THE GLOBAL FINANCIAL CRISIS:
METHODOLOGICAL REFLECTIONS
FROM A HETERODOX PERSPECTIVE

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Some Historical Background  Just a few years ago, expressions like asset-backed securities (ABS), mortgage-backed securities (MBS), residential mortgage-backed securities (RMBS), commercial mortgage-backed securities (CMBS), asset-backed commercial paper (ABCP), collateralized debt obligation (CDO), collateralized debt obligation squared (CDO squared), collateralized mortgage obligation (CMO), collateralized loan obligation (CLO), credit default swaps (CDS), or equity default swaps (EDS) were meaningless to most of us who do not teach finance. Television news rarely reported information about hedge funds, sovereign funds, or private equity funds. Problems of sovereign debt, at least within the industrialized world, were unheard of, and no ordinary Canadian paid any attention to the bond yields of various European countries.

Ever since August 2007, when European banks started showing signs of anxiety over their investments in US subprime mortgages, this has all changed. Interbank markets have frozen, ABCP non-bank sponsored markets in Canada have frozen permanently, and bank-sponsored ABCP markets have been nearly shut down. For a while, it seemed that the financial crisis could be contained, thanks to extraordinary interventions to sustain financial institutions by central banks and government, most notably the Federal Reserve. This illusion persisted until September 2008, when the government-sponsored agencies Freddie Mac and Fanny Mae had to be rescued, when Wall Street banks tumbled one after the other, when two large banks—Washington Mutual and Wachovia—had to be acquired, and when the
giant insurer AIG had to be bailed out by government, as were then a string of large European banks, including the whole Icelandic and Irish banking systems, not to forget the culmination of all this, when the US government decided to let go the Wall Street bank Lehman Brothers, sending a chilling message all over the banking world. Then, with their usual sources of finance being cut off, as corporate paper markets started to collapse and as banks became reluctant to grant lines of credit to new or returning customers, the production firms got into trouble, with even General Motors needing to be rescued by the American and the Canadian governments. Now since 2010, governments, more precisely euro zone governments, are in trouble, with banks and pension funds refusing to rollover their bond holdings of the countries under most suspicion. With the possible feedback effects of sovereign defaults on the banks detaining sovereign debt, it is hard to see where and when all of this turmoil will end.

**A Change of Policy Paradigm** A cycle of denial, bank rescue plans, bank nationalizations, and fiscal stimulus plans has followed in virtually all Organisation for Economic Co-operation and Development (OECD) countries and emergent economies. Amazingly, these policies—near-zero interest rates, large lender-of-last-resort actions, government purchases of banks, stimulus packages, and huge fiscal deficits—were considered total heresy by most economists when the crisis started. In contradiction to its discourse during the Asian financial crisis, the International Monetary Fund (IMF) gave support to strong expansionary policies to get out of the world recession, being barely concerned, at least at first, that the United States and the United Kingdom run public deficit to GDP ratios exceeding 10 percent, while the G20 leaders endorsed financial regulation with more claws and scope, the elimination of tax havens, income support measures to fight unemployment, and guidelines for pay schemes in financial institutions.¹

But of course, this is history redux. I remember listening to a public speech given in Ottawa by John Kenneth Galbraith, at the time when Ronald Reagan and Margaret Thatcher were in the midst of their Right-wing commonsense revolution. Galbraith claimed that the concrete forces of facts
would force a modification in economic policies. For him, pragmatism was more powerful than ideological discourse. John Maynard Keynes was already aware of this back in 1934, when he claimed that “principles of compromise will mitigate the evils of the situation by leading statesmen and administrators to temper the worst consequences of the errors of teaching in which they have been brought up by doing things which are quite inconsistent with their own principles.”

The policy response to the current financial crisis is a good instance of this tendency. While still honouring market principles, free trade, and free capital flows in their common statement, G20 leaders moved away from unfettered markets and uncontrolled capitalism. With a financial crisis hitting at the core of financial capitalism—Washington, Wall Street, the City in London, and the European Economic Community in Brussels—even the *Financial Times* claimed that “the credit crunch has destroyed faith in the free market ideology that has dominated Western economic thinking for a generation.” But this voyage towards managed capitalism and away from the Anglo-Saxon or neoliberal model of capitalism was short-lived, since policy makers, especially Canadian ones, reverted to the search for an “exit strategy,” based on a quick return to balanced public budgets, while changes to financial regulation have been in short supply.

