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## Beyond Mechanical Markets: Asset Price Swings, Risk, and the Role of the State (Book Review)

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## Beyond Mechanical Markets: Asset Price Swings, Risk, and the Role of the State (Book Review)

### Abstract

In its opening section, Frydman and Goldberg's book lays out important methodological contributions questioning the hypothesis of rational expectations, constructed on the basis of the writings of Knight, Keynes and Hayek. But in the second part, it does not propose a convincing model that would help avoid the formation of new financial bubbles. While accepting to some extent that the government entity has no greater knowledge than economic agents, it ignores the perverse public-sector incentives that James M. Buchanan and the School of Public Choice have explored in recent decades. Furthermore, although the repeated reference to Hayek is encouraging, the authors seem to have misunderstood the implications of his most important insight, namely the knowledge problem as it affects public sector decision making. Paradoxically, this oversight leads Frydman and Goldberg themselves to adopt the "pretence of knowledge" (Hayek 1978), despite explicitly criticizing traditional models for this very same error.

### Keywords

asset prices, price swings, financial bubbles, Friedrich Hayek, John Maynard Keynes, rational expectations, financial markets, imperfect knowledge, irrationality, knowledge problem

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This book is not an isolated contribution by its authors, but constitutes a component of a broader assault on modern mainstream economics and the macro-finance paradigm it justifies. These frameworks assume rational expectations, but the unanticipated dot.com crisis of 2001 and the sub-prime crisis of 2008 refute the claim that agents have sufficient relevant information to make appropriate decisions. Future crises will inevitably serve to underline this fundamental inadequacy of New Classical Macroeconomics.

Frydman and Goldberg make a number of valid observations which go against prevailing mainstream thinking in economic theory, particularly regarding what is often categorized as ‘the knowledge problem’. They are not content, however, to merely criticize: they suggest improvements. The basis of the alternative model they advocate is an elaboration on work previously presented in a 2007 book entitled *Imperfect Knowledge Economics*.

It should be emphasized at the outset that the authors do not endorse a socialist position towards central and anti-market planning. On the contrary, and in line with Keynes, they propose an intermediate route which acknowledges a tendency towards efficiency in markets, but then assign a complementary role to the State. Their consideration of what constitutes an effective or appropriate role for government in an imperfect knowledge economy is the most thought-provoking contribution of the book.

To be effective, they argue, state action would have to avoid the financial bubbles which have been the hallmark of public policy justified by mainstream economics, sparing society their inevitable and adverse political, economic and social consequences. Unfortunately, there is a disconnect between the section of the book which criticizes traditional models and the section explaining the alternative: the criticisms outlined in the former are apparently forgotten when the alternative model is developed.

The book comprises 12 chapters, plus an epilogue. The first six chapters together form the first part of the book. These chapters critique the standard “mechanistic models”, with their

obvious “pretense of knowledge”, and problematic conceptions of “rationality” and “efficiency”. The second part is also divided into six chapters and deals with the design of the alternative model they label imperfect knowledge economics (IKE). The epilogue deals with the question of what economists can know, criticizing the quest for omniscience and thereby defining the limits of our knowledge and discipline.

In Chapter 1, Frydman and Goldberg set out their agenda: “The central premise of this book is that the conceptual framework underpinning the debate triggered by the global financial crisis is grossly inadequate for understanding what went wrong with our economies and what should be done to reform them. The reason is simple: contemporary macroeconomic and finance theory attempts to account for risk and swings in asset prices with models that suppose that nonroutine change is irrelevant, as if nothing genuinely new can ever happen.” (2011, p. 165)

One of the most remarkable aspects of this book is the number of positive references to both John Maynard Keynes and Friedrich Hayek. These authors are often interpreted as advancing completely incompatible interpretations of economic life. Yet Frydman and Goldberg (2011) cite Keynes or Keynesianism 156 times, and Hayek about 33 times in support of their IKE model. The reader may find it paradoxical that these intellectual enemies of the twentieth century are regarded as the common foundation upon which these authors construct their alternative model. But they recognize that both Keynes and Hayek were preoccupied with the disequilibrium conditions which inevitably develop when uncertainty is pervasive. It would benefit the discipline if such insights were more widely appreciated.

Of course, not all Keynesians are orthodox followers of their intellectual mentor. A prime example is the question posed by Axel Leijonhufvud, “What have the moderns done with Keynes?” He pointed out that the so-called ‘Keynesian’ neoclassical synthesis associated

with John Hicks and Paul Samuelson came about when the implications of uncertainty were ignored and rational expectations adopted instead as the point of departure.

