by nature unpredictable (that much, at least, of the efficient capital markets hypothesis is correct). And as hard as ideas are to come by, it is not enough to have new ideas, even good new ideas. Ideas are not politically significant until powerful parties believe them. Thus, in order to rethink our financial markets, we need new ideas that members of the various financial establishments can espouse – even though they were trained and have made their careers on the basis of different understandings of the world. As has already been suggested, such wholesale self-denial does not happen very often. Establishments are conservative.

In the abstract, of course, the shock of recent events would seem not only to demand fundamental rethinking on the part of policy intellectuals, but also to demand the formation of a new policy consensus, what we teach in schools and place on op-eds and expect in

confirmation hearings and professional luncheons, the imaginations that inform our policies, institutions, laws. But there is no guarantee that such consensus will form, that people will agree on a relatively consistent set of new ideas, especially in times of stress. The loss of confidence in a shared intellectual framework, and the construction of a new one, like changes in confidence in a given market, raise questions of collective psychology, and it is difficult to know how such questions will be answered. It is therefore difficult to know whether communities of discourse will develop new paradigms. As of this writing, the news is not too good.

And yet, even here, there is reason for hope. The pressure of events does require public explanation; surprising circumstances may impel us to rethink our old assumptions. Perhaps events cannot force us to be creative, or to reach agreement. But events certainly can give us plenty to talk about, can keep issues “on the table.” Intellectual discourse, and hence policy discourse, can be transformed by changing social realities, sometimes quite suddenly. Thus in the very seriousness of this crisis, and particularly its surprising aspects, we may look for intellectual and political opportunities.

Finance and fear

So how might we begin thinking about the intellectual tradition that has ruptured, and what may arise in response?

In contrast to much critical analysis, let me begin sympathetically. What makes finance so irresistibly seductive is that it gives individuals and institutions purchase on the future. So, in borrowing money to get an education or offering equity to start a company, finance is used to create a better future. Of course, the future may not work out as planned. Bad things could happen. But the riskiness of the world makes finance all the more irresistible: in investing for retirement, or simply buying insurance, we all use financial instruments to cope with our all too human fears. Indeed, investment is sometimes defined as being paid to bear risk, defined as deviation from expected return. Finance is at its most compelling not when it promises us riches, but when it tells us that we need not simply fear the future: risk can be managed, hence risk management. Indeed, one who can quantify risk can make a lot of money.

But the story is a bit too good. “Risk” – as used in academic finance and the phrase “risk management” – is something of a euphemism. One who knows they are playing a game with a fair coin knows quite a lot, more than most people, even most sophisticated investors. In the current crisis, the problem has been uncertainty rather than risk. “Uncertainty” is a statement about a mind confronting the world, a mind that does not know enough to decide on a course of action, and therefore, as a practical matter, refuses to spend money. The “counterparty risk” so spectacularly in evidence during the Lehman Brothers collapse – and the associated unwillingness to trade – demonstrates the uncertainty of actors whose models have failed, who are not managing risk, but are merely guessing.

Uncertainty is an old idea, at least old for finance, associated with Frank Knight at the University of Chicago in the 1920s. In the academy, uncertainty implies a skeptical stance, an intellectual claim that “you don’t know as much as you say you do.” In contrast, “risk” is a statement about the probability of outcomes in the world. One speaks of expected returns, and (more or less expected) deviations from the norm. Risk is an essentially objective

conception, and hence amenable to quantitative discussion. One way to understand managerial finance, including risk management, is the effort to make business into an essentially objective, if probabilistic, science, that may be taught in graduate schools. If devotees of uncertainty have tended to be skeptical of the quantification beloved by the adepts of modern finance, then such adepts have tended to respond by dismissing uncertainty as not yet quantified risk: uncertainty is a sloppy civilian notion, waiting to be understood as risk, quantified, modeled, and priced.

As difficult and downright scary as it is to think about uncertainty, there are negative consequences of not thinking about it. America's policy-makers have not handled the current crisis in a way to suggest any sustained thought about how to address uncertainty or restore confidence, especially among the consumers and small businesses that make up so much of the real economy. Political and policy elites have nonetheless repeatedly told the nation that it is necessary to spend taxpayer's money, because this crisis is really important, and there will be no more business as usual. Indeed. Consumers, employers, and entire markets have responded accordingly.

In the interest of clarity, instead of "risk" or even "uncertainty," for present purposes, let us employ the simple and direct term, "danger." We might view finance generally, and financial policy in particular, as a succession of ways to anticipate and avoid dangers, or at least ameliorate harms. Capitalism's cheerleaders, including most economists, usually explain finance in terms of investment, growth, and so material progress, while acknowledging that a degree of risk is, at least temporarily, unavoidable. This is an unduly sunny view of the matter. Historically, insurance markets arise at the same time as stock markets. So while the hope of progress is a very real carrot offered by capitalism, fear is the stick. And these days, it behooves us to think carefully about fear, danger, lack of confidence generally.

