KRALICEK QUICK TEST – AN ANALYSIS TOOL FOR ECONOMIC UNITS DETERMINATION IN LIABILITY DIFFICULTY

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Abstract

Reports are very necessary profitable tools in financial analysis that help financial analysts in the submission of the plans to improve profitability, liability, financial structure, reorganization, financial levers and interest coverage. Even though reports indicate more than last performances, they might be very predictable to ensure important indicators in the analysis of problems. Their intention is to feed economic units with valuable information in the general leading. Practical value of the reports lies upon the fact that two data, which are isolated from each other but each preserves its internal value, might gain a specific interest when being studied not in an isolated way but in the way of a comparison or relation. In this article, we have tried to highlight the role of analysis through financial reports in the prediction of paying difficulties. A very important tool in this direction is the Kralicek Quick Test. The reached consideration demonstrates weak sides of economic units and helps to reach the conclusion that which of the indicator groups can affect negatively in the general level of paying ability.
By using Kralicek Quick Test, it becomes possible to determine the indication of two factor groups such as financial stability and efficiency with the meaning of consideration of financial state.

Keywords: Cumulative indicators, Du Pont analysis, Kralicek Quick Test, paying difficulty, ROE

Introduction

The submission of horizontal analysis in comparative financial books that cover a long period of time for the observation of changes in economic data, becomes more difficult with time. This happens because the percentage estimation of the change of an economic element, from year to year, each time requires a change of estimation basis in time, as a

consequence, the yearly percentage comparison of the changes in reality becomes more difficult.

Things become much more difficult when we compare yearly changes in percentage of two or more economic data. In such cases, another analysis tool is used, the reports.

The analysis of reports is used mainly to compare financial figures of the company during a period of time, a method sometimes known as trend analysis.Through trend analysis, we can identify the trend, pros and cons and match our bussines practices in relation with circumstances.We can also see how our reports are measured with other bussineses, both in and out the branch.

In this way, reports are a measuring tool to judge the increase, development and present state of a concern.Each report also indicates the financial state and helps to make some decisions of leading for the coming period in an effective and efficient way.

Methodology and Data

The purpose of this paper is to describe in detail the factors that cause difficulty paying using Kralicek Quick Test. Through a statistical analysis, companies and their financial position under survey will be highlighted. To enable the evaluation of all the economic and financial indicators of a company, we are reposed in the data bases we have gathered in 44 companies, during three years, 2010, 2011, 2012. The statistical analysis we are spreading over in the three years for which we have reached to gather data and build the respective database for the 44 studied companies. This analysis will be done specifically for each year , to reach later in a general conclusion related to the hypotheses put forward by us and their verity.

Indicator analysis through reports.

If we could give the definition of reports, we would state: reports are simple mathematical phrases of a relation of balance size or of income and costs books, with another size ,which can be called as multiple , as a reason or at least as a percentage.

Analysis of financial books through reports is one of the most common methods, because it enables a quick idea for financial state of an economic unit to be created. There are some categories of reports. The most common division of reports is done in compliance with financial analysis branches: profitability reports, actives usage reports, debt deal reports, liability reports and reports of the commerce consideration.

Cumulative indicator's analysis

Financial state of economic unit has been analysed through a considerable number of reports and subtractive indicators. A disadvantage of this method is that diffferent indicators have restricted informative data, because they can only characterize the given activity of economic unit. In the consideration of the above mentioned disadvantage, cumulative indicators have been used for the appreciation of general economic state. From one side, increasing number of indicators in a model ensures the most detailed represenation of the financial situation of the economic unit. From the other side, increasing number of indicators can cause problems when its position is analysed and valued.

The intention of cumulative indicators is to indicate general characterisics of financial and economic health of economic unit through a single number, however, their reporting ability is lower. Indicators are suitable to be used for quick and global comparison of economic units and they can serve as basis for further valuation as well. In our study, there have been taken into consideration 44 economic units, medium and small, for a 3-year period, which constitute the sample.The indicators extracted from the financial situation of this sample will serve to verify the figures of raised hypotheses at the beggining of this work.

The study on time of ROE evolution, in the period 2010-2012, based on statistic measurements that are extracted for entire economic units each year, refers in depth to the search of net profit margin change, the speed of actives circulation and actives report with its capitals, which do change in considerable way.

