Proposal of the book

*Finance risk estimation and modeling in emerging markets*


**Title:** Finance risk estimation and modeling in emerging markets.

**Subtitle:** New age tendencies and perspectives

**Editors:** Alexander Karminsky, Professor of Higher School of Economics, Moscow, Russia; Yuri Kabanov, Professor of University de Franche-Comté, Besancon, France

**Draft list of authors:** Prof. Yuri Kabanov (University de Franche-Comté), Prof. Alexander Karminsky (NRU HSE), Prof. Juan-Pablo Ortega (St. Gallen University, Switzerland); Dr. Pavel Smaga (National Bank of Poland); Dr. Agata Lazinskaia (NRU HSE); Dr. Kseniya Totmyanina (Sberbank Russia); Dr. Victor Lapshin (NRU HSE); Dr. Mikhail Pomazanov (Bank Zenit); Dr. Henry Penikas (NRU HSE); Prof. Mikhail Stolbov (MGIMO, Russia); Mr. Vadim Kiselev (Bank of Russia) et al.

**Brief Description:** Risks in emerging markets is the most popular topic of a new age after Millennium. Our aim is to systematize and develop models of risk management in emerging markets of financial institutions, first of all for estimation and modeling of financial risk indicators. At this way, we consider specifics of emerging market banking, risk measures (especially ratings and rating systems), principles of risk measures modelling and their practical realization according to Basel agreements. Moreover, systemic risks and peculiarities of risk management and modeling mathematical methods for emerging markets were considered. This book comprises integration of works on this subject over the last 10 years.

**Full Description:**

Regulation and practice of risk assessment for developing countries have some peculiarities. Despite that main Basel standards are respected, their full-scale realization remains complicated due to the feature of banking systems. Even more problems appear with realization of parallel agreements for insurance systems named as Solvency II. Therefore, elaboration of methods and models of risk assessment for such countries presents an acute problem. The reason of this process consists in defining approaches and methods of implementing special models targeting estimation of both components of risks (probability of default, expected losses) for financial institutions in emerging countries and the modeling of these components, and ratings being an integral risk measures.

The proposed manuscript integrates the achievements of authors at this field pointed at emerging markets, especially in Russia and BRICS countries. We consider theoretical approaches as well as empirical results, which were obtained with practical requests and research activity of the authors. First of all, our research was published in the number of papers as well as in some books
in English (such as manuscript “Handbook of ratings” which was published by Springer Publishing House at 2016) and in Russian. So we will be able to finish the offered project within one year, since the end of 2017.

Our proposal includes five parts. The first one highlights the systematic features on banking systems in the emerging countries putting emphasis on sources, regulation, and culture of risk assessment on financial markets of this group of countries, including BRICS ones.

The second part is dedicated to ratings and rating systems which exist at regional, national and international levels. Transformation of rating companies, appearance and development of alternative companies to Big 3 agencies (Moody's, Standard & Poor's and Fitch) draws the significant attention. The particular attention is paid to the experience of regulating rating activity in Europe and Asia (ESMA and Danon) and their comparison and the process of creating international rating agencies by emerging countries.

The third part contains main scientific research in the field of risk assessment of internal and external systems in the emerging markets. It concentrates on rating modeling, risk components for banks, insurance companies and financial market.

The fourth part covers the methods of assessment of systemic risks and stress-testing of the whole banking and financial systems and their elements. These problems are among the most important for the last decades. That’s why publication of such book will be acclaimed not only for students and researchers but also for practical usage by the regulators and commercial financial companies. The new results for this book will be useful not only for theoretical but also for a practical usage.

The fifth part systemizes peculiarities of mathematical instruments and models used for assessing financial risks on emerging markets. Moreover, these peculiarities were compared with those of advanced countries and within precise groups of emerging countries (BRICS, CEE, CIS, etc.) as well. We think that our systemization and new methods will be useful for the development of this topic during the next few years.