Coping with marketplace danger: transparency and portfolio management

While fear is part of life, some dangers come not from the world (the ship sinking, the business going broke, life ending and who will protect the children?), but from the financial system itself – the bubble bursting, the market failing. Let us call this marketplace danger, because it arises from within the structure of the marketplace.

Financial policy (including the web of so-called "private" arrangements that constitute the financial markets) can be understood as three fundamentally different responses to deep, often somewhat unarticulated, conceptions of marketplace danger: transparency, portfolio management, and constructed markets. Each conception of, and response to, marketplace danger dominates and so defines an era, though it can be found at other times, too. The current crisis is significant because it marks the end of the second era of modern financial policy, and, one may hope and think, the beginning of a third, the era of constructed markets.

Transparency. Since the early part of the 20th century, and particularly since the 1930s, the U.S. federal government has responded to marketplace danger with massive amounts of public law and regulation, financial policy. In particular, if we look to the founding of modern securities law in the '30s, we find a great deal of worry about what was and still is called "fraud." But this is more than fraud in the old common law sense of a buyer's reliance on a lie told by a seller. The stock markets of the 1920s were national markets on both the

sell and the buy sides. Companies had national operations, and investors – shareholders – were dispersed across the country. Thus we had strangers, trading at distances, through intermediaries, with other strangers, in companies that were everywhere and so almost nowhere. The “fraud,” so-called, was that investors bought or sold without knowing the economic reality of their investment, and therefore under false pretenses.

The Depression-era solution, of course, was a mandatory disclosure regime, or what today would be called a requirement of transparency. The notion is that people who are buying and selling stock have some idea about how the company is doing, and therefore, what their stock is worth. The mandatory disclosure regime is thus intended to work like the glass in a telescope: investors should be able to “see” what they are buying, even though it is a long way away. Prices on Wall Street should, therefore, accurately reflect the value of activity on Main Street. The function of language, then, is lucid description or representation of the business investment, or, as the SEC has styled it, “Plain English.”

Obviously, this is a gross simplification, but the basic idea of a mandatory information disclosure regime remains the fundamental idea behind the regulation of US securities markets (and information remains the heart of all talk of marketplace efficiency). The latest grand effort to achieve transparency is the Sarbanes-Oxley Act, passed a few years ago in response to Enron and other accounting scandals. And now, we have a huge financial crisis, in which sophisticated institutions have proven opaque to themselves, which has not played well in the markets. So, since the 1930s, the U.S. financial markets have been about to be transparent. But plain English, much less real transparency, and one must ruefully conclude, informational efficiency, has never quite arrived. Why not?

Now for poets or philosophers or anthropologists, that question is laughably naïve. Think how hard it is to say one true thing. Law can require disclosure, reporting, and can urge that the reporting communicate in effective fashion. However, this is a little like saying “do a good job.” Disclosure, as such, is not transparency. But if demanding disclosure does not ensure transparency, then how can actual, effective, communication be ensured?

Simply put, it cannot. Remember that the problem that transparency is trying to address – how do we know what we cannot see (a certain theological ring is intended) – is enormously difficult. Corporations are abstract, distant. And their operations are very complicated, and language is a virus . . . To make matters much worse, in a sophisticated financial environment, the bounds, the borders, of the corporation are not so clear. Assets and liabilities are regularly shifted to special purpose entities, or hedged, or otherwise transferred, with intentions of retaining more or less risk, and it can become unclear what risks should be recognized, by whom, and when. That is, the boundaries of a corporation’s business, say Citigroup’s, are often badly defined, and hence the value of the business is hard to assess. Most intriguingly, and as the SIV mess in the fall of 2007 demonstrated, the boundaries of Citigroup’s business were unclear to Citi itself. Citi could not figure out which liabilities it would actually be held responsible for . . . reasonable minds could disagree. In short, transparency seems to be at best a partial way to address what was understood to be the fundamental problem of marketplace danger, called in securities law, “fraud,” but more deeply, not knowing. Thus regulatory talk of transparency, like related talk of efficiency, masks epistemological difficulties at the heart of financial policy, and consequently, social choice.

Portfolio Management. In light of such epistemological difficulties, it is fortunate that finance offers another, very different, approach to the problem of not knowing and the resulting marketplace danger. Developed since the 1950s, but from ancient roots in probability theory, portfolio theory understands risk and return together, as flip sides of the investment coin. Investors are compensated for bearing increased risk, that is, risk is something to be embraced, at least under the right circumstances. Portfolio management copes with marketplace danger through strategies of diversification, and kindred strategies of hedging.

The construction of portfolios – and hence the need for portfolio management (including risk management, but I want to stress that the practice is not restricted to banks) – has become ubiquitous. Understanding the basic ideas at the root of both diversification and hedging is required of the middle classes, who are asked to set up defined contribution retirement plans, plan for their children's education, and diversify and insure their major assets.

For all its familiarity, however, a slightly more theoretical conception of portfolio management is critical to understanding what has gone so wrong, and more specifically, why the problem is far more fundamental than implied by the parade of very specific financial horrors that we have witnessed in recent years. Greenspan is right that the paradigm broke, but we need a more sophisticated description of “the paradigm” than “what we used to do before this mess started,” if we are to figure out what we want to preserve in our reconstruction of financial markets.

