

[Please cite as:

Forsyth, R.S. (1994). Foreword. In: Chorafas, D.N. *Chaos Theory in the Financial Markets*. Chicago: Probus Publishing Co. pp. xvii-xix.

]

Foreword by Richard Forsyth

As we approach the twenty-first century a global marketplace is emerging that must be one of the most extraordinary monuments to human ingenuity and greed ever created. Every weekday, financial transactions amounting to a total value more than sufficient to buy the entire land area of France, and everything on it, take place during the hours when the banks are closed in Paris. This happens at the instigation of a relatively small number of people, who are employed to manage the assets of large corporations, governments, banks and pension funds by speculating in a wide variety of bonds, commodities, currencies, futures, options, and stocks.

The vast majority of this frenetic dealing does not directly involve the exchange of anything tangible, not even a bank note. It is all done electronically.

Some commentators have proposed that the world-wide communications network that makes such trading possible represents the emergence of some sort of "global consciousness" that marks a new stage in the evolution of intelligence. Others argue that it is, on the contrary, a cancerous growth, feeding on the "real economy", that will ultimately lead to a financial catastrophe so serious as to plunge western civilization into a new Dark Age.

Nobody can be quite sure which prognosis is correct, because nobody understands how this system works.

You might think that this is an excusable state of affairs, since the system has only been made possible by recent developments in computing and communications technology; but in fact the behaviour of the international financial market in the 1990s is remarkably similar to the behaviour of local markets in the 1890s -- before computers, before geostationary satellites, before radio and television, even before the telephone -- and nobody really understands how those old-fashioned markets worked either.

That this should be so is, in my view, an intellectual scandal, caused chiefly by a slavish devotion to the tenets of what is called the "efficient market hypothesis" on the part of academic economists. Briefly, this idealization of the real world requires instant, error-free processing of accurate information by well-informed rational investors to be the norm -- which, apart from its inherent implausibility, has been empirically refuted on several occasions (e.g., Dimson, 1988).

Until recently the situation could be summed up roughly as follows: while most academics clung to this implausible and discredited theory (because at least it was coherent and comprehensible) most practitioners grabbed at a hodge-podge of often bizarre ideas as long as they appeared to work in their own particular area (which at least was pragmatic). Indeed, Wall Street is one of the few places in the modern world where an astrologer can not only make a good living but also be taken seriously by a highly paid and highly educated audience.

In short, theorists and practitioners had very little of value to say to each other -- which is where the book you hold in your hands, *Chaos Theory in the Financial Markets*, by Dimitris Chorafas, comes in. Here is a work that will help to bridge this unhealthy gulf of incomprehension between theorists and practitioners (though it is worth noting that the theorists in question, such as the free thinkers at the

Santa Fe Institute, are more often physicists, mathematicians, and computer scientists than economists). This work helps to show how we can use modern science to manage the chaos and complexity which, in part, it is responsible for plunging us into.

Dr. Chorafas, I am glad to say, gives the efficient market hypothesis short shrift. His book has a number of great merits: it is thoroughly pragmatic, it is free from dogmatism, and it is up to date. Above all, it is written by someone who is bold and open-minded enough to link ideas from many disciplines when that is necessary to illuminate his main field.

One of the main themes of this book is that we are forced to live at the edge of chaos -- potentially a most uncomfortable position. It could be made more comfortable if we knew ways to apply some of the latest research into dynamic nonlinear systems. The trouble is that this research is carried on by different groups under a number of headings, such as

- artificial life
- chaos theory
- complexity theory
- fractal mathematics
- fuzzy logic
- genetic algorithms
- stochastic simulation

and others.

Most of us have neither the time nor the mathematical sophistication to educate ourselves in these fields, exciting though they undoubtedly are. Professor Chorafas, however, has; and he has brought together the fruits of his investigations into these fields in an accessible fashion, which non-specialists can follow with ease.

Reference

Dimson, E. (1988) ed. *Stock Market Anomalies*. Cambridge: Cambridge University Press.