Foreword

The world financial system has faced one of the biggest problems of the last global financial crisis. At the beginning, it was assumed to be only a minor mortgage crisis. Then, it turned into one of the biggest financial crises of the USA. However, globalization turned this crisis worldwide, which affected all countries, especially developed countries.

The sequential effects of the last financial crisis are still ongoing. Furthermore, it is hard to declare a certain time when it will end. This financial crisis became a breaking point for a change between developed and emerging countries. Growth rates of emerging countries have been rising, while growth rates of developed countries have been declining. In other words, the growth paradigm shifted. Globalization is not a powerful phenomenon for developed countries anymore, but is for emerging countries. Therefore, developed countries are trying to find a new way for mutual benefits of both developed and emerging countries.

Of course, the global financial crisis became a nightmare for every managerial body, but it has uncovered all the weaknesses of world financial and economical system. One of the most important truths faced was that there were no early warning systems or signs. As a result, the financial system was full of gaps, and the most important gap was objective evaluation and a decision-making mechanism characterized by inadequate analytical thinking and usage of technology.

It is possible to conclude some important aspects as lessons learned. One of the most important conclusions is that the financial crisis phenomenon is a multi-dimensional matter that must be evaluated in an inter-disciplinary way. The main components of this phenomenon are classical economical/financial theories and analytical methods such as statistics, operations research, data mining, and technology. Therefore, classical approaches must be combined with analytical methods and technology for better understanding and useful precautions of financial crises.

In current literature there is almost no such academic work that combines classical theories, analytical methods, and technological matters. This book responds to this demand with a multi-dimensional point of view. Importance of the crisis subject is increasing day by day, over an increasing number of science and application domains. The book provides an inter-disciplinary way for better understanding of the multi-dimensional nature of crisis on every level by presenting studies from a number of different areas, identifying the range of applications and the diversity of methods that are used.

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Tahir (Hanalioglu) Khaniyev graduated from Mathematical and Mechanical Faculty of Lomonosov Moscow State University (Moscow) in 1980. In 1987, he received his Philosophy Doctor degree from Institute of Mathematics of Ukrainian Academy of Sciences (Kiev) in field of stochastic processes under Professor A.V. Skrohod’s supervision. In 2007, he received his Doctor of Sciences degree from Institute of Mathematics and Mechanics of Azerbaijan Academy of Sciences in the area of Semi-Markovian Processes with a Discrete Interference of Chance. He is professor of Statistics since 2004. In the last decade he focused his attention to problems of asymptotical analysis of characteristics of semi-Markov processes with various types of barriers. He has had more than fifty scientific publications, including two books. Since 2007, he has worked in TOBB University of Economics and Technology, Ankara, Turkey.