The global financial crisis is not only a financial crisis. It is generating a crisis in political ideology and a crisis in economic theory. Certainly, the crisis has also dealt a fatal blow to the strong versions of the “efficient market” hypothesis. Its consequences go beyond mechanical responses to unemployment and falling output. Whether these debates will have an impact on academia remains to be seen. In my view, a new revolution in economics is in the wings, despite a counter-revolution being already in action. Several organized Right-wing groups are claiming that stimulus packages have had and will have no impact on the economy and are a front for an overextension of government intrusion, calling for a revolt against the US President, Barack Obama, and his expansionary fiscal policies. The claims of these groups, most notably those of the Tea Party supporters, are endorsed by well-known economists such as John B. Taylor and John Cochrane as well as Bank of Sweden Nobel recipients Robert Barro and Robert Lucas. The
Right-wing counter-revolution has also brought to the fore neo-Austrian economics, with their claim that the current financial crisis has been entirely caused by government failure. Interest rates that were too low for too long; financial markets flooded with Chinese foreign reserves, a result of tampering with foreign exchange rates; banks forced by government law to lend to subprime borrowers; financial regulation that creates moral hazard and perverse incentives. The solution for these Right-wing economists is simple: get rid of central banking, dismantle all regulations, and force the State to balance its budget under all circumstances. The latter claim is highly dangerous under current circumstances, but it is gaining ground as financial markets and bond rating agencies try to create hysteria over the rising debt-to-GDP and deficit-to-GDP ratios of most OECD countries—the inevitable result of the crisis and of the desire of households and corporations to reduce their indebtedness and accumulate private saving.

There is nothing new in this view. It was already described in ironic terms by a heterodox opponent, Hyman Minsky, nearly 25 years ago:

The regime of regulation by the authorities … is intended to control the destabilizing forces inherent in banking and finance. The dominant economic theory, however, leads to the view that regulatory arrangements reflect primitive superstitions and ignorance, because the phenomena that central bank regulations and discretionary power are designed to deal with do not exist in nature. This view holds that instability—booms, inflation, crunches, recessions, and depressions—are mainly due to the ill-advised efforts to contain and offset instability.

When they don’t fully endorse this story, mainstream economists believe instead that the current financial crisis is just one more blip in the business cycle, perhaps a slightly bigger blip, an unexpected negative shock that will be soon forgotten when the world economy is back onto its potential output path, and when the Chinese stop distorting capital markets. Only some small adjustments to institutions and regulations need to be made. There is nothing wrong with economic theory as it is being taught in graduate schools. But neither this mainstream view nor the neo-Austrian one are instructive. If markets are so smart, why can’t they see beyond the distortions?
As is the case for neo-Austrians, the financial crisis has brought heterodox Keynesian economics out of obscurity. The books of John Kenneth Galbraith are back in fashion, notably his book *The Great Crash, 1929.* Journalists, who up to very recently were still in awe of Milton Friedman, now turn to Keynes to provide some explanations to their readers as governments have plunged into expansionary expenditures. Before the crisis, in a world where small government and balanced budgets were all the fad, post-Keynesians were among the few economists still advocating active fiscal policy and the normality of public deficits. Furthermore, the financial crisis has brought to the fore the views of a well known post-Keynesian economist—Hyman P. Minsky—so much that journalists at the *Wall Street Journal* and other newspapers were making references to a “Minsky moment.” Indeed, *The Economist* had nearly a full page devoted to a book dealing with the financial crisis written by a Wall Street economist—Robert Barbera—who takes a Minsky point of view. Minsky conferences, organized by the Levy Economics Institute, now attract the presidents of some of the Federal Reserve banks in the United States. All this action around Minsky has led to new editions of three of his books, which for a while could be found in all bookstores, even those at airports.

But the revival of alternative economic thinking does not stop there. It extends to all brands of heterodox economics, in particular Marxism and the French Regulation School, whose credibility has also been given a boost. Indeed, in their explanations of the crisis there are substantial similarities between the writings of several post-Keynesians, notably those concerned with the study of a monetary production economy and those of members of the French regulation school (for instance Robert Boyer, Dominique Plihon, Frédéric Lordon), the French convention school (notably André Orléan and his remarkably prescient 1999 book), and some Keynesian Marxists that share close ties with the post-Keynesian school (such as James Crotty and Gerald Epstein in the United States or Gérard Duménil and Dominique Lévy in France). A major reason that these authors of various backgrounds and traditions share a common understanding of the events of the last decade is that they share a common view of what economics is all about. It is thus important to understand how all these heterodox schools,
excluding the neo-Austrians, share essential characteristics. Furthermore, the deregulation of the financial industry that occurred over the years and the institutions that were put in place over time, for instance the structure of the euro zone with its absent central government and a central bank unwilling to purchase sovereign debt, are based on assumptions that relate to the deep beliefs held by neoclassical economists—in the case of the euro zone, the belief that a crisis could not happen and that financial markets always send the right signals. Thus the purpose of the rest of this paper is to outline the key characteristics of the heterodox schools and to compare them to the essential characteristics of mainstream economics.