A 'post-Keynesianism' which rediscovered Keynes' appreciation of the critical importance of uncertainty would share a common agenda with Hayek and the Austrian School as well as with Frydman and Goldberg, namely the need to develop a more realistic economic model, one that includes space for contingent events, irrationality, and imperfect knowledge. After all, people are not robots that carefully calculate the impact of each of their decisions (Lucas, 2002: 21): they are people who make decisions in a framework of uncertainty, decisions which are frequently recognized *ex post* as inappropriate means to the end sought.

It may seem a harsh assessment, but the comparison these authors draw between the divergent approaches evident in modern economics and the psychological distinction between *neurotic* and *psychotic* approaches is apt. According to the popular saying, neurotics construct castles in the air, but psychotics actually live in them. A great deal of modern macroeconomics is 'psychotic' in this sense for the same reason: those who believe in the rational expectations hypothesis 'live' in their models and do not always know how to distinguish reality from the assumptions on which their models are based.

In other words, economists wedded to the rational-expectations hypothesis – including behavioural economists – failed to notice the formation of the bubbles which burst in 2001 and 2007 thanks to their overreliance on a model dependent on deterministic optimization in which markets are believed to act mechanically and in which economic change is completely predictable.

Frydman and Goldberg (2011) address the issues raised by behavioral theories in Chapter 6. While they agree that psychological factors are important, they cannot deny fundamentals as the guide around which prices will swing.

The IKE model, originally presented in the now-famous 2007 book, is put forward not only for its timely recognition of the fundamental deficiency of models that failed to predict the subsequent crisis, but also as an alternative which offers a more flexible, predictive model of empirical events. This brings us to what I consider the book's major flaw: although Hayek and Keynes shared a common philosophy regarding the pretence of knowledge, their views diverged when they considered what would constitute effective government action consistent with that philosophy. At this point in their argument, Frydman and Goldberg neglect the position held by Hayek and concentrate their attention on the position associated with Keynes. Readers familiar with the Austrian school will not find their arguments persuasive. They will therefore be justified in considering Hayek's views on appropriate state intervention more consistent with the *pretence of knowledge* philosophy Keynes and Hayek shared.

The critical issue which Frydman and Goldberg fail to appreciate is how markets really work. Adoption of a rational expectations framework leads inexorably to the conclusion that markets 'work', although it is usually a deep-seated belief that markets are effective that leads mainstream economists to adopt rational expectations as the explanation.

However, we agree with Frydman and Goldberg's recognition that markets are imperfect, and that Keynes (1936) was correct to develop his ideas within a framework characterized by imbalance and uncertainty. Hayek also made the same point in his famous 1945 paper when he stated that markets are coordinated on the basis of a price system determined by imperfect markets. His assertion (1980, p. 32) that "[m]arket prices are not perfect but the best available" succinctly summarized his position. He elaborated on this theme using tin as an example (Hayek, 1945).

It does not, however, follow logically that markets do not work if they are imperfect. Or, to be fairer to Frydman and Goldberg, acknowledging that markets do not coordinate

perfectly is no justification for the conclusion that a State conversant with the implications of an imperfect knowledge economy can ensure they coordinate better.

This hinges on the fundamental question of whether a government agency can obtain better information than that provided by markets, and whether it has tools at its disposal which can effectively warn market participants when asset prices deviate dangerously relative to their fundamentals (see, for example, Bernanke 2002, p. 5). Only if and when these preconditions exist, would Frydman and Goldberg be justified in demanding state-imposed limits on the purchase of certain assets in the midst of a speculative bubble, or even requiring banks to increase interest rates when the risk that an upward price trend may be reversed rises above a designated threshold.

That said, we consider the arguments advanced in support of this contention weak. We are not persuaded that IKE enhances the ability of the state to detect the existence of bubbles. From our point of view, it is economic agents who must arbitrate, and the only effective role the state can play is to define the rules of the game and enforce the rule of law which enables markets to operate with the maximum possible, albeit still imperfect, efficiency.

Almost without realizing it, these authors fall into the same pretense of knowledge on the part of government agents (the implications of which Hayek pointed out in 1974), while criticizing the rational expectations mainstream economists attribute to market participants. This inconsistency may be due to the emphasis they place on the allegedly divergent incentive structures faced by private and public sector decision makers.