Year 2010

	NP/CGS	**CGS/S**	**AT**	**A/E**	**ROA**	**NPM**	**ROE**
Min	1,31%	68,95%	0,17	1.01	0,46%	1,23%	1,19%
(25%)	3,18%	90.25%	0,62	2,29	3,54%	3,07%	10,79%
Mediana 50%	5.07 %	93,63%	1,14	3,94	5,26%	4,81%	27,56%
75%	**7,34%**	95,76%	1,9	6,89	8,12%	6,71%	**37,62%**
Max	73.28%	105,91%	4,42	21,76	33,04%	50,53%	79,51%
Mean	7,63%	91,67%	1,50	5,13	7,79%	6,46%	30,51%

Year 2011

	NP/CGS	**CGS/S**	**AT**	**A/E**	**ROA**	**NPM**	**ROE**
Min	-15,58%	42,9%	0,21	1.01	-7,58%	-17,14%	-53,34%
(25%)	3,18%	91,92%	0.61	1.7	3,63%	3,04%	11,32%
Mediana 50%	5,07%	94,29%	1,2	4,23	6,12%	4,81%	25,65%
75%	**7,86%**	95,70%	1,6	6,89	11,23%	7,16%	**37,63%**
Max	118%	110.04%	5,67	11,8	30,23%	50,63%	93,52%
Mean	9,72%	91,28%	1,57	4,78	7,87%	6,94%	28,1%

Year 2012

	NP/CGS	**CGS/S**	**AT**	**A/E**	**ROA**	**NPM**	**ROE**
Min	-18,7%	70,8%	0,14	1,00	-21,5%	-23,83%	-47%
(25%)	3,04%	89,94%	0,48	1,82	1,71%	2,94%	6,44%
Mediana 50%	5,27%	92,99%	0,99	3.59	4,57%	4,92%	22,14%
75%	**8,30%**	96,1%	1,93	5,68	8,88%	7,37%	**36,8%**
Max	44,1%	127,4%	3,7	12,1	21,8%	31,2%	78,2%
Mean	6,51%	92,15%	1,27	4,26	6,05%	5,5%	23,7%

Tab.1. Return on equity in the selected sample, 2010-2012.

NP- net profit, CGS - cost of goods sold, S- sales, AT- asset turnover (sales/ total assets), A/E – assets/equity, NPM – Net profit margin,(NP/S), ROA- return on assets, ROE – return on equity.

During the period under study, based on statistical measurements pulled out, for the integral of companies every year, the indicator value of the assets turnover, in relation to the value of net profit margin, is also expressed with the ROA value. This indicator allows us to compare the efficiency of the company with the efficiency of other companies in the same level of risk.

Correlation between ROE and the net profit margin, for the 2010 sample (0,36), as well as for the year 2011 (0,33) and 2012 (0,47) is positive and statistically important datum that expresses participation of net profit margin in configuration of ROE.

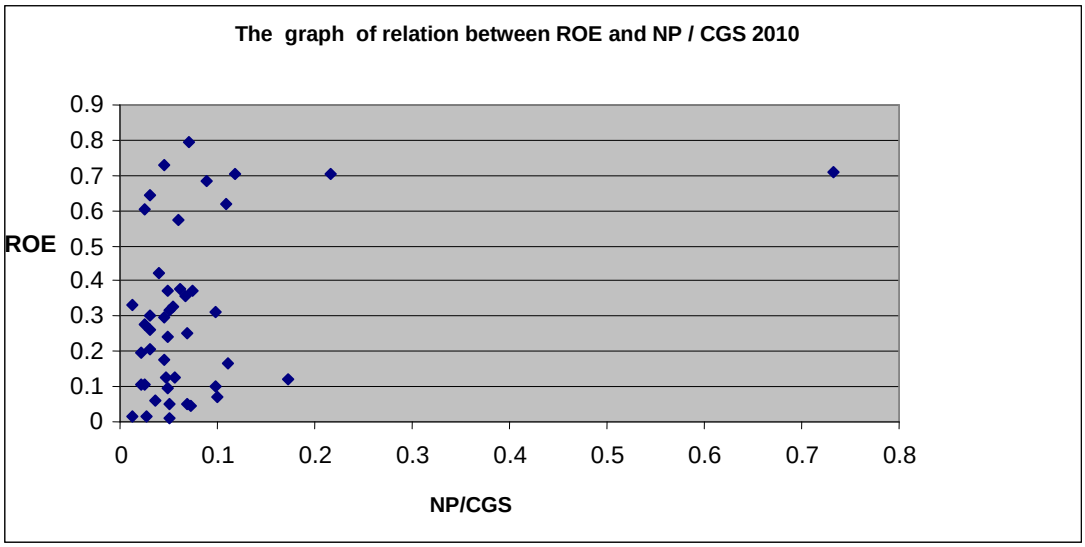
Correlation between CGS/S and the net profit margin, for selected economic units of 2010, (0,03) as well for those of 2011, (-0,88) and 2012, (-0,87) is negative, and therefore without influence in ROE.