First, what is being managed, in a portfolio, is not a business, but a profile of risk and return – comprised by abstractions, slices, of a business or set of businesses. Taken together, these slices are designed to provide the investor with a cumulative return in line with its appetite for risk, but the slices generally do not in themselves represent anything in the world. It is therefore almost meaningless to talk about the transparency of a portfolio. A portfolio is not an image of anything in the world; a portfolio is synthetic.

Second, danger is managed not by superior knowledge of the underlying assets, but by other investments, diversification or hedging strategies, so that the portfolio constructed in such a way so as to be internally balanced. That is, portfolio theory accepts a degree of the ignorance that the transparency approach works to avoid. And so buyers in China or Europe are persuaded to buy interests in real estate in places they may have never seen, like Nevada. A portfolio is thus, in a very literal sense, speculative.

Third, portfolio theory assumes, or contemporary finance creates, instruments that convey bundles of risk/return to investors – hence financial engineering. In theory, these instruments can be specified to the degree necessary. As a result, a portfolio is, on its own terms, in principle infinitely precise, and, as importantly, infinitely extensible, and therefore universally applicable, or even virtual.

Investment in a contemporary financial instrument can be articulated to whatever degree of precision the parties desire. Compare, if you will, a sole proprietorship. The owner may understand all about the business, the transactions may be as transparent as can be, but the proprietor remains exposed to whatever the world throws at the business. Investment in a sole proprietorship is obviously somewhat uncertain. In contrast, a pension fund buying a synthetic Treasury so that it can meet expected obligations may model, and specify, its

expected risks and returns with a great degree of precision. So fourth, in its push toward rational articulation, portfolio management is modern, in a very Weberian sense.

Fifth, when the noun, security, became a verb, securitize, we crossed a line. What is significant is not just, as Marx had it, that all social relations are abstracted into property rights. What matters here is that the institutions of property are transformed. Rights in things become rights to make financial claims. But claims cannot be answered bilaterally; recourse must be had to courts. And the risk of claims is assessed, and insured against, through third parties, who themselves tend to spin off risks. And when there is insolvency, then claimants – and their claimants – are affected jointly. More generally, if a portfolio consists of claims, then the value of the portfolio depends on whether those claims can be successfully made, and that cannot be assessed by reference to the portfolio or even to its underlying assets. Thus the modern risk management paradigm, by encouraging the use of contract to employ and protect assets most efficiently, integrated enterprises, and is essentially social.

A modern financial portfolio, then, is like a glass, a vessel, that holds the pooled interests (net worth) of its owner. Recapitulating my description, the portfolio may be described as synthetic, speculative, virtual, modern, and social. The function of language, especially the language of contract, is analytic and contractual, slicing and recombining interests so that risks and returns are balanced against one another.

The sophistication of portfolio management masks serious weaknesses that, taken together, provide one account of the current crisis. First, and well recognized in portfolio theory, diversification does not work against those dangers known as systemic risk. In particular, many assets that were thought to be unconnected, and hence to offer investment opportunities that were uncorrelated, are in fact connected. In such circumstances, models that assume diversification, or simply do not consider the possibility of correlation, will tend to underestimate the danger.

Second, reliance on ever more extended representation and elaborate abstraction inevitably compromises transparency. As long as the models seem to hold, investors may assume that what they see – the model – is an abstract but fair representation of the world. But suppose the models do not make sense, either singly or in conjunction? A landscape painting need not represent an actual place; a financial model need not describe a business reality. At some point, the model may reveal itself to be not an abstraction from a complicated reality, but simply a devilishly complex formal structure. Such structures may nonetheless remain obligatory . . . betting on unicorns does not necessarily mean that one does not owe money.

A third, and heretofore hardly recognized, cost of systematic reliance on portfolio management: hyperintegration magnifies uncertainty. Spreading risk contractually to those best able to handle it is a good idea, and for many years we heard that the widespread use of derivatives had made the financial system more “robust.” If aggressive risk management becomes well-nigh universal, however, and if it suddenly becomes unclear whether insurers are solvent, then counterparty risk becomes both widespread and difficult to assess, a lesson we should have learned from Long Term Capital Management.

To recapitulate: we have at least three rather fundamental reasons that the risks to portfolios, however sophisticated, are difficult to manage. First, diversification, the point of portfolio management, may not be achieved effectively, particularly in a world of widespread if

often unseen connections. Second, the models individually, and certainly collectively, may not represent business reality, and hence cannot be transparent. Third, and in tandem with the first two, the integration of legal structures may generate a crippling and contagious uncertainty about the likelihood of payment.

