
BOOK REVIEWS

A Review of The Exchange Rate In a Behavioral Finance Framework

Robert A. Olsen

The Exchange Rate In a Behavioral Finance Framework. Paul De Grauwe and Marianna Grimaldi, 2006, Princeton, NJ: Princeton University Press, Princeton, New Jersey, 200 pp.

Historical market data on foreign exchange rates rather conclusively suggests that, as in the case of stock prices, the Rational Expectations- Efficient markets model, does not describe real world financial decision making with much accuracy. In particular, foreign exchange rates generally appear to be disconnected from market fundamentals, exchange returns are not normally distributed and rates exhibit volatility clustering and bubbles. For example since 1973, when the era of exchange rate flexibility commenced, there have been two large bubbles and crashes in the dollar, each lasting more than seven years. Based on this anomalous evidence De Grauwe and Grimaldi set about developing and testing a more “behaviorally based” model of foreign exchange trading utilizing evidence from recent research on the psychology of decision making. In this regard this book is quite unique in that, to this date, there has been little “spillover” from the developing field of Behavioral Finance to Exchange Rate Economics. Thus this book presents one of the first well-developed behavioral exchange rate models as an alternative to the traditional rationality focused models of exchange rate theory.

Empirical evidence suggests that decision makers rely on a mix of both emotion and analysis when making decisions. While the degree and influence of these elements may differ, depending upon the particular sit-

uation, the neurological and psychological evidence is overwhelming that both have a role to play in most decisions. Based on this evidence the authors construct a simple yet elegant model wherein foreign exchange traders first adopt simple heuristic trading rules in the face of overwhelming real world market complexity but then evaluate the rules, ex post, to see which appear to be working out the best. Thus intuition and emotion are used first and then formal analysis and rule based behavior is employed second to evaluate the previously adopted decision strategy. In effect, traders employ a sequential “trial and error learning strategy” which has been shown to be effective and generally adaptive where information is incomplete and survival does not require optimization. Operationally, the model assumes that traders switch back and forth between fundamental and chartist type strategies depending upon what appears to have generated the best results over the previous period of time.

Empirical tests reveal that the model gives results like those observed in real foreign exchange markets. Specifically, the exchange rate is disconnected from its underlying fundamentals most of the time, bubbles and crashes occur, extrapolative forecasting rules generate higher returns than fundamentally based rules, and “fat” returns distribution tails and returns volatility clustering are evident. The disconnect between fundamentals and exchange values, and the existence of bubbles and crashes, have two primary causes. These are transaction costs and changes in risk perceptions and their influence on fundamentalist trader behavior. In particular, fundamentalists must see exchange values depart significantly from underlying values before they are willing to take the risk go against the market trend. Also, consistent with prospect theory, fundamentalists have to experience large losses before they are willing to go against the market trend (become risk “loving”).

Other significant findings are that changes in fundamentals may or may not have an impact on market prices. If changes in fundamentals are small, a dynamic “bubble equilibrium” can be sustained. Only when fundamental changes are large will prices tend to

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revert toward a “fundamental equilibrium”. In this regard crashes can occur irrespective of whether the fundamental news change is positive or negative. Finally, they suggest that the prevailing regulatory strategy of “leaning against the wind” is generally efficacious as it reinforces the mean reverting potential of the market and counteracts the positive feedback generated by chartist “trend chasers”.

In conclusion, this most readable book is not only valuable for its observations about foreign exchange markets but because it has significant implications for better modeling of equity markets. You do not have to be an expert in foreign exchange markets to be able to comprehend and obtain insight from this research study. However, for those so inclined, the book contains an extensive foreign exchange bibliography.

A Review of *The Structure and Dynamics of Networks*

Robert A. Olsen

The Structure and Dynamics of Network. Mark Newman, Albert-Laszlo Barabasi and Duncan Watts, 2006, Princeton, NJ: Princeton University Press, 582 pp.

The later 20th century saw a decline in emphasis on traditional reductionist science and increasing attention to a systems approach to understanding nature and society. Whereas traditional reductionism sought to find commonality underlying diversity with reference to shared substance, such as the atom, systems theory seeks to find commonality thru shared forms of organization. This holistic approach to science has been necessitated by the observation that complex systems exhibit behaviors that are “emergent” and that cannot be traced to particular features of the constituent parts. For example the wetness of water cannot be traced to any particular features of hydrogen and oxygen. Similarly, the behavior of large groups of people cannot often be traced to specific personality traits of individual group members. Network theory, which is built upon the foundations of empirical observation and modeling, is rapidly becoming an integral part of this newer approach to science because of its emphasis on the role played by organizational structure as an influence on global behavior. Network theory has already been very useful in unraveling behaviors and predicting outcomes in such different realms as the spread of disease, the spread of Christianity and the spread of technology. Because network theory focuses on the structure and dynamics of networks, as opposed to the specific ele-

ments in the network, which can be anything from atoms, to people, to organizations, etc., network theory has the potential to be a useful tool for understanding and forecasting the behavior of financial markets.

This anthology brings together a group of 45 seminal articles by professionally recognized authors to introduce the basic concepts of network theory and demonstrate its application to various scientific fields. The principal objective of the book is to summarize Network theory in such a way as to make it accessible to researchers who may not be familiar with the topic. The book is divided into four sections and each section contains an introduction summarizing the section’s content and overall theme. The first section details the antecedents of network theory. The second section develops the network concept thru an empirical examination of various types of networks, such as the internet and other social and biological systems. The third section focuses on network model building and investigates the behavior of “small world” networks and “scale free” networks. The last section primarily focuses on network applications with special emphasis on network dynamics.

The editors of *The Structure and Dynamics of Networks* are pioneers in the field and have written and lectured extensively on the topic. Thus, not surprisingly, the book also contains an extensive set of references so that particular topics may be investigated in greater detail. While the mathematical rigor and conceptual complexity of the articles varies, the articles offer a concise introduction to the field.

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