The participation of the asset turnover in the configuration of ROE is positive, a little lower in relation with the net profit margin, but statistically important for correlation coefficients (0,28) for 2010, (0,33) for 2011 and (0,37) for 2012.

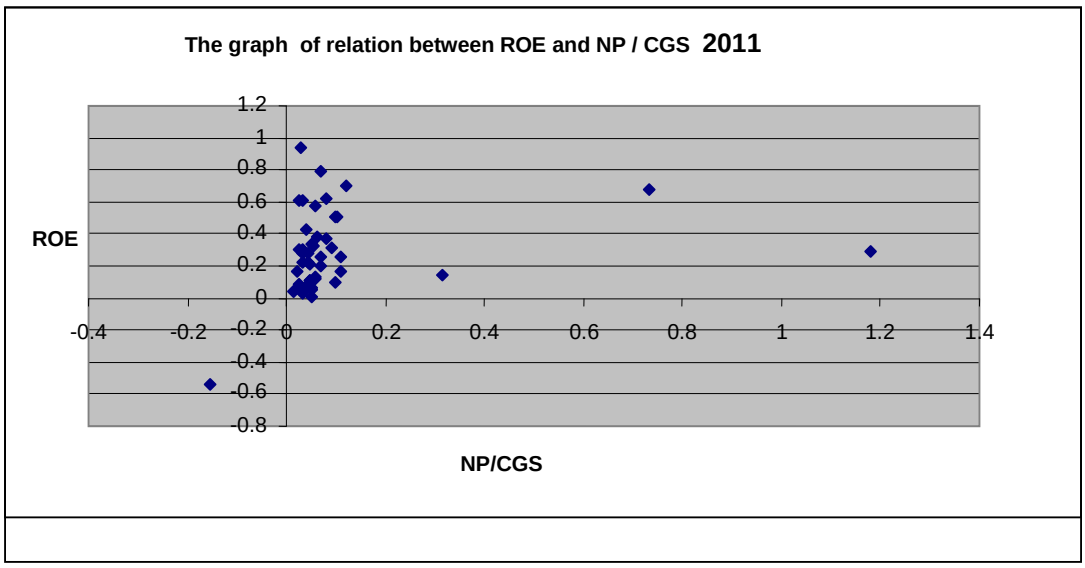
Correlation between A/E report and ROE for economic units of 2010 (0,48) as well as for those of 2011 (0,34) and those of 2012 (0,45) is a positive fact that indicates the participation of A/E in creating the net profit margin. If ROE increases as result of the increase of the net profit margin or of assets turnover, this is very positive for economic unit. If ROE increases as result of the value of A/E report increase, this complicates the problem.

Correlation between cost effectiveness and ROE for economic units of year 2010, 2011 and 2012, is represented correspondingly through graphs 1, 2 and 3.Values, on the basis of which are compared economic unit's results, are the values that are represented in the third quadrant for cost effectiveness and ROE , correspondingly, **7.34%** and **37.62%** for year 2010, **7.86%** and **37.63%** for year 2011, and **8.3%** and **36.8%** for year 2012.

