Workshop

Evolution and Market Behavior in Economics and Finance

October 2–3, 2009

Scuola Superiore Sant'Anna, Pisa – Italy

Scientific organizers

Giulio Bottazzi (Scuola Superiore Sant'Anna, Pisa)
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Stefano Marmi (Scuola Normale Superiore, Pisa)

Topics

Evolutionary models of markets
Evolutionary finance
Bounded rationality and heterogeneity in markets
Evolutionary foundations of economics

Speakers and participants include

Mikhail Anufriev (University of Amsterdam)
Larry Blume (Cornell University)
Roberto Dieci (University of Bologna)
Rémi Dorat (University of Lille)
David Easley (Cornell University)
Igor Evstigneev (University of Manchester)
Doyne Farmer (Santa Fe Institute and LUISS, Rome)
Edoardo Gallo (Oxford University)
Laura Gardini (University of Urbino)
Tony He (University of Technology, Sidney)
Cars Hommes (University of Amsterdam)
Bob Kaempff (University of Innsbruck)
Alan Kirman (GREQAM, Marseille)
Marco LiCalzi (University of Venice)
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JOURNAL OF ECONOMIC THEORY **58**, 9–40 (1992)

Evolution and Market Behavior*

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Received February 21, 1992; revised April 15, 1992

In a conventional asset market model we study the evolutionary process generated by wealth flows between investors. Asymptotic behavior of our model is completely determined by the investors' expected growth rates of wealth share. Investment rules are more or less "fit" depending upon the value of this expectation, and more fit rules survive in the market at the expense of the less fit. Using this criterion we examine the long run behavior of asset prices and the common belief that the market selects for rational investors. We find that fit rules need not be rational, and rational rules not be fit. Finally, we investigate how the market selects over various adaptive decision rules *Journal of Economic Literature* Classification Numbers: D90, D80. © 1992 Academic Press, Inc

1. INTRODUCTION

In this paper we delineate in a conventional asset market model the evolutionary processes which determine the long run behavior of the market. Evolutionary ideas such as natural selection and adaptive behavior have a long history in economic analysis. Two streams of literature have had a significant impact on contemporary economic thought. First are those writings on economic dynamics that hinge on the success or failure of risk-taking entrepreneurs. This view of economic progress is recognizable in both Knight [22] and Schumpeter [27]. A part of this literature are the writings of Alchian [1], of Friedman [17] in his famous essay "On the Methodology of Positive Economics," and of other writers in the early 1950s who attempt to explain why procedural rationality has predictive power. Their answer is an appeal to natural selection which we call the "market selection hypothesis." Market forces favor the survival of economic actors whose decisions are most nearly optimal. According to Friedman [17, p. 21], "... firms behave *as if* they were seeking to maximize their expected returns ..." He reasons [17, p. 22] that "unless the behavior

* Support from NSF Grant SES-8921415 and the Center for Analytic Economics at Cornell University is gratefully acknowledged.

0022-0531/92 $5.00

Data:
mercoledì 30.09.2009

IL TIRRENO
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Estratto da Pagina:
IV

Evoluzione e dinamica economica un convegno al Sant'Anna

PISA. Quanto si assomigliano la dinamica economica e la biologia? Esiste una similitudine tra selezione naturale e gruppi di persone che arrivano a influenzare l'andamento dei mercati nel complesso? A queste e ad altre domande simili risponderà il convegno internazionale in programma venerdì e sabato alla Scuola Superiore Sant'Anna, intitolato "Evolution and Market Behavior in Economics and Finance", organizzato da Giulio Bottazzi e da Pietro Dindo, docenti al Sant'Anna, e da Stefano Marmi, docente della Scuola Normale Superiore, in collaborazione con il Centro di ricerca matematica "Ennio De Giorgi". Il convegno è stato finanziato dal network di ricerca europea Dime. Più di trenta studiosi, provenienti da Usa, Europa e Australia, distintisi per i loro contributi, si confronteranno su questo tema.