Presuppositions in Economic Analysis

**Brands of Keynesianism** First, I need to clear up some possible misunderstandings. It has been my experience that people sometimes confuse post-Keynesian economics with New Keynesian economics. Post-Keynesian economists are part of the heterodoxy. They are heretics, just like Marxists or Latin-American Structuralists. New Keynesian economists are part of the orthodoxy; they are part of neoclassical economics. Both groups of economists are Keynesians in the sense that they believe that government intervention is needed to speed up recovery towards full employment, whereas non-Keynesians believe that slowdowns and recessions are optimal reactions to changing conditions, so that any public intervention would interfere with this optimal process and impede the Schumpeterian process of creative destruction. There is an added confusion in the sense that, over the last few years, some very well known New Keynesians such as Joseph Stiglitz, George Akerlof, and Paul Krugman have been highly critical of their mainstream colleagues and of the economic policies that the latter have advocated. In that sense, post-Keynesians and New Keynesians are certainly political allies.

This being said, philosophers of science insist that what distinguishes broad schools of thought is methodology. Each school of thought has its own commonly held metaphysical beliefs, which cannot be put in a formal way. These are what Leijonhufvud calls the presuppositions of research programmes, which are the “grand generalities somewhat in the nature of
cosmological beliefs.” Assuming that this is true, how can we distinguish post-Keynesian economists and heterodox schools on the one hand, and mainstream economics on the other hand? Over the last 20 years or so, I have argued that heterodoxy and orthodoxy can be distinguished through five pairs of presuppositions. I am not claiming that this is the absolute truth; only that it is a convenient way to describe two broad visions of economics. The five pairs are shown in Table 1.

Table 1. Presuppositions of the Heterodox Research Programme Versus Those of the Mainstream

<table>
<thead>
<tr>
<th>Presupposition</th>
<th>Heterodox Schools</th>
<th>Orthodox Schools</th>
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<tr>
<td>Epistemology/Ontology</td>
<td>Realism</td>
<td>Instrumentalism</td>
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<tr>
<td>Rationality</td>
<td>Reasonable rationality, satisficing agent</td>
<td>Hyper model-consistent rationality, optimizing agent</td>
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<tr>
<td>Method</td>
<td>Holism, organicism</td>
<td>Individualism, atomicism</td>
</tr>
<tr>
<td>Economic core</td>
<td>Production, growth, abundance</td>
<td>Exchange, allocation, scarcity</td>
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<tr>
<td>Political core</td>
<td>Regulated markets</td>
<td>Unfettered markets</td>
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**Instrumentalism Versus Realism** Some of my colleagues, most notably Tony Lawson from the University of Cambridge, argue that the only crucial presupposition is that of realism. He argues that all the other presuppositions follow from it. This may be so, but I think it is worth spelling out all of the others. This exercise will help us identify some of the causes or implications of the current financial crisis. Take the neoclassical presupposition of instrumentalism, defended by Milton Friedman in his famous essay on methodology. Instrumentalism is the belief that the truth of a theoretical statement is irrelevant. An assumption is sound when it allows precise predictions, in particular when it can help to find and calculate the value of an equilibrium position. Whether the assumption is realistic or not is irrelevant, and Friedman even went so far as to argue that assumptions based on “wildly inaccurate descriptive representations of reality” were more useful. By contrast, for (most) heterodox economists, while there is a realization that assumptions are always abstractions and simplifications, and hence means to avoid cluttering a model with insignificant details, a theory cannot
be correct unless it starts from realist or realistic hypotheses. The structure of the model cannot be built on foundations describing an imaginary economy. This is because heterodox economists attach great importance to the storytelling method. An explanation has to be provided, usually associated with some causal mechanism, which goes beyond such simple claims as supply or demand has shifted therefore this or that has happened. Obviously, if a story has to be told and explanations provided, one needs to pay more attention and scrutiny to the starting assumptions, which need to be appropriately descriptive.