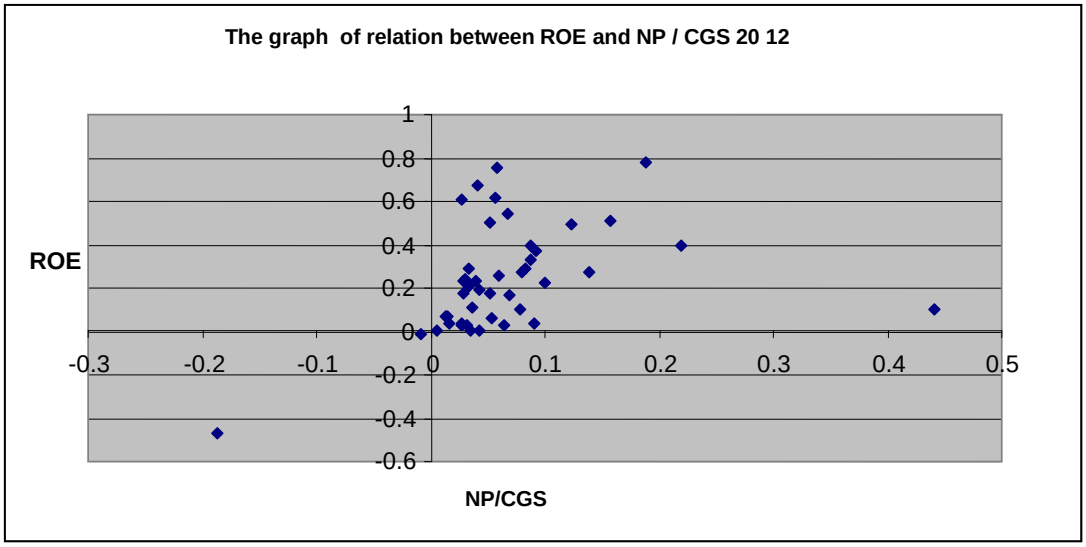
Economic units with high values of cost effectiveness and ROE hold the up right part of graph and represent those units which can be considered as good examples of economic units selected as samples. Economic units that represent low values, both for cost effectiveness and ROE, are placed in the down left part of graph. These economic units will have to improve the cost effectiveness and ROE. Economic units in the up left part of graph display shortage as far as cost effectiveness is concerned, whereas those placed down right the graph, display shortage as far as ROE is concerned.



Graph. 1. Cost effectiveness and net profit margin in 2010



Graph. 2. Cost effectiveness and net profit margin in 2011



Graph. 3. Cost effectiveness and net profit margin in 2012

As it can be seen from the graphs, year 2010 has been the most successful for all economic units of the sample, whereas for two other years this situation changes to some degree. In these two years, a part of sample economic units under survey do not have satisfactory results of these two indicators, cost effectiveness and ROE.

Kralicek Quick Test

One of main cases of a business running, has to do with economic units awareness about their financial situation. In order to survive and be successful in trade, each economic unit must be able to consider immediately the bankruptcy risk. It is known that good results of analysis have been achieved by using multifactorial models of financial state valuation, which in a certain level of probability can predict the bankruptcy of economic units. Necessity of fast valuation system of paying disability has been perceived especially during the crisis of 20s and 30s of the XXth century. Increasing requests to better organize the management of financial risk in bank section, also stimulated activities in improving the methods of paying disability valuation and loan takers bankruptcy. This factor , from its side, stimulates the interest of economic units in the consideration of financial risk.

An important tool for the determination of financial situation of an economic unit, is the Kralicek Quick Test. To reach a conclusion related to financial state of an economic unit using Kralicek Quick Test, it is necessary to have available some indicators taken from the balance and the statements of income and costs. Studies verify that Cash Flow can be expressed in two

ways and depending on estimation way , the revealed value of indicator might fluctuate.

Different economic studies have proved that many scholars have done researches concerning the bankruptcy prediction, using financial reports in different combinations and the development of a linear function, to determine the possibility of bankruptcy. Recent studies, (Genriha&Voronova, 2011) made possible to reach the conclusion that valuation methods of paying disability can be divided into two groups: classic parametric method and no-parametric method. In their study, Balcaen & Ooghe, 2006, distinguish four general types of classic statistic methods that are submitted in the prediction of corporation's failure, (a) one-variabled analysis, (b) discriminative multy-variabled analysis, (c) restricted probability and (d) risk index models in the prediction of corporations failure. One of the first models of risk index was presented by Tamar (1966) and later on was expanded by Moisi and Liao (1987).

Kralicek Quick Test , (Kralicek, 1993) has been developed in 90s. This method offers *quick and correct valuation of paying disability.* Valuation is based on the estimation of four factors (two indicators of financial stability and two indicators of efficiency). Depending on the value of estimated indicator, there is given a certain number of points. Received points, give the valuation of paying disability from 4 (well) to 0 (bankruptcy). The reached consideration, exhibits the weak sides of economic unit and allows to end up in the conclusion that which of the indicator groups can affect negatively in the general level of paying ability.

By using Kralicek Quick Test, makes it possible to determine the two groups of indicator's influence, such as financial stability and efficiency, meaning the consideration of financial situation.

