

ПРОБЛЕМЫ И ПЕРСПЕКТИВЫ РАЗВИТИЯ СОТРУДНИЧЕСТВА МЕЖДУ СТРАНАМИ ЮГО-ВОСТОЧНОЙ ЕВРОПЫ В РАМКАХ ЧЕРНОМОРСКОГО ЭКОНОМИЧЕСКОГО СОТРУДНИЧЕСТВА И ГУАМ

В-четвертых, беспрецедентный научно-технический прогресс в последние десятилетия в области транспорта, вычислительной техники и телекоммуникаций, в особенности развитие Интернета и электронной торговли, позволяют предприятиям, с одной стороны, использовать все более удаленные ресурсы, а с другой — поставлять свою продукцию на все более обширные рынки сбыта. И то и другое способствует ускоренному развитию международного разделения труда и опосредующих его торговых и кредитно-расчетных связей.

Наконец, нельзя не учитывать заметно усилившуюся с середины 80-х гг. либерализацию внешнеэкономических связей и снижение барьеров на пути международного перемещения товаров и услуг.

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РЕЗЮМЕ

В статье рассмотрены проблемы, проявившиеся в мировой торговле в условиях мирового финансового кризиса.

Ключевые слова: мировой кризис, мировая торговля, внешнеторговая деятельность

РЕЗЮМЕ

У статті розглянуті проблеми, що виявилися у світовій торгівлі в умовах світового фінансового кризи.

Ключові слова: світова криза, світова торгівля, зовнішньоторговельна діяльність

SUMMARY

In article the problems shown in world trade in the conditions of world financial of crisis are considered.

Keywords: world crisis, world trade, the foreign trade activity

MATHEMATICAL METHODS MANAGEMENT AND AN ESTIMATION OF RISK OF THE BORROWER IN COMMERCIAL BANKS

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Bank sector is in direct dependence with economic activity in actual sector and its well-being is the basis for financial stability of the country. Rapid increase of financial sector may include important risks if not based on the growing of corporate sector.

On the basis of the mentioned Regulations there should be created and developed external (we mean on the National Bank's level) and internal (on the commercial banks' level) system of bank risks' control and assessment. This mechanism will support to representatives from the both level of bank system to identify risks types and scales as well as to determine how any certain risk will justify an meet the expected incomes, what will be basis for elaboration and development of potential reasonable measures to decrease the risk factor influence level.

Federal Reserve System of the USA provides with six major risks for banks: 1) credit; 2) liquidity; 3) market; 4) operational; 5) image/reputation; 6) legislative. (3)

Method of discrimination analysis is quite popular among the frequentative statistic methods of insolvency and liquidity prognosis of commercial banks. Application of the mentioned method enables to find answers to certain questions considering the expected potential risks:

- What are the important factors/ratios for assessment of banks financial conditions?
- What is the relativity of application of new factors/ratios?
- What is the method to reveal these factors/ratios as well as to expose the connections between them?

Of course it is essential to apply the methods providing with introduction of existing logic links and their actual meanings among selected indicators as a basis for evaluation and assessment of financial condition of the company. Evaluation of financial stability as well as financial analysis of any entity should be carried out on the basis of summarising of logic links existing among the selected indicators and normative and actual meanings, determined by the expert (experts).

Creditor is interested in the enterprise solvency in the present moment and during the period of credit use. The founders are mainly interested in receiving a steady rising profit. The stockholders' interests are again and again making a profit, and thus, obviously, foreseeing the moment of opportune realization inexorableness in order to avoid the probable loss.

Now, various methods are used in order to make financial analysis of enterprise on the basis of coefficient method, among of which might be marked following ones: DuPont's method, Altman's model, Olson's model, statistic methods known as "Scoring" methods, many-factorial modeling methods. Since '80s of XX century is used logistical regression methods.

Fulmer's and Spring it's methods of estimation of enterprise solvency are also interesting. Practical use of these models gave us the high result in case of small and medium enterprise. In every model used findings are taken from documents of official financial accountings.

In every above-mentioned model the important fact is to fix the data of the variable coefficients. The calculation of their meaning is executed through the statistic figures. There are no statistic findings about bankrupt of enterprises in countries which, like Georgia, are under the transitional period to market economy. Because of this fact, to use the models without change does not give us the desired result. Besides, Altman's and others models are mainly foreseen for industrial enterprise. And, to use them for financial analyses of Georgian enterprises is absolutely unjustified and unacceptable. Unsurprisingly, at the top of the agenda is the issue of using such methods that will give us opportunity to choose as the basis logical connections and their actual data among the selected showings for evaluation of financial state of enterprise.

Also, from mathematical models used in technology and other economic branches chose such mathematical model, the use of which, during evaluation of enterprise financial stability without statistical data, will give opportunity to do following things:

1. To be confirmed the hypotheses about structure of integrated showings and meanings of enterprise financial state evaluation on the base of modeling, so to be chosen and confirmed the evaluation opportunity of enterprise financial state by selected economic showings.
2. To be calculated the probability of every showing and total showings considering the enterprise possible financial states and existing logical connections between selected economic showings. To be calculated the portion of every showing and total showings in the enterprise financial condition.
3. To implement the modeling of portion influence of every showing and total showings on the enterprise expected financial state. To be shown the strategies of enterprise financial development on the base of modeling. To be predetermined the risk of enterprise financial instability and to be worked out the ways of their avoidance.
4. To be evaluated the trustworthiness of economic showings and to be modeling enterprise financial stability considering their stable/instable probabilities.
5. To be chosen the optimal version of enterprise financial development on the base of modeling and use it to conduct enterprise financial monitor.
6. To be evaluated the enterprise financial stability on the base of factual data and accomplish the prognosis.

