

Summary

MacroFinance II: A Model of Bubbles and Crises

Smirnov A.D.

Proposed a model of financial bubbles and crises based upon the methodology of complex systems analysis. It was shown how the procedures (slice and dice) of a CDO synthesis generated the excess growth of the securitized assets value. The latter being coupled with the high leverage might produce the total collapse of a financial system. On a macrolevel of a system its behaviour was modeled by a differential equation depending on three parameters. The irrationality of financial investors, as it was well known, had been empirically explained by «the greater fool theory». This process, in modern terms, was represented as the autocatalytic process leading to a system's singularity. Such an outcome was explained on the system's microlevel as a process of financial percolation which was modeled, quite surprisingly, by the same equation of a Bernoulli type. Invariant constants of percolation were used to estimate different parameters of a model. The model application to the study of 2007–2010 credit crunch has given rise to the impressively coherent results in terms of probabilities and the return time periods of critical events that took place on the global financial markets.

Key words: financial bubble; crisis; percolation; singularity; complex system.

Structurally-dynamic Price and Quantity Indices for Aggregate Periods and Mean Prices for Homogeneous Periods

Ershov E.B.

We consider the problem of determining indices for periods with non-constant prices. The structurally-dynamic quantity indices and price indices-deflators of value flows are induced for aggregated periods consisting of the sequences elementary and homogeneous ones (which can not be represented as a series of others with less duration). These indices depend on changes in the quantities and average prices of products in these sequences. So they are distinguished from the traditional static indices, defined only by amounts of values and quantities of products in the aggregate periods. The definition of indices, consistent in reference to aggregation of products, which is natural for practical uses, is suggested. Recommended chained Divisia – Montgomery price indices possess such a property. We also consider an alternative definitions of homogeneity of period with non-constant prices and the corresponding

methods of calculating average product prices on the base of available statistical data. The definition based on the properties of Divisia – Montgomery indices is preferred.

Key words: price and quantity indices; Divisia indices; Montgomery indices; elementary and homogeneous period; aggregate period; mean price; consistency in aggregation; consistency in reference to aggregation.

Return to Higher Education in Russian Regions

Oshchepkov A.Y.

Estimating mincer-type wage equations on the micro-data of Occupational Wages Survey, 2007 we first receive estimates for returns to higher education for all regions-subjects of Russian Federation. Our results show that interregional differences in returns are very large in Russia. Returns to higher education received from the estimation of basic mincerian equation lie in the range from 32 to 140% (from the average wage of workers with secondary education), and the country level of return equals to 65%. Variation in estimates based on an augmented wage equation (which additionally includes industries and ownership) is much lower, but it still remains quite substantial: estimates differ from about 60 to 150%, and the country level of return equals to 90%. In this regard, the standard approach producing one estimate of return to education for the whole country seems to be a serious simplification, and an answer to the question what is the level of return to education in Russia is no more trivial.

Key words: return to education; regions; Russia.

Is it So Bad that We Cannot Recognize Black Swans?

Aleskerov F.T., Egorova L.G.

Analyzing the reasons of financial crises in the book «The Black Swan» N.N. Taleb concludes that modern economic models badly describe reality for they are not able to forecast such crises in advance.

We tried to present processes on stock exchange as two random processes one of which happens rather often (regular regime) and the other one – rather rare. Our answer is that if regular processes are correctly recognized with the probability a bit higher than 1/2, this allows to get positive average gain. We believe that this very phenomenon lies in the basis of unwillingness of people to expect crises permanently and to try recognizing them.

Key words: financial crises; stock exchange; Poisson processes.

**Modeling of Intergroup Price Index for Food and Nutrition,
in Relation to Microeconomic Characteristics of Households**

Matytsin M.S.

The paper focuses on the issue of price endogeneity and its relation to various micro-economic characteristics of households. The modeling of intergroup dynamics of the price index for food and nutrition among household groups in relation to the amount of expenditure on food per person confirms the relevant hypothesis. This modeling requires the access to the information in the household surveys data, available only in the RLMS. The mechanism of data consolidation of RLMS and Households' budgets survey by Rosstat (VOBDH) is proposed and can also be used for price heterogeneity incorporation.

Key words: households; consumption; price endogeneity; intergroup price indices; household surveys.