



Robert Teitelman

Editor-in-Chief, 'The Deal'

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Frydman and Goldberg's *Beyond Mechanical Markets*

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How wrong were we? After several years of commentary on the causes of the financial crisis, we still struggle to plumb the full depths of the event. We have tossed up, like so much confetti, a variety of culprits, both human and systemic, many of which undoubtedly played some role and had some complicity: from executive compensation to lack of transparency to Alan Greenspan to Congress to credit default swaps. Journalists have been excoriated for missing what was apparently obvious; homeowners blamed; Wall Street pilloried; economists accused of intellectual dishonesty. We have chewed over questions of structure, size, capital, leverage, risk. We have put the Zeitgeist (blame the '60s!) in the chair, probed trade imbalances, decried the presence of greed and taken refuge in irrational impulses. And yet, there is a strong sense that we are just swirling pieces of a jigsaw puzzle across the table. There remains a feeling that perhaps we were wrong in some deeper way.

Enter *Beyond Mechanical Markets: Asset Price Swings, Risk and the Role of the State*, a book published earlier this year by two economics professors, New York University's Roman Frydman and the University of New Hampshire's Michael D. Goldberg, that has elicited remarkably little discussion in the U.S. (it's done better in Europe, but that's another story). *Beyond Mechanical Markets* is a serious piece of work that's based on research the pair has been doing for some time; while it's "about" the financial crisis, its core ideas transcend that episode. It takes aim at a dominant macroeconomic impulse that, in popular terms (if anything seriously economic can be "popular") encompasses the rational-expectations hypothesis. There have been several popular books that have taken aim at that set of ideas, from Justin Fox's *The Myth of the Rational Market*, to Yves Smith's *Econned: How Unenlightened Self Interest Undermined Democracy and Corrupted Capitalism*. And Tuft's Amar Bhidé's recent "[A Call for Judgment: Sensible Finance for a Dynamic Economy](#)" touches on many aspects of this critique, but looks at it more from an organizational perspective: How rational expectations and efficient markets became embodied in deeply flawed risk management techniques like the Black-Scholes options-pricing model and

value-at-risk tools.

Frydman and Goldberg's thesis deals with more fundamental macroeconomic matters: To what extent can we predict the future? Is there a mechanical causal link that we can ever truly identify and quantify between past and future? They gather and deploy their intellectual confederates: Frank Knight, John Maynard Keynes, Friedrich Hayek, Karl Popper. They argue that rational expectations is one method, certainly a ubiquitous one, based on what they call a "fully predetermined model," in which market players act as robots and markets operate as a kind of machine; another predetermined approach, they argue, is the New Keynesian school, that is the formalization into mathematical models of Keynes' "General Theory" of 1936; a third includes some of the more mechanical tendencies of the behavioral school. "To portray individuals as robots and markets as machines," they write, "contemporary economists must select one overarching rule that relates asset prices and risk to a set of fundamental factors such as corporate earnings, interest rates and overall economic activity, in all time periods. Only then can participants' decision-making process 'be put on a computer and run.' " These models assume individuals possess "perfect" knowledge of how available information will affect future prices and risk. The causal factors need never change.

Once an economist assumes market participants have equal access to information, the rational-market model implies that prices reflect the "true" prospects of the underlying assets nearly perfectly. "Economists and many others thought that the theory of the rational market provides the scientific underpinning for their belief that markets populated by rational individuals set asset prices correctly on average. In fact, the theory is a proverbial castle in the air: it rests on demonstrably false premises that the future unfolds mechanically from the past, and that market participants believe this as well."

From this base the pair argues a number of related points. Again, the rational-expectations hypothesis posits mechanical, fully predetermined, Newtonian markets. But many players in the markets are, in fact, rational, in the sense that they act in "reasonable" ways. Rational players do not just automatically use one model (and investors, in the real world, differ in approach, self-interest and interpretative emphasis); they recognize that their information is imperfect and that they are constantly buffeted by what Frydman and Goldberg call "nonroutine" change, such as innovations, perturbations of the Zeitgeist or, for that matter, revolutions and earthquakes. One of the great challenges for believers in mechanical markets is what the pair call "long-lasting asset swings" and what we often loosely and promiscuously characterize as bubbles. Ironically, to explain asset swings, many economists end up arguing that investors have been seized by bouts of irrationalism, crowd psychology and momentum trading or fooled by "informational problems, poor incentives, and inadequate competition," allowing assets to diverge from intrinsic values, as determined by the model. The market, from a predetermined perspective, loses its moorings and has to eventually be reeled back by harsh reality. That belief that outside factors have marred the perfect operation of the market machine has been buttressed by some adherents of behavioral economics (which ironically helped undermine rational expectations in the first place) who replace predetermined market relations with predetermined psychological factors. The result is

the same: The market, in a sense, loses its mind until its painful return to rationality.

To be sure, they note, lack of transparency, lousy incentives and psychological factors contribute to market problems and to the destructive result, a misallocation of capital and a painful correction. But even if they did not exist, they argue, assets would still swing because of the inevitability of imperfect knowledge. Participants know prices are growing excessive; but Frydman and Goldberg are arguing for a kind of middle way between two extremes and opposing tendencies in economics: the first, that markets allocate capital nearly perfectly; the second, that markets and participants are irrational, grossly inefficient at allocating capital and prone to a succession of bubbles. Each demands a different role for the state: In the first, a hands-off attitude to upswings in asset prices; the second, a readiness to massively intervene. Getting your mind around where Frydman and Goldberg are going requires a sensitivity to terms and definitions. They are not arguing that prediction, for example, is impossible, but that "precise" prediction is. Forecasting can be successful, particularly over the short term and, over the longer term, by understanding what they call "qualitative and contingent" regulatories or trends "in driving price swings."