Take as an example of neoclassical instrumentalism the so-called *Gaussian copula function* that was used by financial engineers to model default correlation in the transformation of asset-backed securities (ABS) and the pricing of collateralized debt obligations (CDO), which were made up of tranches of ABS, and in the pricing of CDO squared, which were made up of tranches of CDO.\(^{15}\) As we know, these financial derivatives arising from securitized loans were at the core of the financial crisis. Instead of relying on the records of borrowers to assemble historical data about actual defaults to assess correlation and risk, finance economists looked instead at the evolution of prices of credit default swaps (CDS), on the assumption that CDS markets can price default risk correctly. Another instance is the Value at Risk models that were based on high-frequency and very precise calibrated estimates; but they relied on samples that did not include catastrophic events and that were based on a particularly low volatility of the stock market, as pointed out by many researchers.\(^{16}\) In those two instances, we have instrumentalism in action. What counts most is to get a number. Whether or not that number is reliable is not so important. The fact that previous financial crises in the past, such as the Tequila crisis, have shown that markets do not necessarily correctly price risk is put aside; the fact that CDS markets had been in existence only for a short time, that is, only since housing prices had been on the rise, did not seem to matter either; the fact that the convenient normal distribution has long been shown by physicist Benoît Mandelbrot not to describe financial data, by underrepresenting extreme events, also seemed of little importance; and finally the fact that the (recent) past is no guarantee of an uncertain future was also ignored.
As the global financial crisis has shown, I would argue that, ultimately, with instrumentalism pushed to its extreme as it seems to be, whether the prediction will turn out to be inaccurate or not is also irrelevant to mainstream economics.\textsuperscript{17} A good example of instrumentalism pushed over its limits is the case of the neoclassical production function. Mainstream economists still run regressions on Cobb-Douglas aggregate production functions to obtain estimates of labour and capital production elasticities, when there is now proof that these regression estimates yield instead the wage and profit shares in national income.\textsuperscript{18} Instrumentalism in contradiction to realism implies, as Paul Davidson would put it, that it is better “to be precisely wrong rather than roughly right.”\textsuperscript{19} By contrast, post-Keynesians “believe it is better to develop a model which emphasizes the special characteristics of the economic world in which we live than to continually refine and polish a beautifully precise, but irrelevant model.”\textsuperscript{20} Heterodox economists “want to be broadly right rather than precisely wrong,” seeking “to be approximately right across a broad set of eventualities” instead of being “perfectly right in a narrow model, under precise assumptions.”\textsuperscript{21} Storytelling, with its concern with appropriate descriptive accounts, puts less emphasis on formalistic methods. For instance, Lawson has argued that one could certainly put forward an adequate explanation of the global financial crisis while omitting formal economics altogether.\textsuperscript{22}

Some may object that there is a good deal of realism in many mainstream models, in particular in the models put forth by New Keynesian authors. This can certainly be granted. Realism is integrated into the auxiliary hypotheses—asymmetric information, credit rationing, liquidity-constrained households, and sticky prices. The main assumptions, however, based on an all-knowledgeable optimizing agent, defy common sense, as argued below.

\textit{Model-consistent Rationality Versus Reasonable Rationality} Closely related to realism and instrumentalism is the kind of rationality which is assumed in our economic models. Following the rational expectations revolution, the only type of rationality admissible to mainstream economists is model-consistent rationality. Not only are economic agents assumed to know all contingencies, from now to infinity, they are assumed to know
how the world operates. Despite the fact that economists have been arguing with each other for centuries about the proper representation of the economy, modellers must assume that there is a single accepted model of the economy out there and that everyone agrees about how it functions. It is true that behavioural economics has tried to modify this by introducing traders and chartists into the realm of expectations, alongside truly rational investors who still look at the fundamentals, but they have made little headway in the more reputable journals. Those who have agree “with the as-if Friedman doctrine” and argue “that the goal of their models is not to provide a veridical description of the actual decision processes being used by economic agents, but to predict the outcome.” Still, in my view, the more radical segment of behavioural economics—the group still devoted to a description of actual decisionmaking rather than to the study of biases relative to neoclassical rationality—must be classified under the umbrella of heterodox economics. This other group deals with what I have called “reasonable rationality.”

Economic agents, in this view, have little relevant information, or an overload of unreliable information, and hence must follow some simple rules to make decisions without wasting too much time and resources. Agents attempt to achieve norms and will modify their short-run behaviour when these norms are not satisfied, thus reacting to what they perceive as disequilibria. In the long run, norms will be modified if they are continuously under or over achieved, or if changes in society at large have an impact on what is considered normal in the economic field. A good example of this is the gradual acceptance of the claim that a “normal” return on equity, the famous Return On Equity (ROE) norm imposed by financial investors to managers, ought to be no less than 15 percent, although this norm is incompatible with average macroeconomic conditions in Western economies, as has been demonstrated by Dominique Plihon.

**Atomicism vs Holism, or Macro Paradoxes** The third pair of presuppositions concerns methodology: methodological individualism or atomicism versus holism or organicism. Atomicism, as practised by neoclassical economists, has a long history. Voltaire, in his famous novel Candide, was already making fun through his Pangloss character of those who, like Leibniz,
thought that un-interacting monads insure that we live in the best of possible worlds. There is certainly a great deal of similarity with the neoclassical claim that all analysis must start at the level of the optimizing individual and that competition between free atomistic firms will generate a socially desirable optimum (often described by mainstream economists as a state of Pareto optimality). Similarly, uncertainty in neoclassical analysis is often represented in terms of subatomic particles being subjected to a random Brownian motion. Within the framework of the subprime crisis, atomism is exemplified by the long-held belief that risk analysis could focus exclusively on individual firms and banks, without taking into account the macroeconomic conditions and implications; that is, by ignoring systemic risk. Another example would involve consumer behaviour: neoclassical authors assume that consumption expenditures are hardly influenced by marketing and publicity, and that consumers are not interdependent.