**Proposed Chapter Outline:**

**Introduction**

**Part I. Banks in emerging markets and risk estimation peculiarities**

- Chapter 1. Specifics of banking system development: comparative analysis
- Chapter 2. Regulation of financial risks: Basel agreements for banks and insurance companies. Regulation peculiarities for emerging markets

**Part II. Ratings and rating systems**

- Chapter 3. Principals of rating estimation in emerging countries
  - 3.1. Ratings as risk measure
3.2. Rating classification and comparison of rating methodologies in emerging markets: Russian experience

3.3. External and internal ratings

3.4. Rating designer

Chapter 4. Comparison of rating scales

4.1. Unified rating space

4.2. What is rating mapping?

4.3. Classification of rating mapping methods

4.4. Distance methods and it algorithmization

4.5. Econometrical method of comparison rating scales

4.6. Alternative methods and there peculiarities for emerging markets

4.7. Comparison of rating agencies scales for Russia

Part III. Bank and financial risks modeling

Chapter 5. Credit risk modeling

5.1. Bank probability default modeling

5.2. Probability of default modeling innovations in emerging markets

5.3. Probability of default modeling for corporates

5.4. Peculiarities of investment projects’ probability of default modeling

5.5. Models of default for emerging market mortgages

5.6. Loss given default estimations in emerging markets

Chapter 6. Modeling and estimation of other main risks in emerging market

6.1. Market risk estimations

6.2. Liquidity risk in emerging markets

6.3. Peculiarities of operational risk estimation. Regulation and data bases formation

6.4. Estimation of integrated risk: Russian case

Part IV. Systemic risks modeling and stress testing

Chapter 7. Systemic risks in emerging markets

7.1. Main points of systemic risk definition
7.2. Comparison of systemic risk estimation approaches in emerging markets

7.3. Mathematical view on systemic risks problems

Chapter 8. Stress testing in emerging markets

8.1. Stress testing of assets quality
8.2. Stress testing of a banking system and separate banks
8.3. Contagion of a banking system and it estimation in emerging countries: Russian experience

Part V. Peculiarities of risk management and mathematical methods of modeling for emerging markets

Chapter 9. Methodological innovation in emerging markets risk estimation
Chapter 10. Comparison of mathematical methods and their peculiarities
Chapter 11. Indexes and ratings for business units risk estimation

Comments:

Part I will be written as a new one but will use the material from the book “Strategy of Russian economy developing” (Sankt-Petersburg, 2010, in Russian, ch. 7) as well as the material from (Karminsky, Kostrov, 2017) and (Karminsky, 2010). Basel regulations will be collected from author’s lections and “Handbook of ratings” by Karminsky&Polozov (Springer, 2016).

Part II will be mostly based on authors’ publications and books on this topic, such as Karminsky, Polozov (2016) as well as the book Karminsky “Credit ratings and their modeling” (in Russian, HSE, 2015). Also during the last 5 years nearly 30 papers on this topic were published. They will be used during preparation of part II.

In Part III the book by Karminsky “Credit ratings and their modeling”, (in Russian, HSE, 2015) as well as connected papers of our team and cooperated authors will be mostly used.

Part IV will be written as a new material but will use some new papers, which were published at 2014-2016 or are prepared for publication by the members of author’s team.

Part V will mainly systemize results and models, which were published in Russia during the last 5 years and stimulated by Bank of Russia and Russian Bank Association as well as risk management associations.

Market and Competition: We think that the proposed book will be useful for theoretical, educational and practical aims and will be called for all of these categories of readers. We think that it will be more demanded in electronic format. Moreover, it may be useful for readers to have a possibility to download different chapters of the book separately, because each of them has its own separate potential audience.

Manuscript length: 300-400 pages.

Delivery date: March- June 2018 (details may be discussed).

Peer Review: May be propped after decision on publication of the book.

Author Information: Will be added after the decision on publication of the book. See also “Draft list of authors and their affiliations”.