Both their market diagnosis and remedy sail a course between these extremes. Frydman and Goldberg dedicate much of the heart of this book to refuting the notion that asset swings represent a departure from reality. True, they argue, psychological factors such as confidence and optimism play a role in driving the market throughout the cycle, underpinned by fundamental considerations. The difference is that their notion of what is fundamental shifts over time as they react to nonroutine change. In the late '90s when the great upswing in prices of tech stocks was forming, there were good reasons for investors (and the pair discuss at some length the interaction of short-term speculators and longer-term value speculators) to be optimistic, even as they exceeded historical market benchmarks: There was great optimism about technology; interest rates, inflation and unemployment were low; productivity was high; and despite some disturbing episodes (the Mexican default, the Asia Crisis, the Russian default, Long-Term Capital's failure), America and the liberal West emerged relatively unscathed and seemingly in control. Similarly, a host of economic fundamentals -- low-interest rates, low unemployment, low inflation -- fed the rise of housing prices. And in both cases, belief in rational markets -- that any action to flatten those swings, or to prick a hypothetical bubble, would produce "distortions" worse than letting them play out -- demanded a passive role from regulators. Frydman and Goldberg believe that long-lasting asset swings are inherent in how assets markets allocate capital. However, because market participants must base their trading decisions on imperfect knowledge, asset price swings can sometime become excessive and lead to misallocations of capital.

How might that be done? This brings us to what they call "restoring the market-state imbalance." They lay out a scheme in which regulators, such as the Federal Reserve or the Financial Stability Oversight Council, monitor markets and carefully and discretely employ a variety of techniques -- based on what they call Imperfect Knowledge Economics, or IKE -- to try to dampen asset swings that exceed, either on the high end or low, a wide range of values based on historical benchmarks.

This is a kind of economics analogue to regulation by principle, seeking to reach beneficial outcomes through flexible, empirical response to dynamic conditions. Although they lay out a number of ways this kind of equity analogue to monetary policy might be done (much of their earlier work on IKE focused on foreign exchange markets), this sometimes seems sketchy. It downplays the difficult technical and political task of regulators going into the markets to deflate what may, or may not be, dangerous swinging assets. They agree with Ben Bernanke that regulators can easily move too soon, thus stifling, say, useful technological innovations. But they admit that more analysis needs to be done to give regulators better tools to pinpoint the best moment to act. And they generally ignore the regulatory-capture problem, which extends well beyond the fact that regulators embraced the orthodoxy of rational expectations over the past few decades. Rational expectations may have seemed to regulators to be true -- it certainly was a seductive idea -- but it also feeds regulatory desires to lead a peaceful life, to preside over prosperous times and to attain a comfortable retirement.

Beyond Mechanical Markets is not an economics text heavy with math (the approach of their earlier book on IKE, *Imperfect Knowledge Economics: Exchange Rates and Risk*, was); it harkens back to the narrative method of economics that arguably reached its apex with Keynes. Unfortunately, Frydman and Goldberg lack the elegance of Keynes, though they're hardly alone. The book demands some sweat equity in readers and it assumes a more-than-passing familiarity with the substance of economic ideas and history; it has a circular quality, pounding home points, then shifting the perspective, and pounding them again. That said, it marshals a powerful argument that's bolstered by empirical reality: the eternal failures of mechanical forecasting; the sheer difficulty of beating the market with consistency; the unforeseeable ways that history unfolds. The belief in precise prediction resembles a kind of utopian project, a tower of economic Babel. At bottom, the pair makes a philosophical point that Knight, Keynes and Hayek (ironic, they comment, given that rational expectations came out of Chicago, where Hayek taught) offered many decades ago: the combination of men and events, particularly in these manmade constructs called markets, certainly improves our ability to price assets (and to forecast) over that of an individual or bureaucracy. But that inclusion of freely determined humanity (or humanity that believes it has free will, which is the same thing) conspires to erode any simple, mechanical or guaranteed relation between past and future. They quote Popper: "Quite apart from the fact that we do not know the future, the future is objectively not fixed. The future is open: objectively opened." At bottom, they're trying to thread the needle in the ancient free will versus determinism argument.

Will they succeed? Will anything change? Not quickly. As they admit, the power of fully predetermined models may have actually increased because of the crisis. Economic pundits continue to speak with great certainty, and these issues are complex, nuanced and often hidden. Besides, the insurrection Frydman and Goldberg argue for is far greater than just an overthrow of rational expectations; it's an entire economic world view that claims the power to accurately predict, forecast and capture market reality. Generally, the classic response of an orthodoxy (or what Thomas Kuhn famously called a paradigm) is to ignore any threat, not only out of fear of what might be lost (tenure, prizes, careers), but out of incomprehension; to the predetermined

model builders, Frydman and Goldberg's argument must literally seem like babble. That may well be the best explanation for the fact that these issues and this book can barely generate a debate in the United States.

Robert Teitelman is editor in chief of [The Deal](#). For more from Robert Teitelman, check out [The Deal Economy](#).