Cash Flow is a dynamic information in relation with income and outcome of currency for a period of time. The whole literature related to the information importance of Cash Flow in the preparation of prediction about bankruptcy, indicates that gathered data is unsafe and contradictory. In order not to avoid the key information about Cash Flow prediction, it is necessary to concentrate on the determining technique, considering the data available and their dynamism. When being compared with the other models, Kralicek Quick Test seems much tolerant, as here there have been used data for Cash Flow before the reduction of taxes. The negative indicator of the capital is one of the signs that can demonstrate the disability of an economic unit to complete its financial liabilities, holding the risk threat of bankruptcy.

Thus, according to Kralicek Quick Test:

- R1= $\frac{Equity}{Total\ assets}$

- R2= $\frac{Liabilities-Cash}{Cash\ Flow}$

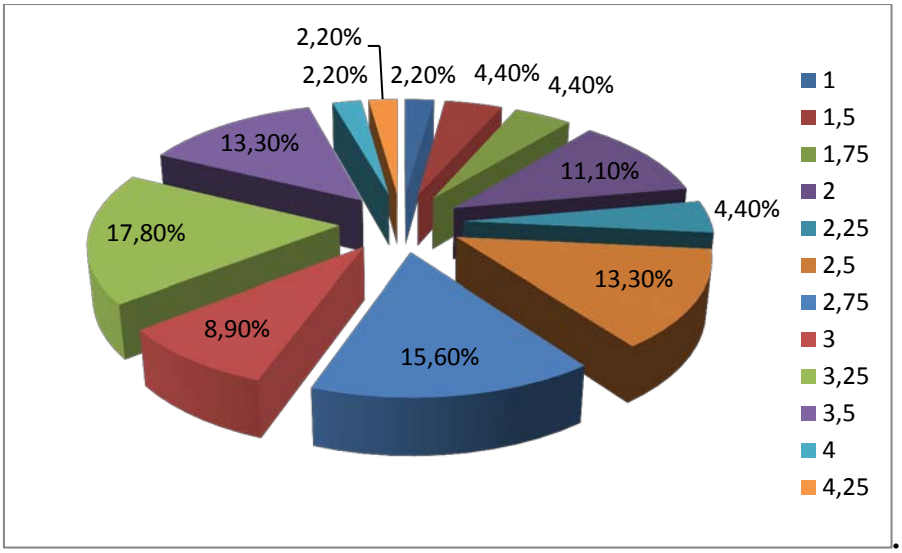
- R3= $\frac{Cash\ Flow}{Sales}$

- R4= $\frac{EBIT}{Total\ assets}$

Indicators	1 excellent	2 very well	3 well	4 poor	5 dangerous
R1 ***Equity / Total Assets***	⩾ 30%	⩾ 20%	>10%	⩾ 0%	Negative
R2 ***Debt Settlement Period from Cash Flow***	< 3 years	< 5 years	< 12 years	< 30 years	> 30 years
Financial Stability	*Arithmetic mean of total assets and Debt Settlement Period from Cash Flow*				
R3 Operating Cash Flow / Sales	> 10 %	> 8 %	> 5 %	> 0 %	negative
R4 EBIT/ Total Assets	> 15 %	> 12 %	> 8 %	> 0 %	negative
Profit Situation	*Arithmetic mean of Operating Cash Flow and ROA*				
Total Grading	**Arithmetic mean of all four indicators**				