By contrast, heterodox authors have taken a more holistic approach. About consumers, they have emphasized the predisposition to replicate the behaviour of others or to catch up with others, the search for status and positional goods, and the role of innovations in consumer credit. Many post-Keynesian authors see this interdependence as a driving force in the current financial crisis, as low-income and median-income households, whose purchasing power has remained flat over the years, have attempted to keep up with the consumer and real estate behaviour of upper classes, whose real incomes have quickly risen during the same time period. Even more relevant to the current crisis, perhaps, is the observation that herd behaviour or “group behaviour is the essence of financial markets.”

Heterodox authors also pay attention to the possibility of macroeconomic paradoxes, or fallacies of composition, that contradict the pure aggregation of a representative agent. This, of course, is reminiscent of Marx’s contradictions of capitalism and his dialectical view that, say, capitalist competition holds the seeds of its polar opposite, namely monopoly, while the capitalists’ drive to achieve greater profit brings about collectively what they least desire—a fall in the rate of profit. By way of example, we may think of the following seven paradoxes noted in the past by post-Keynesian authors: the paradox of thrift, the paradox of costs, the paradox
of public deficits, the paradox of debt, the paradox of tranquillity, the paradox of liquidity, and the paradox of risk. Some of these paradoxes, most certainly the paradox of thrift, are well known, and need little discussion. And all these paradoxes are certainly relevant to the current crisis, either as a cause or as a way out of the crisis.

Table 2. Holism: Some Crisis-Related Macro Paradoxes

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<thead>
<tr>
<th>Paradox of thrift (Keynes)</th>
<th>Higher saving rates lead to reduced output</th>
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<tr>
<td>Paradox of costs (Kalecki)</td>
<td>Higher real wages lead to higher profit rates</td>
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<tr>
<td>Paradox of public deficits (Kalecki)</td>
<td>Government deficits raise private profits</td>
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<tr>
<td>Paradox of debt (Steindl)</td>
<td>Efforts to de-leverage might lead to higher leverage ratios</td>
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<tr>
<td>Paradox of tranquillity (Minsky)</td>
<td>Stability is destabilizing</td>
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<tr>
<td>Paradox of liquidity (Nesvetailova)</td>
<td>New ways to create liquidity end up transforming liquid assets into illiquid ones</td>
</tr>
<tr>
<td>Paradox of risk (Wojnilower)</td>
<td>The availability of individual risk cover leads to more risk overall</td>
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Keynes’s paradox of thrift says that an increase in the propensity to save will lead to reduced output. In its growth version, it says that it will lead to a decrease in the actual growth rate of output. With households being overindebted, the paradox of thrift will act against the recovery, as households desperately try to recover their past levels of wealth by saving a larger proportion of their revenues. But a quick check confirms that the notion of the paradox of thrift is now gone from most principles textbooks, although the Governor of the Bank of Canada, Mark Carney, did refer to it in a speech made during the financial crisis, when he pointed out that it would be “individually rational for people to want to save more” in uncertain times, although if all individuals do so, then “it becomes collectively irrational.”

The paradox of costs, inspired from Kalecki, says that rising real wages (relative to productivity) generate higher profit rates. This flies in the face of a microeconomic analysis that would demonstrate that lower profit margins generate lower profit rates. But if higher real wages generate higher aggregate consumption, higher sales, higher rates of capacity utilization,
and higher investment, profit rates will be driven up. This of course is
nothing else than a variant of Marx’s problem of the realization of profit,
derlined for instance by Amit Bhaduri.\textsuperscript{28} In the present crisis, it is impor-
tant to resist calls to reduce labour costs in an effort to improve the
profitability of individual firms. While this will be profitable to the firms
that achieve the greatest real wage reductions, the overall effect will be detri-
mental to the overall economy and most certainly to the overall world
economy.

The paradox of public deficits can be directly attributed to Kalecki. He
showed that higher government deficits play a role that is similar to that of
higher net exports on corporate profits. Higher public deficits lead to higher
corporate profits, just like higher public deficits lead to higher GDP and
employment following the teaching of Keynes. While mainstream authors
used to argue about the crowding-out effects of government activity, based
on Ricardo-equivalence effects or rising real interest rates, (nearly) all govern-
ments have engaged in expansionary fiscal policies so as to sustain aggregate
demand and corporate profits. When things go really wrong, neoclassical
theories are thrown out of the window, being replaced by more pragmatic
and realistic theories. With public deficits, governments are hopeful that
aggregate demand will be sustained and that corporate profits will recover.

