THE ANALYSIS OF THE MUTUAL INFLUENCE OF ECONOMIC SUBJECTS USING RISK MEASURE COVAR ON THE EXAMPLE OF SOME RUSSIAN COMPANIES

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Abstract

Insufficient identification of the links between economic institutions (branches, sectors, companies, etc.) and their mutual influence leads to the danger of systemic risk. In connection with this phenomenon, early detection, prediction and prevention of the factors contributing to the emergence and development of systemic risk currently present the principal scientific and practical task. The paper describes *CoVaR*, a qualitatively new measure of risks, and provides options for its application using the example of three Russian companies. *CoVaR* value and its derived values are extremely promising from the point of view of financial risk-management especially considering detection of potential danger for the system and institutes inside it under systemic risks. Furthermore, *CoVaR* is directional, that is why *CoVaR* of the system conditional on institution does not equal the *CoVaR* of institution conditional on the system. Estimation of described value is a nontrivial task and it can be handled with the help of a great variety of methods, particularly using the method of quantile regressions which had been chosen for the empirical part of the study. While ordinary least squares (frequently used in Russian studies) are focused on getting estimators approximating conditional mean value of the variable in the case of the defined incoming values, the quantile regression is directed to get estimation either for 50% or for any other quantiles. One more profit of this method is connected with the fact, that it is more stable in case of getting the outlying values among incoming datum. As a result we managed to get the statistics of the mutual influence of two pairs of companies – "Gazprom" and "Sberbank"; "Sberbank" and "PIKK Company group". Its analysis proves the applicability of *CoVaR* in Russian market conditions and showes the adequacy of the obtained values to the real state of institution economy.

Keywords: systemic risks, risk measures, Value-at-Risk, quantile regressions, finance risk

JEL: G01, G10, G18, G20, G28, G32, G38

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