From Transparency to Portfolio Management. We now have enough on the table to compare our two approaches to confronting marketplace danger. If the first paradigm and even era of financial policy confronts marketplace danger, understood to be ignorance, by requiring information, in what we might call the era of transparency, and language is understood to be descriptive (naively representational), then the second paradigm confronts marketplace danger, understood as risk, through the contractual construction of diversified and hedged portfolios. Let us call this the era of portfolio management. In this era, language is understood to be analytic and contractual (naively obligatory and determinate). And if you want dates, let us say that the era of transparency in the U.S. ran from the Securities Act of 1933, mandating disclosure of information as a requirement for the offering of securities to the public, to the passage of the Employee Retirement Income Security Act (ERISA) in 1974, which had the unintended consequence of transforming retirement planning from pensions (defined benefit) to tax-deferred investment (defined contribution), so that most middle class Americans were turned into part-time portfolio managers. And, again by way of heuristic, we might say that the era of portfolio management runs from 1974 until the fall of 2008, when it became clear that risk management had failed at systemically important institutions, and the sovereign powers to print money and tax would be required to avert catastrophe.

Tragedy and law

Portfolio management could not have failed so spectacularly if it had not been so widely adopted. In important ways, the current crisis expresses the *success* of portfolio management, and therefore has an essentially tragic structure: portfolio management's virtues, carried to excess, constitute a flaw that leads to the system's undoing, a tragic flaw. By managing risk with unprecedented sophistication, global portfolio management left itself wide open to the far more damaging problem of uncertainty.

The financial crisis may also be understood on the analogy of tragedy in a deeper way, as a play among conflicting, even inverse, financial virtues. Understood as a tragedy, what is at issue here are two fundamentally different imaginaries, two different ways of thinking about marketplace danger: transparency and portfolio management.

If transparency is the answer to market danger, then language is a medium, meant to disappear. We speak of understanding: put all your eggs in one basket, and watch the basket. And we legislate disclosure and other information driven conceptions of regulation.

If we respond to market danger through portfolio management, however, then language is used to set up barriers, vessels, entities, and to move economic interests from one to another in mechanized fashion. We speak of putting eggs in different baskets, of financial engineering. And natural language is supposed to function with literally mathematical necessity, permitting ever greater reliance on leverage.

These imaginaries – transparency and portfolio management – are not just different. They are antagonistic. The inadequacy of transparency made portfolio management

necessary; the widespread adoption of portfolio management made transparency impossible. Portfolio management accepts a degree of ignorance – the evil transparency was designed to address – as the cost of diversification. Once diversification fails, however, there is no fundamental understanding to fall back upon, and the system violently contracts due to uncertainty (counterparty risk leads to refusals to trade).

In a simpler world than the one we inhabit, it might be possible to pick just one strategy, portfolio management or transparency, to cope with marketplace danger. Due to the legal nature of finance itself, however, neither portfolio management nor transparency can ever be completely successful, and so there will always be a need for a complementary strategy – and the conflict that implies.

(1) *The precision of contracts is limited in principle.* Contract law is often implicitly and not implausibly understood as a predictable set of relations, much like the laws of mechanics, which is why we can model derivative obligations with mechanical precision. And people can rely on such modeling, except when they cannot. The laws of contract are considerably more flexible than those of nature. The idea that a bunch of engineers and physicists should have been effectively writing contracts that they fundamentally did not understand – not being lawyers, much less bankruptcy lawyers, nor even corporate managers– may be remembered as one of the more amusing follies of our time.

Again, from the perspective of a transactional lawyer, this proposition should have been banal. Except that it was not – for a long generation, we seem to have forgotten the simple fact that derivatives are contracts, and hence inescapably rather imprecise. In particular, whether a set of documents creates a “legal, valid, binding and enforceable obligation” is a question that lawyers are regularly asked to opine upon. Indeed, lawyers are asked to be liable for the substance of their opinions. And as any transactional lawyer knows, the largest standard exclusion in such an opinion letter is for bankruptcy, insolvency, and other situations where the contract might be reformulated by a court of equity (e.g., the ongoing Lehman Brothers litigation). To generalize: the contractual nature of financial instruments imposes theoretical limitations on the possibility of risk management.

(2) *The legal rights of financial actors limit the possibility of transparency.* Consider, by way of example, the municipal debt chapter of the present crisis. A municipal bond issuance is insured by a monoline with a good credit rating, and sold on that basis. If, due to its other investment activities, the monoline loses its credit rating, the bondholders’ trustee is required to protect the interest of the bondholders, which may be done in various ways, all of which cost the issuer, the municipality, a lot of money in a short amount of time. As a result, the municipality runs a risk of insolvency, even though it has never defaulted on a payment.

Transparency is not much use here. As a practical matter, municipalities, much less the purchasers of municipal bonds, are not in a position to monitor insurer’s other investments. Even if the municipality could somehow negotiate the right to monitor the investment activities of the monoline, another creditor of the municipality could not, because it would not be in privity of contract with the insurer. A party to a transaction cannot, as a matter of due diligence, demand to see the books of the other party’s insurers and debtors. Hence the widespread if now obviously foolish reliance placed upon credit rating agencies.

To generalize: a networked web of contracts among discrete entities cannot be fully understood on a bilateral basis; we cannot know everything about our partner’s partners. (In

law, this is the ancient English notion of privity.) Consequently, legally and in principle, a risk-sharing network cannot be fully transparent to its actors.