Then there is the paradox of debt. This paradox is also based on the
concept of effective demand, and it was put forth by Joseph Steindl, who
was a follower of Kalecki.\textsuperscript{29} From a strictly microeconomic point of view,
one would be led to believe that it is always possible for economic agents
to decrease their debt or leverage ratios, by simply deciding to do it. While
this may be true for households, it may be quite difficult for firms and
financial institutions taken as a group. To reduce the weight of indebted-
ness, firms may decide to cut their investment expenditures and hence the
amounts they borrow. However, if all companies are pursuing this scheme,
cutting back on borrowing and investment may not put matters right, for
the slowdown in capital accumulation reduces the overall profitability of
businesses and hence the accumulation of retained earnings. In the end, the
actual leverage ratio may rise, moving in a direction that is the opposite of
what is intended by the entrepreneurs.
Something quite similar may happen to banks and other financial institutions as they try to reduce their leverage ratios. This is linked to Irving Fisher’s debt-deflation effect. As banks sell some of their assets, in an effort to reduce leverage or recover liquidity, these forced sales bring down the price of these assets, which are now sold at a loss, thus reducing the own funds of the banks, so that the leverage ratio is rising instead of falling. Other efforts to reduce the amount of loans may put borrowers in financial distress, as is observed in times of credit crunch, so that again the individual attempts to reduce the leverage ratio (or to increase their capital-to-asset ratio) may indeed lead to the opposite macroeconomic effect. This can be associated with what we could call the paradox of banking refusal. When the economy is slowing down or is entering a recession, it may be rational for each individual bank to take protective measures against loan losses by rationing credit and refusing to grant new loans. But, as is recognized by the Governor of the Bank of Canada, “if all banks do the same, their actions will exacerbate the downturn and increase their eventual losses.”

Also closely tied to the financial system is the paradox of tranquillity. This is an expression that I coined 25 years ago, when studying the works of Minsky. According to Minsky, a stable, growing economy is a contradiction in terms. A fast-growing free market economy will necessarily transform itself into a speculative booming economy. In a world of uncertainty, without full information about the fundamentals, a string of successful years diminishes perceived uncertainty. People tend to forget the difficulties encountered in the past: turning points, falling asset prices, credit crunches, and recessions. As time goes on, memories fade and economic agents dare to take on higher levels of risk. Or else, as time goes on, the risk level as computed by engineering models of finance, such as the very popular Value at Risk model, appears to get smaller because the last recession is just one remote observation among a series of more recent successful years. The longer an economy is in a tranquil state of growth, the less likely it is to remain in such a state. As Minsky says himself, “each state nurtures forces that lead to its own destruction.” In three words, the paradox of tranquillity says that “stability is destabilizing.” Applied to a monetary economy, this implies that a string of successful financial operations will
induce banks to indulge in ever more risky financial structures.

What Minsky was claiming 30 years ago seems quite prescient today: “Over a period in which the economy does well, views about acceptable debt structure change. In the deal-making that goes on between banks, investment bankers, and businessmen, the acceptable amount of debt to use in financing various types of activity and positions increases.” This implies, according to Kregel, that the cushion for safety—the difference between the additional revenues expected from some new activity and the financial commitments required by this activity—gets reduced through time. For Minsky, instability and the rising fragility of the financial system are inherent features of an unregulated capitalist economy. Part of this destabilizing stability is tied to financial innovations, which will be introduced or expanded when things go well. This view of the financial system is reminiscent of that of John Kenneth Galbraith, who, in his various books, has argued that speculative euphoria in market capitalism is an inevitable outcome, as speculators and bankers ride the wave by using leverage, and believe they become rich because they are smart.

The paradox of tranquillity is certainly at the heart of the current financial crisis. But no less important for the subprime crisis is the paradox of liquidity. In modern finance theories of the neoclassical type, most assuredly the efficient-market theory, liquidity is of little concern. Informed market participants always manage to arrive at a transaction price reflecting the correct fundamental value of an asset. What is at issue is only the expected return and the estimated risk of the asset. By contrast, liquidity is a crucial element of post-Keynesian economics. Investors should always be concerned about the impossibility of cashing in their assets. There must be some market maker that guarantees to purchase assets if the market suddenly goes one way. These market makers are dealers, with access to lines of credit issued by banks, or the banks themselves, with access to central bank liquidity.

The paradox of liquidity can be seen from two angles. First, there is the obvious fact, also linked to Fisher’s debt deflation proposition, that the attempt of economic agents to become more liquid transforms previously liquid assets into not-so-liquid assets. The frenzy to get rid of assets drives down the price of these assets and may transform the markets for these
assets into one-way markets, with no purchaser, leading to a total freeze, as occurred in some markets during the current financial crisis. As Sheila Dow says, “attempts to increase the stock of liquid assets only succeed in reducing it.” But there is a second paradox of liquidity, tied to innovations in the financial system that we just mentioned. Financial innovations seem to increase liquidity when they are really diminishing it. This second paradox was pointed out already by Minsky, but it has been underlined in a recent book. Anastasia Nesvetailova—a young author in the International Political Economy tradition—claims that “to Minsky and his followers therefore, every institutional innovation that leads to both new ways to finance business and new substitutes for cash assets, decreases the volume of liquidity available to redeem the debts incurred.” Thus, she continues, “in the process of financial expansion the financial system contrary to appearances, becomes progressively illiquid.” The financial system gets ever more layered, with virtually nobody holding safe assets without capital loss risk.