The explanation offered by Frydman and Goldberg for their prescription runs as follows:

The need for state intervention in key asset markets arises not because policy officials have superior knowledge about asset values, but because profit-seeking

market participants do not internalize the huge social costs associated with excessive upswings and downswings in these markets. (2011, p. 3318)

In fact, Chapter 10 shows how persistent profit-seeking on the part of economic agents creates a tendency for speculators to buy assets at prices inconsistent with their underlying value, despite an awareness that this divergence is occurring. Such bubbles in turn justify the need for an entity outside the market – i.e. a government agency – which is able to identify the associated risks and social costs and effectively intervene to prevent catastrophic failure and enhance ‘market efficiency’.

This returns us once again to the fundamental question: can the government entity identify the existence of deviations or bubbles which economic agents operating in the market are unable to observe without government help? Frydman and Goldberg rely heavily on Bernanke’s acknowledgement that he was aware that Robert Shiller of Yale University used dividend ratios to argue that the stock market was already overvalued in a presentation made to the Federal Reserve in December of 1996.

The case is interesting, but at the same time controversial if we recall that the Nasdaq bubble continued to inflate for at least another four years until 2000. The underlying problem may be illustrated by means of a thought experiment: suppose that economic agents have rational expectations and are warned about the existence of this stock market bubble. Assume they also have sufficiently adequate information to construct a model which indicates that the bubble will continue to inflate for another four years. Would they continue to buy assets in 1996? It would appear rational for them to do so, given that their objective is to realize profits. However, in order to capture those benefits, it is necessary to resell those same assets before the crash occurs. This raises a different issue: perfect rationality implies rational expectations which are consistent among all market analysts who heeded the warning. The question that therefore arises is: who will be able to sell their assets in the year before the crash, if all were



aware that the bubble would burst at a specified point in time. In this case, it is likely that no one would buy the assets after the warning issued in 1996, and as a consequence the bubble would not develop. In reality, information is inherently imperfect; that imperfection varies significantly over the universe of interested parties, and is not interpreted in the same way by each participant. Nonetheless, this thought experiment has many possibilities, depending on the methodological limitations imposed at the outset.

Frydman and Goldberg recognize that the government entity does not have better knowledge than the market when it comes to identifying deviations or the existence of bubbles. No one can know precisely when an asset price swing becomes excessive, and as we argue shortly, policymakers will need to consider more than just departures from historical benchmark values. But the overinvestment in technology and communication companies and the sharp and prolonged downturn in stock prices that began in 2000 show that the upswing in stocks had indeed reached excessive levels. The market did eventually self-correct, but it did so too late. This boom-bust dynamic led to an economic recession and a prolonged period of subpar rates of private investment and employment. Only the state and collective action can minimize the social costs of such delayed corrections to excessive asset price swings (2011, p. 3329).

The explanation does not seem very clear and is even less convincing. The authors may accept that the government entity will not necessarily have better knowledge than the economic agents, and instead they emphasize the different incentives faced by public and private actors. Given the interest in obtaining accounting benefits, private actors will pursue those gains to the point where psychological attributes of herd mentality become evident, and without regard to the unreasonable social costs that loom ahead. A government entity aware of these social costs

and lacking the ‘perverse’ incentives of the private sector might conceivably intervene to avoid the worst of the bubble.

However, it seems even more likely that the government entity will be unable to assess the potential social costs associated with a future event of some unknowable probability and, furthermore, that government intervention unwittingly goes a long way towards magnifying rather than reducing those costs. In fact, with regulations in place to prevent the externalization of social costs, both the Nasdaq and the housing market would have experienced a timely correction and avoided the bubbles that did in fact occur. Lax credit policy was prominent among the interventions which inflated these respective bubbles and exaggerated the social costs when they burst.

But the Hayekian argument about the inadequacy of knowledge available to public sector actors, which these authors recognize, cannot be swept under the carpet by switching the argument to the divergent incentives which public and private decision makers face. The work of James Buchanan and the Public Choice school of economics demonstrates that ‘perverse’ incentives are not restricted to the private sector, and public sector decision makers may also lack the motivation to avoid these costs. Unfortunately, Frydman and Goldberg make no reference to the Public Choice literature.