It would be simplistic to attempt to “solve” the conflicts between transparency and portfolio management in principle, to declare a master virtue for the conduct of financial policy. In the abstract, the problem is insoluble – hence tragedy, the sense of being trapped. Moreover, we cannot do without either transparency (knowledge) or portfolio management (insurance) as ways of handling marketplace danger. Thus the conflict is not soluble for reasons internal to contemporary financial thought, and more importantly still, practice. And for the same reason, reforms of the regulatory structure, even the creation of a prudential macroeconomic systemic risk regulator, one ring to rule them all, as it were, will not make the problem go away.

Some problems are managed rather than solved. The political question – implicitly asked by most tragedies – is how are conflicts among goods, goods that we cannot do without, to be managed? Specifically, how can we think about financial regulation that encourages both transparency and diversification, while understanding that the two are fundamentally in conflict, and neither can ever be fully achieved? What does this tragic perspective mean for restructuring the financial system?

Since Aeschylus law has been associated with tragedy, in part because law often deals with conflicts among virtues, like tragedy. So, in understanding the financial crisis on the intellectual frame of the tragedy, we might turn somewhat more seriously toward law. In attempting to apply a discipline, economics, that understood itself as a science, financial policy over the last few generations has failed to understand in any but superficial fashion that financial instruments, and so financial markets, are legal down to the bone, that is, political. Rephrased, thinking tragically encourages us to focus on the law in “law and economics.”

From this perspective, the question is how do we construct markets that not only balance between transparency and portfolio management, but, more generally, are as sound as possible?

Rethinking financial regulation as market construction

A place to start: the U.S. government is no longer regulating many financial institutions in the traditional sense, because it owns controlling interests in them. At the same time, the government believes that it must, for good political reasons, (re)establish markets in, for example, commercial credit, securitized debt, and so forth. The United States believes, in short, that certain important social questions – who gets commercial credit, for example – should be governed by markets. This commonplace has important intellectual consequences: we should acknowledge that our financial markets are not prior to politics, not natural. Instead, markets are now most obviously what they have always been, a form of social organization, political contexts understandable only in terms of their legally-defined constituent parts.

From this perspective, we should not think of financial policy as “a regulatory response” to the failure of a market, always belated. We instead should think of financial policy in architectural terms, like the glass windows that face skyscrapers or typify cathedrals. If law sought to ensure the provision of information, transparency, in the first era, and to

facilitate contract, portfolio management, in the second era, then the third era will be about the construction of edifices, in legal terms, the chartering of institutions and the regulation of their interconnections. We have witnessed a shift from descriptive, to contractual, and now to constitutive uses of language to confront marketplace danger. As a corollary, this crisis may mark the beginning of the end for the Enlightened imagery of “left” and “right,” echoed in talk about regulatory responses, government intervention, moral hazard, and so forth. Financial regulation should not be so bashful as it now is – not because markets fail, but because reasonable minds should disagree about good architecture.

There is a great deal to be said about weaknesses and improvements to many U.S. markets, ranging from markets for health care to student loans, but for present purposes, let me restrict myself to two very basic points: the expectation of failure, and hence the need to focus on limiting the harms caused by a crisis, and the responsibility of bureaucrats.

(1) *Limiting Harms.* If transparency and risk management are neither fully achievable nor dispensable, and law is left to manage the contradictions between the two, we can expect to see – as we have throughout the history of capitalism – manias, panics, and crashes. In the medium to long view of the regulator, financial market failure is to be presumed. So while regulators should try to encourage transparency, and sensible risk management, but they should do so in the knowledge that their efforts will not always be successful. Like cars, markets must be designed to crash – much more regulatory thought should be devoted to mitigating the harms caused by crises to people.

Efforts to manage risk, the sort of thinking that informs Basel II , are necessary but insufficient. We have a good chance of avoiding the risks we can assess. But whatever the limitations, moral and ontological, of former U.S. Secretary of Defense Donald Rumsfeld’s geopolitical vision, he is epistemologically correct: there are unknown unknowns, and they can be very dangerous. Financial regulation needs to ensure that when such dangers unexpectedly materialize, as they now have, then the regulatory structure operates to limit the transmission and scope of harm. Our regulatory structure has failed to do that.

(2) *Taking Responsibility.* If we think of the coming era of financial policy in architectural terms, of self-consciously building markets, we should remember that architectural glass retains some of the characteristics of telescopes and drinking glasses. We still need to be able to see through the windows. We still need a sense that we are investing in something real. So we will not outgrow transparency. And a building’s windows define spaces, separate the inside from the outside. We need to separate ourselves from one another, so that we may contract, and we may allocate responsibility. So we will not outgrow risk management, either.

Managing such contradictions will require judgment on the parts of regulators. Regulators should not be able to claim, under the banner of efficiency or some other master principle putatively derived from economic science, that a given decision is simply right, and therefore beyond political contestation. As we have seen, academic economics has been all too useful for bureaucracies, and entire governments, that wish to disclaim responsibility. So it might be hoped that we all come to understand that regulators make judgments – and should be judged accordingly.