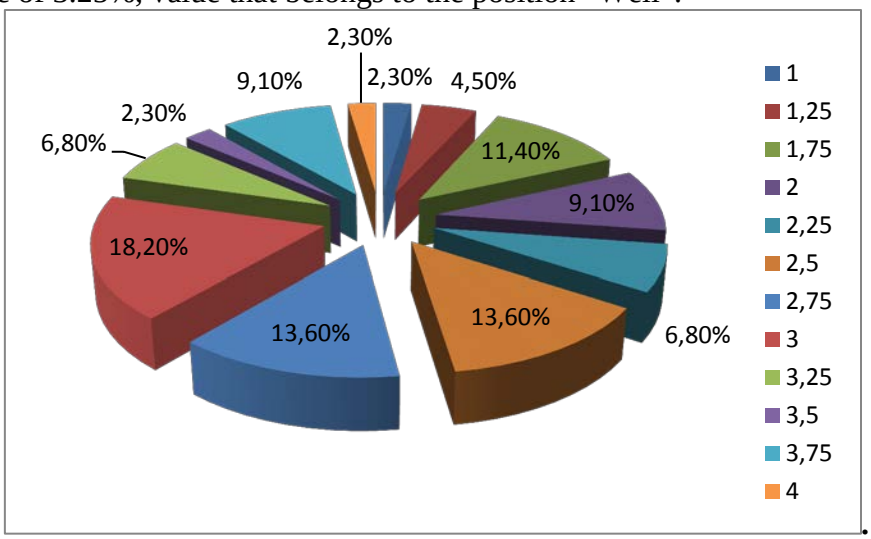
Tab.2. Kralicek's Quick Test Estimates

Paying ability of the economic unit is measured considering that the result of each report is classified in relevance with valuation degree. The final valuation is an average of all gained values from each special report. From the conducted analyses for 44 economic units that we have taken as samples , in years 2010-2012 , we have managed to specify in which financial position , as far as liability difficulty is concerned, these units are being and what we can generally state about this situation.

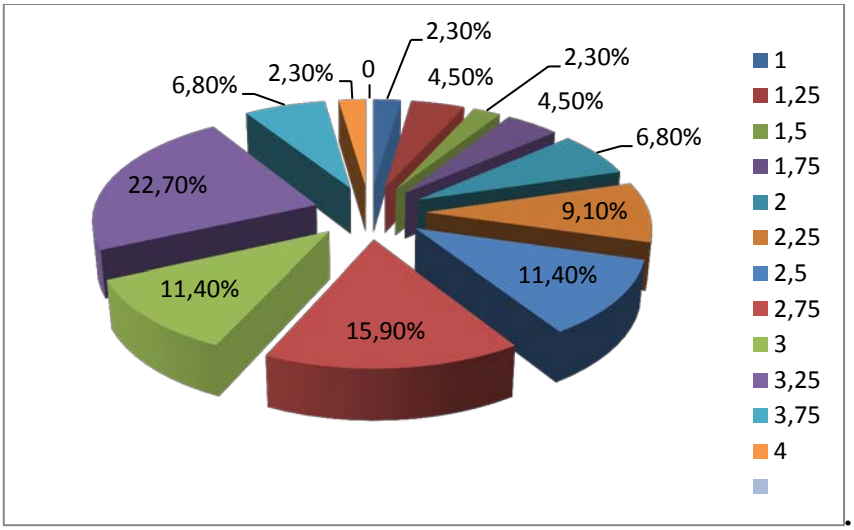


Graph.4 . Kralicek's Quick Test in 2010

As it is clearly seen from the graphic that represents the results of Kralicek Quick Test for year 2010, it is very small (only 2.2%) the number of economic units, which according to this test, would be considered in the position "Excellent". The same thing we can say about the other extreme , so it is also 2.2% the number of economic units which belong to position "Poor". The dominating part of economic units this year are found in the value of 3.25%, value that belongs to the position "Well".



Graph.5 . Kralicek's Quick Test in 2011



Graph.6 . Kralicek's Quick Test in 2012

The situation improves considerably in year 2011, in which the dominating part, 18.2% holds the average 3. In this year, a considerable part holds also the economic units that are found in the zone with average 2.75 and 2.5. This demonstrates an improvement of the situation from one year to another.

However, year 2012 marks again the increase of average value of Kralicek Quick Test, (22.7% belongs to average 3.25%). The increase of the percentage of this part shows a relative complication of the liability situation, as it is clear that the higher the Kralicek Quick Test increases, the lower the ability of paying liability is.

Conclusion

In the conditions of an economic unit and in conditions of a competition existence, it is very important to have the bankruptcy determined some years before it happens in reality. For this reason, continuously, the search of different models of bankruptcy prediction has been in the center of attention to different scholars and analysts. Financial position of an economic unit is determined on the data basis stated in its financial statements, through which we can determine liability, profitability, its paying ability etc. Based on Kralicek Quick Test, financial position of an economic unit can be considered excellent, very well, well, poor and dangerous.

With all achievements in this direction, in the future it should be aimed at finding those models which better and quicker predict the rise and causes of crisis .It is clear evidence that not all estimated indicators have the

same importance. For this reason, it is important to determine the weight of each indicator for the crisis prediction.

Determination on time about financial position risk of an economic unit, through different methods and models, must be object of financial analysts work.

A situation, however dangerous it is, if it is predicted on time, it can be faced successfully.

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