This requirement is especially urgent for the developing and post-soviet union countries (such as Georgia), which have transited from social formation to capitalistic manufacturing. There aren't any long-standing statistics about the enterprise bankrupt.

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While exploring the financial state of the enterprise, it is important to learn about the share of single selected showings in the system condition. Namely, what will be the financial stability of enterprise at that time when $\forall X_i, i = \overline{1, n}$ meaning, calculated in distinct probability, of economic showings or their combination will be equal to permitted meaning or vice versa.

In this case it is interesting to study the situation when the probabilities of the $\forall X_i$ financial state instabilities are different, and show the extent of their influence on the system stability. So, to get the answer on the question, how will the probabilities of steadiness of each financial showing influence on the financial state of whole enterprise (increase or decrease system stability)? In real conditions this exact situation takes place and not the admitted one, far from abstract reality – as if the every aspect of enterprise financial state was the stable or instable in the same probability. It is urgent to respond this topic.

Develop risks management structure and risks management systems characterizing for banks in consideration with different structures and conditions of markets, bank operations scales and complexity; it gives opportunity: to analyse mathematical methods and algorithms applied in evaluation and assessment of bank financial stability, considering expected risks; to emphasize positive sides of the mentioned as well as to reveal difficulties of their practical exercising; among mathematics models distributed in other spheres of economic to select the model, application of which during assessment of financial stability of the companies will provide us with the following:

1. On the basis of simulation (SIM) to inspect the hypothesis concerning the structure and content of integrated indicator of assessment of financial conditions of the companies, i.e. to select and prove assessment possibility of financial condition of the company on the basis of selected economic index/indicator;
2. To calculate probability of reliability/unreliability of each indicator and the joint indicators in consideration with probable financial condition of the company and logic links existing among the selected economic indicators;
3. To calculate share portion for each indicator and joint indicators in assessment of financial condition of the company;
4. To implement simulation (SIM) of share portion influence for each indicator and joint indicators on expected financial condition of the company;
5. To determine policy of financial condition of the company in future on the basis of simulation (SIM);
6. To calculate and establish risk of expected financial instability of the company and consequently to elaborate the relevant losses prevention measures;
7. To simulate the financial stability of the company in consideration with economic indicators meanings probability;
8. To select optimal option for financial development of the company on the basis of simulation and to apply this option for the purposes of financial monitoring;
9. To assess financial stability of the company on the basis of actual data and to make relevant forecast.

In general economic processes bear probability nature; that is why links existing among them may be described with certain logic functions. It was confirmed, that it was advisable to use such mathematical method among the existed or collaborated methods for evaluating the enterprise financial state, which give us opportunity to take the existing logical connections between the showings. In our opinion of the most optimum mathematical model of an estimation and management of risk of the borrower is above mentioned logical - probability model.(1)

On the basis of the logical-probable model of evaluating the enterprise financial state, which is worked out by considering the peculiarities of Georgian enterprises, the following conclusions are made (2):

- It is possible to verify the hypothesis about structure and meaning of integrated showing of evaluating the enterprise financial state, so to be substantiating the possibility of evaluating the enterprise financial state by selected economic showings.
- It is possible to calculate the stable/instable probability of each showing and total showings considering the possible financial state of enterprise and logical connections existing between selected economic showings.
- It is possible to calculate the share of each showing and total showings in the enterprise financial state.
- It is possible to implement the modeling of share influence of each showing and total showings on the expecting financial state of enterprise.
- It is possible to show the strategies of enterprise financial development.
- It is possible to calculate probability of steadiness for meanings of economic showings and to determine the enterprise financial stability by considering them.
- It is possible to calculate the risk of enterprise financial instability and work out the ways to avoid it.
- It is possible to select the optimal version of enterprise financial development and to use this version for conducting enterprise financial monitoring.

On the basis of factual data, it is possible to calculate the enterprise financial state and to implement the prognosis by logical-probable model of evaluating the enterprise financial state. It was worked out the program packets, which gives result us opportunity to be resolved the modeling tasks of evaluating the enterprise financial state by logical-probable method, forecast, and financial state modeling by scenarios method.

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РЕЗЮМЕ

У цілому економічні процеси несуть імовірнісний характер, тому зв'язки, що існують між ними можуть бути описана за допомогою певних логічних функцій. Було підтверджено, що доцільно використовувати такий метод серед існуючих методів оцінки фінансового стану підприємства, який дасть можливість прийняти існуючі логічні зв'язки між показниками. На нашу думку, найбільш оптимальною математичною моделлю для оцінки та управління ризиками відносно позичальника є вищезгадані логіко-імовірнісні моделі.

Ключові слова: економічні процеси, логічні функції, математичної метод, логіко-імовірнісні моделі

РЕЗЮМЕ

В целом экономические процессы несут вероятностный характер, поэтому связи, существующие между ними могут быть описана с помощью определенных логических функций. Было подтверждено, что целесообразно использовать такой математической метод среди существующих методов оценки финансового состояния предприятия, который даст возможность принять существующие логические связи между показателями. По нашему мнению, наиболее оптимальной математической моделью для оценки и управления рисками в отношении заемщика являются вышеупомянутые логико-вероятностные модели.

Ключевые слова: экономические процессы, логические функции, математической метод, логико-вероятностные модели

SUMMARY

In general economic processes bear probability nature; that is why links existing among them may be described with certain logic functions. It was confirmed, that it was advisable to use such mathematical method among the existed or collaborated methods for evaluating the enterprise financial state, which give us opportunity to take the existing logical connections between the showings. In our opinion of the most optimum mathematical model of an estimation and management of risk of the borrower is above mentioned logical - probability model.

Keywords: economic processes, logical functions, mathematical method, logical-probabilistic models