Rethinking the discipline of finance

Much financial policy has been philosophically and linguistically naïve, simply unaware of what has been happening in much of the rest of the world of ideas. Unlike most all the social sciences and the humanities – and if financial policy is neither social nor humane then we have problems indeed – financial policy did not take what is sometimes called the turn to interpretation. Perhaps more bizarrely still, and especially in the U.S. legal academy, financial policy has been willfully insensitive to law. Mistakes were made, not only practically, but intellectually.

However, this is a new day. Greenspan was right; the paradigm collapsed. And understood as an intellectual crisis, this is a time of tremendous opportunity, a chance to think anew. The opportunity is nothing less than the effort to think, seriously and publicly, about finance as a form of politics, indeed socially constitutive politics.

The shift in paradigm, from the objective science to which Friedman and Marx aspired to the cultural awareness exemplified by Benjamin, entails a shift in the role and the self-consciousness of both the scholar and the regulator. Experts should talk to one another because that is how imaginaries are socially constructed, especially now, with our vast distances and instantaneous communication. Language is neither transparent nor determinate, but endlessly subject to interpretation and construction. And there is a certain comfort here, in the necessity of conversation among experts rather than the objective demonstration and forceful argument to which financial policy has long aspired. Worldly philosophy may remain dismal, but it should become less lonely.

Editor's note: This paper's ideas are explored more fully in Westbrook's [Out of Crisis: Rethinking Our Financial Markets](#)

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Whither economics? What do we tell the students?

Peter Radford

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It is commonplace knowledge that the profession known as economics is in a state of disarray. There are fractures opening up between schools of thought, and lines being drawn between various camps, that make some of the tussles of the past look benign. There is a war going on. Standing, as I do, on the outside of academia, but once having held the title of “Chief Economist”, I look on with a mix of horror, concern, and fear. I wonder what the outcome will be, and I wonder whether economists have forgotten along the way that they are not just working in the field, but are custodians of it as well.

I think economics is a public good in the sense that society as a whole relies upon the expertise and advice of professional economists. They own it just as much as we do. The last few months are testimony to the vital part the profession plays in society’s day to day living. We owe it to society to get it right. Or we should simply shut up and go away. We should not be throwing bricks at each other in the full view of the very people whose livelihoods might be deeply affected by the advice we give.

It must be extremely difficult for a newly fired worker to hear an economist opine that unemployment is ‘all voluntary’. I find it difficult too, even though I am aware of the basis upon which it could be made. Worse still is the thought that such a statement could be made by a professor who enjoys the benefits of tenure. There is an ethical problem involved in the advocacy of flexible wages coming from the mouth of an inflexibly paid economist. Or, at least, there appears to be.

I hope not.

Having said that, I don’t see a way to avoid the conflict. It has been brewing for years. The search to make economics a science and to shed the phrase ‘political economy’ has been a long and arduous one. Clearly it is not over. Economics remains a social science, and that word ‘social’ carries a lot of weight.

At its root economics seems to have a problem deciding what it is about. There are at least two camps, and I think Mankiw’s 2006 article illustrates the issue. He suggests that there are two kinds of economists: engineers and scientists, with the former being concerned more with real world problems and the latter being more concerned with theoretical exposition and investigation.

I disagree. I do not believe that dealing with the real world automatically implies a lack of interest in theory. On the contrary, scattered across the domain of real world economics are plenty of theories. The rich variety of these theories may not have a common core or even coherence, in the same way that orthodox neoclassicism has, but they all share an ambition to integrate economics into the structure of the world about us. This gives them their real world properties. In my opinion it imbues them with a heightened relevance and a great potential to provide society with the value expected of economics in general.

If I have a criticism of the real world theorists it is that they have not worked hard enough to find that coherence. This leaves them constantly vulnerable to attack as being ‘bit’

players in the larger game of theorizing. They are seen as filling niches rather than building a rival to orthodoxy. This may allow them to survive and pursue their own interests, but it does not accumulate into an integrated field.

The history of the 'real world' movement supports my view. In its current form it began back in 2000 with a rebellion by students. They were concerned that they were being taught an increasingly irrelevant system of thought that left the real world outside virtually undiscussed. Since then the dialog has grown and has undoubtedly contributed to the current disarray. An example of this expansion is this journal that now is over fifty editions strong and has a readership of about 11,500. Obviously there is great interest within the profession about real world economics.

But there is still no coherence. This is to be expected after only ten years, but it is not acceptable over a longer period. We run the risk of failing to answer those students. As long as we retain the diversity of real world economics we retain our relevance, but somehow that has to be translated into something more. Something that can challenge orthodoxy and be handed to future economists as the core of the subject.

I prefer a slightly different division to Mankiw's. **There are economists who study economies, and there are economists who study economics.** Both theorize. Both search for regularities. Both offer what they think is practical advice. Both develop technologies based upon their theories. There are engineers and scientists in both camps. The difference is more fundamental than Mankiw suggests.