The paradox of liquidity can be extended to a paradox of risk. Financial innovations designed to reduce risk at the microeconomic level by spreading it over a larger number of financial institutions—as is the case with securitization, collateralized debt obligations, credit default swaps, equity default swaps, interest rate swaps, and the whole gamut of financial futures and financial derivatives—end up creating a larger amount of macroeconomic or systemic risk. For instance, it is now widely believed that the extensive use of mathematical models to quantify risk, yielding the illusion of precise and objective assessments, encouraged banks and other financial institutions to pursue more risky strategies and to use more leverage. Famous US regulators such as Alan Greenspan (the former Federal Reserve Chairman) and Tim Geithner (the former President of the Federal Reserve Bank of New York and the current US Secretary of Treasury) both claimed as late as 2006 that credit derivatives were a stabilizing factor in the financial system because they reduced the concentration of individual exposure to risk, spreading credit risk to those best able to handle it. Even Marxist economists such as Michel Aglietta argued that securitization would have beneficial effects on the economy. Each microeconomic agent believes that he or she is now covered against risk, but the risk is still there, in the form of counterparty risk.
Indeed, even if the counterparty seems to be safe, the counterparty’s counterparty may not be, and its failure may well spill over. The illusion of liquidity induces agents to take on even more risky decisions. Thus, risk-reducing microeconomic financial innovations end up producing a more risky macroeconomic environment. Derivatives were likened to the contingent markets of the general equilibrium model à la Arrow-Debreu. But we do not live in such a world. We live in a world of fundamental uncertainty à la Keynes and Knight.

Derivative financial products are not stabilizing the economy. Thus ultimately, as summed up long ago by Albert M. Wojnilower, another Minsky follower, the “supposed immunity to financial risk always turns out to be illusory, and the risks and costs of shattering the illusion may be considerable.”42 Wojnilower was particularly perceptive about this, since, as far back as 1984, he predicted the bailout of AIG from its CDS sales: “The recent entry of major insurance companies into the business of insuring banks and bond investors against loan defaults represents another effort to stretch the safety net. Now, it can be presumed, the authorities will have to intervene to interdict a cascading of defaults if only to save the insurance industry.”43

**Scarcity Versus Abundance** In the neoclassical model, the main feature of a capitalist market economy is the proper allocation of resources, real and financial ones. Prices, as emphasized by Hayek, are supposed to provide the information that allows such a market system to function efficiently. But is this really the case? Certainly, with respect to the recent events, we can subsume that prices did misallocate financial resources, as securitization provided misleading prices and too many financial resources were put into real estate. This had just been preceded by the stock market crash of 2001, when stock markets worldwide took a beating, while the NASDAQ in particular plunged and never fully recovered. Then the real estate bubble was immediately followed by the super-high prices in commodities, food products, and oil barrels, with these prices falling briskly just a few months later, thus giving a strong indication that these prices had risen only as a result of unwarranted speculative activity rather than as a consequence of changes in fundamentals. Indeed, it has been argued that high commodi-
ties prices have arisen from the efforts of financial managers to find new conduits that would be uncorrelated with the returns on bonds and equities. Thus high oil, commodities, and food prices result from inflows of funds in the futures markets of these products, as fund managers follow a strategy of portfolio diversification that leads them to speculate on futures indices.\textsuperscript{44} Again, one may think that these markets for derivatives have no impact on the real world; but they do, because, being more liquid, they induce economic agents to base their decisions on these futures markets, with the result that spot prices depend on futures prices, instead of futures prices being (only) dependent on expected spot prices.

We already know that prices are not the result of supply-and-demand forces in manufacturing and other industries; now we are given evidence that even prices in so-called competitive markets provide false information. This may be linked to the fact that prices are usually described as indicators of scarcity in a world of scarce resources. But can we really say that such a paradigm can be applied to monetary or financial markets, or even labour markets in most places, where abundance rather than scarcity seems to be ruling? As Randall Wray writes, credit is not a scarce resource: “We may have as much, or as little, credit as we want: credit is created whenever we accept the liabilities of someone who desires more purchasing power.”\textsuperscript{45}

