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**Roman Frydman & Michael D. Goldberg: Imperfect Knowledge Economics**

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## 2 A Tradition Interrupted

The peculiar character of the problem of a rational economic order is determined precisely by the fact that the knowledge of the circumstances of which we must make use never exists in concentrated or integrated form but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess.

FRIEDRICH A. HAYEK,  
“The Use of Knowledge in Society,”  
*American Economic Review*, p. 519

**Evans and Honkapohja:** Do you think differences among people’s models are important aspects of macroeconomic policy debates?

**Sargent:** The fact is that you simply cannot talk about those differences within the typical rational expectations model. There is a communism of models. All agents inside the model, the econometrician, and God share the same model. The powerful and useful empirical implications of rational expectations . . . derive from that communism of models.

GEORGE EVANS AND SEPPO HONKAPOHJA,  
“An Interview with Thomas J. Sargent,”  
*Macroeconomic Dynamics*, pp. 566–67

Relating aggregate outcomes to individual decision making has been a hallmark of modern economics. The largely narrative mode of analysis used by Friedrich Hayek, Frank Knight, John Maynard Keynes, and their contemporaries enabled these giants of early modern economics to examine the importance of individual creativity, the division of knowledge and its unfolding over time, and the roles of social norms and institutions for understanding how individual behavior and aggregate outcomes develop. Indeed, their great insight was to place at the center of economic analysis the inextricable connection between imperfect knowledge, non-routine behavior, and the pursuit of profits in capitalist economies. Although the early modern economists recognized the importance of explaining aggregate outcomes on the basis of individual behavior, they also pointed to a fundamental difficulty inherent in any attempt to do so: purposeful behavior, whether motivated by pure self-interest or other objectives, is not completely intelligible to outsiders, whether they are economists, policy officials, or social planners. Consequently, market outcomes that result from the decisions of many individuals are not completely intelligible either.

Post-1945 models of aggregate outcomes recognized the inherent tension between the early modern insights and the attempt to relate aggregate





























### 3 Flawed Foundations

#### The Gross Irrationality of “Rational Expectations” and Behavioral Models

[M]any . . . values toward which experience shows that human action may be oriented . . . often cannot be understood completely.

MAX WEBER,  
*Economy and Society*, p. 5

Beware of theorists bearing free parameters.

ATTRIBUTED TO ROBERT E. LUCAS, JR., BY THOMAS J. SARGENT,  
in *The Conquest of American Inflation*, p. 73

Modern economics constructs models of market outcomes on the basis of representations of individual decision making. This *methodological individualism* is inherently in conflict with the contemporary economists’ insistence that their models should imply sharp predictions. In this chapter, we illustrate this conflict in the context of a simple algebraic model of a market outcome—the equilibrium price that equates the supply and demand for a single good. In specifying the microfoundations of this model, we sketch how conventional and behavioral economists construct their fully predetermined representations of “rational” and “irrational” behavior. This example enables us to show how fully predetermined models presume that participants in real world markets endlessly disregard obvious systematic information in their forecast errors. This presumption of gross irrationality holds true regardless of whether contemporary models are based on REH or behavioral representations of forecasting behavior.

All graduate students of economics—and, increasingly, undergraduates, too—are taught that to capture rational, self-interested behavior in a scientific way, they must use REH. In an attempt to shed light on how economists came to espouse such extreme views, we use our algebraic example to highlight the milestones in the development of contemporary macroeconomics over the past four decades. In doing so, we illustrate Lucas’s argument that fully predetermined models, such as non-REH behavioral models, suffer from glaring internal inconsistencies. Our algebraic example also reveals a simple, but important, point: in real world markets, where knowledge about the future course of market outcomes is imperfect, REH,

