Those who study economies are naturally drawn to real world economics, whether they think of themselves in that camp or not, because of their attention to the world around them. If the real world and its variety, its institutions, cultures, religions, its diversity and even its geography influence a theorist's starting point then they are studying economies in a real world sense.

Those who prefer to investigate the properties of equilibrium, rational expectations, and efficient markets are studying economics. They are dealing with abstraction since their starting point is an artefact created from assumptions, axioms and the like. Their hope is that they can elicit useful statements transferable to the real world, but yet not study the real world.

The problem with this split is that it implies that economics over the years has come to represent something other than the study of economies, and this is the source of the conflict that now rages. The realists complain about the irrelevancy of orthodoxy now that it has become little more than a self-referential series of models whose major value resides in their elegance and sparseness. There is a feeling that economics should engage the real world rather than resist it. It is a feeling that a true 'science' should not view so much of reality as a failure to conform with theory. Rather it should explain the texture of reality, albeit through the prism of mathematics and models.

It is the progressive, or creeping, disengagement of economics from reality, and the almost contemptuous treatment of its texture as anomalous rather than the norm, that eventually caused the students to rebel.

Rightly so. That act of rebellion should have been a wake up call that the profession was on the wrong track. To curators of the subject, the rebellion should have prompted reflection and questioning. Are the right things being taught? Is the curriculum reflecting the broad and rich traditions outside of the orthodox view? Are we confident that economics is the study of economies? Or is it something else? If it something else, is that worth teaching as economics? Is it simply a form of mathematics? Does economics even exist in its own right if it has no roots in the real world?

To realists these are important, even vital, questions. To the orthodox they are not, because they consider the questions answered. Indeed to an orthodox economist it must be infuriating to have the conversation, which probably explains the vitriolic responses I come across when I cruise around the websites of non-orthodox economists.

But name calling doesn't make the doubts of the realists go away. Their critique gathers strength from the denial of the orthodox. The air becomes thick with slurs flung back and forth. It is tempting in such an atmosphere to flee the field and return to the relative comfort of research or teaching. An outsider perusing the agenda of the recent American Economics Association gathering in Atlanta could be forgiven for not realizing the fight that is going on. The agenda was filled with the usual research. There was very little evidence of schism. A scant year after an economic crisis that appeared to have disproved the more dogmatic parts of orthodoxy and the profession was apparently back to normal.

No such luck. Those students and those of the future still need an answer. A coherent alternative answer.

The war that goes on has leaked into the popular press. A wider audience wants to know we accept the responsibility to leave economics improved not fractured. We cannot shirk our burden to get economics right. It has to be about something other than its own artefacts. Otherwise it serves no purpose and can be shelved along with alchemy as a nice try and nothing more.

How does Eugene Fama explain to his students his comment, quoted in last month's New Yorker magazine, that he takes comfort in being criticized by Paul Krugman? Presumably those students are not given access to what Krugman has to say. If not, they are diminished. They are given no choice. They have to rely on Fama's judgment of what economics is. Yet the very comment exposes that economics is more than what he says. It has many sides, and many views. He exposes economics as being heterodox simply by responding to the question.

That same article suggests that economics has arrived at an analogous point that physics occupied after the emergence of quantum mechanics. After a long and fractious conflict it settled back down into its modern form.

The problem I have with that analogy is that we have been here before. Economics has always harbored alternatives. It isn't physics. It never will be. It cannot be singular by the nature of its subject matter. Economies are vastly rich and complex structures. They are heterodox. The search for regularity should not delude us into thinking economies are either simple or standard. That's why I side with the realists. To me economies seem so full of asymmetries, inequalities and uncertainty that exploring things like equilibrium is simply a

fools game. Interesting as a highly restricted and near utopian special case perhaps, but not central, and definitely not worth a dominating position in the curriculum.

This is why economists who make statements that, for example, they know EMH is mostly wrong, but still has some value, infuriate me. Fix it. Bring it back into the real world. Follow through and change it. Get back to me when you are done. Meanwhile stop promulgating it as if it were correct, and stop pouring scorn on those who are trying to develop alternatives. Simply saying that something is the best we have is to toss aside our role as curators of economics with a carefree abandon. It is reckless.

As people committed to science, or a scientific view in a broad sense, economists should be happy to learn. They should embrace the failure of an idea as a chance to modify and improve their discipline. They should respect the attacks of their colleagues as attempts to further the collective good. That's what scientists do. That's what people committed to their students do. Or at least I thought so.

Which brings me back to the present infighting. I look on with a mix of horror, concern, and fear precisely because the disarray in economics, the arguments and the personal slurs, tell me that the people engaged in all that mud slinging have forgotten how to learn. If they have forgotten how to learn they have probably forgotten how to teach.

Now what do we tell the students?