\textbf{Unfettered Markets Versus Regulated Markets} This leads us to the fifth and last of our key presuppositions: that of the role of markets relative to the role of the State. Mainstream economists exhibit great confidence in the ability of free markets to deliver stability and full employment. The most extreme versions of neoclassical theory claim that instability and unemployment can only prevail when government interferes in the operation of markets, thus hampering the price mechanism from achieving equilibrium. By contrast, heterodox economists are very distrustful of unfettered markets. While post-Keynesian economists and their heterodox colleagues will recognize the dynamism imparted by entrepreneurship in a capitalist system, which along with Joseph Schumpeter they believe to be its main quality in opposition to static allocation efficiency, they question the wisdom of relying blindly on markets. They suspect their unfairness,
their inability to self-regulate, their tendency for destabilizing paths, and their squandering of resources. Furthermore, heterodox economists believe that unbridled prices—highly flexible prices—generate instability rather than stability. By contrast, sticky prices with some inertia are more likely to generate stability. Thus they believe that state regulation is needed, both at the micro and the macro levels, as the costs of such government intervention get dwarfed compared to the costs of unregulated capitalism. In the eyes of heterodox economists, it is no coincidence that the number of financial crises throughout the world and in the United States has occurred at such a rising rate ever since deregulation spread across all economies since the early 1980s.

This fifth presupposition was identified very clearly by Keynes himself 75 years ago. Here is what he was saying then:

I have said that we fall into two main groups. What is it that makes the cleavage which thus divides us? On the one side are those who believe that the existing economic system is, in the long run, a self-adjusting system, though with creaks and groans and jerks, and interrupted by time lags, outside interferences and mistakes... On the other side of the gulf are those who reject the idea that the existing economic system is, in any significant sense, self-adjusting.46

The post-Keynesian author Minsky has also been pretty clear about this divide between economists, focusing on the financial side:

In a world with capitalist finance it is simply not true that the pursuit by each unit of its own self-interest will lead an economy to equilibrium. The self-interest of bankers, levered investors, and investment producers can lead the economy to inflationary expansions and unemployment-creating contractions. Supply and demand analysis—in which market processes lead to an equilibrium—does not explain the behavior of a capitalist economy, for capitalist economic processes mean that the economy has endogenous destabilizing forces. Financial fragility, which is a prerequisite for financial instability, is, fundamentally, a result of internal market processes.47

This divide is even more important now than it was 25 or 75 years ago. And the split between economists is the same as that described by Keynes
then, when he said that the “self-adjusted school depends on its having behind it almost the whole body of organized economic thinking and doctrine,” when this is reinterpreted as all the major US universities along with foreign economics departments that attempt to imitate those renowned US economics departments. Some might say that this is because the self-adjusting school carries the truth, and hence ends up ruling the profession through some kind of evolutionary process where the most correct theories win out over the others. However, no less than Paul Samuelson—the famous neoclassical Keynesian economist—has provided an alternative explanation, based on the strength of political winds and monetary rewards, writing that “what establishment economists brew up is as often what the Prince and the Public are already wanting to imbibe.”

**Conclusion**  The purpose of the present paper was not to identify all the possible causes of the financial crisis; for instance, nothing has been said about the trend decline in the share of wages in national income or about the trend increase in the inequality within wage income. The goal of the paper was more limited: to use the global financial crisis as a way to highlight the differences between the essential beliefs imbedded in heterodox and mainstream economics. The heterodox view is that markets left on their own are unstable. Full employment will be achieved only by chance, competition is likely to be destructive, and financial markets tend to blow up on their own. They may show stability for a while, but this stability will sow the seeds of its own destruction. This potential instability of financial markets is reinforced by the possibility of massive fraud and massive misinformation. Decisions by self-interested financial actors, freed of regulations, led to a financial disaster that has had detrimental consequences to the well-being of society as a whole, many of which are yet to come, as the current crisis in Europe reveals. There is no such thing as market discipline in the financial and banking industry, as has been shown repeatedly. This is in total opposition to the standard efficient market hypothesis, which dominated the academic and regulation fields. Policy decisions cannot be based on such a view of finance; they must be based instead on the more realistic Keynesian and Minskyan view of financial markets. Obviously, the reform of financial
regulations cannot assume, as a start, that financial markets are hampered and rendered inefficient by regulation. Legislation based on such foundations indeed will be inefficient, in the sense that it will be unable to tame the excesses of the financial system. Regulatory reform must start instead from the assumption that financial markets are fragile and unstable, and highly susceptible to fraudulent activity. If banks and financial actors can evade some of the regulations by moving their activities towards the non-regulated shadow banking system, then this obviously means that the shadow banking system needs to be subjected to the same tough regulations that must be imposed upon traditional banking. The financial sector needs to be tamed and its importance needs to be reduced. There is nothing efficient about having a bloated financial sector. Unfortunately, to induce governments to go beyond cosmetic changes and take the necessary decisive steps, we may have to go through another global financial crisis.

Notes

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20. Davidson, Reviving Keynes, p. 574.
37. Most notably in his Short History of Financial Euphoria.
38. Davidson, The Keynes Solution.
48. See Keynes, The Collected Writings, p. 488.