

Preface

Money connects people through exchanges of goods and services. It associates nations through trades. And because of the rapid advancement of modern technology, the circulation speed of money has been accelerating, making the originally separate and even isolated economies from different parts of the world amalgamate into one giant, complex economic system. This globalization has helped to create previously unimaginable amount of wealth. At the same time, it has also brought forward adverse effects, such as, among others, worsening severe uneven distribution of wealth and frequent occurrence of disastrous financial crises. It is these adverse side effects of the globalization that this book addresses.

Speaking differently, because of the development of international trades and markets, an integrated environment for a world economy has been created. So, events that take place in the financial market of one nation could produce and have produced magnificent impacts on the financial markets of other nations. For example, a regional subprime mortgage crisis of the United States in 2008 quickly escalated into a full-blown financial crisis with all major economies of the world involved. As the movement speed of money increases and as more and more barricades that affect the smooth transactions of money are removed, once distant economic systems are now interacting with each other in an unprecedented fashion. Therefore, implementations of monetary policies of various scales have become the core of debate on monetary policies among central bankers. Constant theoretical refinement and new understandings of money have forever sharpened our comprehension on the role of money in economy.

Through exploring systemic modeling of economic entities and processes, how economic instability could potentially lead to financial vulnerability, how policy observability could be limited so that opportunities for currency attacks are presented, what self-defense strategies could be developed, and how disastrous consequences of economic crises could be cleaned up through policies and reforms, this book addresses many theoretically important and practical significant issues related to money and its movement, estimate of the true state of the economy, economic security, design of economic policies, and economic reforms. The

purpose of this book is to establish a new unified analytical framework and logic of economic thinking on the basis of systems thinking in general and control-theory models in particular for studying money and related matters.

The novelty of the approach used in this book is treating the movement of money as that of fluid, which is rigorously backed up with recent results established in systems science. On the basis of this theoretical realization on flows of money, methods of systems science can be readily employed to model economic entities and processes, each of which is conceptually seen as an input-output system. That is, this book enriches the existing literature not only by providing a brand new instrument of intuition, which has been badly needed in the study of social science, establishing new understandings on international hot money and related policy issues, but also by introducing a whole set of new tools for rigorous reasoning and theoretical analysis of economic issues and financial events.

On top of the newly established intuition, the new tools of reasoning have enabled us to investigate many problems that have been extremely difficult, if not impossible, to address previously and establish many theoretically important and practically significant results. For example:

- Although there are a large number of factors that affect the performance of the economy, it seems to be generally possible for policy makers to simply tweak a few of them to alter the direction of economic development. This empirical experience is now theoretically backed up with rigorous proofs.
- In recent decades, financial crises had time after time again wiped out the wealth, accumulated through years of diligence and discipline, of the hardworking people, while each of these crises had shown traces of play of speculative hot money. So, a natural question is: Can the maturity of the financial system help the nation dodge financial attacks? To this end, our result shows that any economic system, regardless of the maturity of its financial system, is vulnerable to financial attacks. This result theoretically confirms the empirical claim of the raiders of the late 1970s and early 1980s that if they want, they can attack any business entity (*When Giants Stumble*, by R. Sobel (1999), Prentice Hall, pp. 165–188).
- Is it possible for an emerging market economy to design a quickest path of financial reform in order to avoid potential crises and to minimize the disastrous aftermath of crises when the nation attempts to emerge into the process of economic globalization and financial integration? To this end, this book provides necessary conditions for the steepest financial reform path problem with variable boundaries.

As applications of what is first established theoretically, this book also features particular case studies on the US dollar, the euro, and the Renminbi while providing predictions on their respective futures.

Considering its unconventional theoretical foundation and thought-provoking conclusions, other than delivering a brand new theory on international hot money, fiscal and monetary policies, and a scientifically sound methodology, this book is expected to provide practically meaningful guidance for meeting challenges that

appear in the development of international finance and economic globalization. It is our hope that you, the reader, will benefit from reading this book and referencing this book time and again in your professional endeavors. At the same time, we love to hear from you no matter what comments or suggestions you might have. The first author, Jeffrey Yi-Lin Forrest, can be reached at either Jeffrey.forrest@sru.edu or Jeffrey.forrest@yahoo.com; the second author, Yirong Ying, can be reached at yingyirong@sina.com; and the third author, Zaiwu Gong, can be reached at zwgong26@163.com.

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Shanghai, China
Nanjing, China
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Jeffrey Yi-Lin Forrest
Yirong Ying
Zaiwu Gong

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