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EDITOR: Edward Fullbrook

PAST CONTRIBUTORS: James Galbraith, Frank Ackerman, André Orléan, Hugh Stretton, Jacques Sapir, Edward Fullbrook, Gilles Raveaud, Deirdre McCloskey, Tony Lawson, Geoff Harcourt, Joseph Halevi, Sheila C. Dow, Kurt Jacobsen, The Cambridge 27, Paul Ormerod, Steve Keen, Grazia Ietto-Gillies, Emmanuelle Benicourt, Le Movement Autisme-Economie, Geoffrey Hodgson, Ben Fine, Michael A. Bernstein, Julie A. Nelson, Jeff Gates, Anne Mayhew, Bruce Edmonds, Jason Potts, John Nightingale, Alan Shipman, Peter E. Earl, Marc Lavoie, Jean Gadrey, Peter Söderbaum, Bernard Guerrien, Susan Feiner, Warren J. Samuels, Katalin Martinás, George M. Frankfurter, Elton G. McGoun, Yanis Varoufakis, Alex Millmow, Bruce J. Caldwell, Poul Thøis Madsen, Helge Peukert, Dietmar Lindenberger, Reiner Kümmel, Jane King, Peter Dorman, K.M.P. Williams, Frank Roterling, Ha-Joon Chang, Claude Mouchot, Robert E. Lane, James G. Devine, Richard Wolff, Jamie Morgan, Robert Heilbroner, William Milberg, Stephen T. Ziliak, Steve Fleetwood, Tony Aspromourgos, Yves Gingras, Ingrid Robeyns, Robert Scott Gassler, Grischa Periono, Esther-Miriam Sent, Ana Maria Bianchi, Steve Cohn, Peter Wynarczyk, Daniel Gay, Asatar Bair, Nathaniel Chamberland, James Bondio, Jared Ferrie, Goutam U. Jois, Charles K. Wilber, Robert Costanza, Saski Sivramkrishna, Jorge Buzaglo, Jim Stanford, Matthew McCartney, Herman E. Daly, Kyle Siler, Kepa M. Ormazabal, Antonio Garrido, Robert Locke, J. E. King, Paul Davidson, Juan Pablo Pardo-Guerra, Kevin Quinn, Trond Andresen, Shaun Hargreaves Heap, Lewis L. Smith, Gautam Mukerjee, Ian Fletcher, Rajni Bakshi, M. Ben-Yami, Deborah Campbell, Irene van Staveren, Neva Goodwin, Thomas Weisskopf, Mehrdad Vahabi, Erik S. Reinert, Jeroen Van Bouwel, Bruce R. McFarling, Pia Malaney, Andrew Spielman, Jeffery Sachs, Julian Edney, Frederic S. Lee, Paul Downward, Andrew Mearman, Dean Baker, Tom Green, David Ellerman, Wolfgang Drechsler, Clay Shirky, Bjørn-Ivar Davidsen, Robert F. Garnett, Jr., François Eymard-Duvernay, Olivier Favereau, Robert Salais, Laurent Thévenot, Mohamed Aslam Haneef, Kurt Rothschild, Jomo K. S., Gustavo Marqués, David F. Ruccio, John Barry, William Kaye-Blake, Michael Ash, Donald Gillies, Kevin P. Gallagher, Lyuba Zarsky, Michel Bauwens, Bruce Cumings, Concetta Balestra, Frank Fagan, Christian Arnspurger, Stanley Alcorn, Ben Solarz, Sanford Jacoby, Kari Polanyi, P. Sainath, Margaret Legum, Juan Carlos Moreno-Brid, Igor Pauno, Ron Morrison, John Schmitt, Ben Zipperer, John B. Davis, Alan Freeman, Andrew Kliman, Philip Ball, Alan Goodacre, Robert McMaster, David A. Bainbridge, Richard Parker, Tim Costello, Brendan Smith, Jeremy Brecher, Peter T. Manicas, Arjo Klamer, Donald MacKenzie, Max Wright, Joseph E. Stiglitz, George Irvin, Frédéric Lordon, James Angresano, Robert Pollin, Heidi Garrett-Peltier, Dani Rodrik, Marcellus Andrews, Riccardo Baldissoni, Ted Trainer, Kenneth J. Arrow, Brian Snowdon, Helen Johns, Fanny Coulomb, J. Paul Dunne, Jayati Ghosh, L. A. Duhs, Paul Shaffer, Donald W. Braben, Roland Fox, Stevan Harnad, Marco Gillies, Joshua C. Hall, Robert A. Lawson, Will Luther, JP Bouchaud, Claude Hillinger, George Soros, David George, Alan Wolfe, Thomas I. Palley, Sean Mallin, Clive Dilnot, Dan Turton, Korkut Ertürk, Gökçer Özgür, Geoff Tily, Jonathan M. Harris, Thomas I. Palley, Jan Kregel, Peter Gowan, David Colander, Hans Foellmer, Armin Haas, Alan Kirman, Katarina Juselius, Brigitte Sloth, Thomas Lux, Luigi Sapaventa, Gunnar Tómasson, Anatole Kaletsky, Robert R. Locke, Bill Lucarelli, L. Randall Wray, Mark Weisbrot, Walden Bello

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