Modern economists frequently try to formulate a variety of rational expectations alternatives among which agents can choose. To adequately account for all the possibilities, they must develop as many models of heterogeneous rational expectations as there are people participating in the market, and this is clearly unhelpful. Each person shapes their expectations according to their own experience, that is, their past, their present and how they interpret the future, which can hardly be synthesized in any formal way. It was Ludwig Lachmann, an author whose contribution is also ignored by Frydman and Goldberg, who first connected Hayek’s theory of capital and economic cycles without recourse to rational expectations. Lachmann

identified subjective expectations as a potential cause of financial bubbles when they are exaggerated by counterproductive public policy. The idea of subjective expectations may well be an old concept, but it is – as I see it – a model compatible with IKE which avoids the need to pretend that some large number of heterogeneous “rational” expectations are impossible to specify.

Nor can we agree with Frydman and Goldberg when they apportion blame for causing the formation of the bubbles. They fail to understand the fundamental role that the US government and the Federal Reserve played in feeding these bubbles by unwittingly creating the incentives which fuelled their development. In the absence of such policies, as John Taylor puts it, the housing bubble would just have been a small bump in the road (Lewin and Ravier, 2012).

Yet, while in the epilogue they acknowledge that lax monetary policy, or low interest rates, may fuel a bubble (p. 579), they do not relate this idea to what happened in the pre-2007 phase. Rather, they insist – following Keynes – that bubbles are phenomena determined primarily by psychological factors.

Bubbles are thought to arise because, instead of trading rationally on the basis of movements in fundamental factors, many market participants succumb to waves of market psychology, indulge in irrationalities of various kinds, or engage in technical trading based on charts of asset-price movements. According to bubble models, markets behave like casinos, often allocating society’s capital haphazardly. (p. 281)

Contrary to behavioral economics (e.g. Akerlof, 2001), these authors also recognize a certain value which underpins asset prices (Chapter 6). Although psychological factors can divert asset prices from their fundamental value for a while, in the end these values prevail and

prices converge toward it. Following Keynes, “[w]e should not conclude from this that everything depends on waves of irrational psychology.” (Keynes, 1936, p. 162)

If the fundamentals ultimately point in the opposite direction, it will not be possible for the “waves of irrational psychology” to keep asset prices on a divergent trajectory indefinitely. In fact, the authors acknowledge that the fundamental value of assets will mediate psychological feelings and risks over time (see especially Chapter 7 for examples). This leads Frydman and Goldberg to assert that in normal times the role of government must be minimal, merely supervisory. But if they detect bubbles, then they must act.

In our proposed scheme, so long as asset-price fluctuations remain within reasonable bounds, the state’s involvement is limited to setting the rules of the game: ensuring transparency and adequate competition, and eliminating other market distortions (such as those that the recent crisis exposed). But officials should also devise guidance ranges for asset prices. In doing so, they should not rely solely on historically based valuations, which, because they ignore non-routine change, are unreliable as a guide to likely thresholds of excess during asset-price swings. Once prices move beyond such a non-routine guidance range, Imperfect Knowledge Economics suggests that policy officials should cautiously and gradually implement dampening measures, as well as requiring banks to prepare for the eventual reversal by increasing their loan-loss provisions. (p. 377)

Again, the same questions arise: How does the government entity determine that prices are disengaged from an ‘appropriate’ range? Who sets these limits? Under what criteria do they set them? If we assumed above that such knowledge does not surpass that of the market, how do they expect to be able to restrain the market better than the market itself by *ad hoc* intervention?

If we consider once again the subprime crisis, it was an excess of regulation of the banks that generated the crisis, and not a lack of regulation (Lewin and Ravier, 2012). There is a wealth of literature explaining the credit origin of this bubble, but there are also numerous authors who have shown how this credit was channelled, especially to the real estate market. Paul Krugman even broached the idea of a housing bubble to replace the Nasdaq bubble as early as 2002, suggesting that the most recent bubble may well have been an intentional policy choice. Would it not be appropriate to question the incentives of those responsible? Inevitably, additional post-crisis questions of the moral hazard type would follow.

In conclusion, in its opening section, Frydman and Goldberg's book lays out important methodological contributions questioning the hypothesis of rational expectations, constructed on the basis of the writings of Knight, Keynes and Hayek. But in the second part, it does not propose a convincing model that would help avoid the formation of new financial bubbles. While accepting to some extent that the government entity has no greater knowledge than economic agents, it ignores the perverse public-sector incentives that James M. Buchanan and the School of Public Choice have explored in recent decades. Furthermore, although the repeated reference to Hayek is encouraging, the authors seem to have misunderstood the implications of his most important insight, namely the knowledge problem as it affects public sector decision making. Paradoxically, this oversight leads Frydman and Goldberg themselves to adopt the *pretence of knowledge*, despite explicitly criticising traditional models for this very same error.

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