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DETERMINING SOLVENCY AND LIQUIDITY GROUPS OF SERBIAN BUSINESS ENTITIES

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Abstract:

In this paper, special emphasis is placed on defining solvency and liquidity groups of the sampled Serbian business entities. To that end, we have collected financial statements of 98 business entities, which were divided into three main groups: healthy companies, companies in bankruptcy and companies in reorganization.

The results show that the sampled business entities in the Serbian market are dealing with a very high liquidity risk. On the other hand, there is a small number of healthy entities that are insolvent, but usually illiquid. Almost half of the bankruptcy entities in liquidation should be in the process of reorganization, since they are solvent. On the other hand, the activities of 80% of business entities in reorganization should be ceased as they are illiquid and insolvent. The main limitations of this research arise from the modest number of sampled entities and doubtful quality of Serbian financial reporting, as well as the quality of financial statements used as research data. Thus, it is of great importance to assess and interpret the research results with great caution.

Key words:

bankruptcy,
reorganization,
financial statements.

1. INTRODUCTION

Management of business entities has to provide financial means in order to enable going concern of the business. Financial position of business entities is an important factor for both, credit institutions that analyze financial data in order to approve loans, as well as for the management trying to finance their businesses at the lowest costs. If an entity should return borrowed resources within one reporting period, they are considered short-term liabilities. Hence, these resources are usually used to finance current assets, which are expected to be spent or used several times within one reporting period. Therefore, a business entity should be able to cover its current liabilities with current assets at any time. The comparison between the two financial positions is at the same time the first financial ratio¹ ever used to measure an entity's liquidity level. Later on, the acid test has been designed as the comparison between current assets less inventories, and current liabilities.

¹ Current ratio is not only the first liquidity ratio; it's the first financial indicator, as well. Namely, in the late 1890's, the credit analysis using financial ratios has been introduced for the first time by several authors (Lee Huff, Harper, & Eikner, 1999). The same authors claim that at the moment there are over two hundred ratios available for analyst to use.

This ratio is particularly appropriate for measuring liquidity level of bankrupt entities, because they usually possess inventories of high value, but low marketability. Also, acid test is quite frequently used in corporate bankruptcy prediction models, because of its high prognostic power (Bellovary, Giacomino, & Akers, 2007). On the other hand, fixed assets are usually financed by long-term liabilities, because their values will deteriorate slowly over a longer period of time. If a business entity has higher long-term or total liabilities in comparison to its equity, it faces a high solvency risk. However, this solvency indicator usually cannot be calculated for bankrupt entities in the Republic of Serbia. Namely, those entities often do not have equity anymore, because of negative financial results in previous periods, the equity is lower or equals zero. Therefore, the debt ratio is used as the comparison of total liabilities and average total (business) assets. According to the aforementioned, a business entity can have a high solvency risk level, but be liquid at the same time. The opposite situation could occur if an entity is able to service its liabilities in the long term, but doesn't have enough cash or cash equivalents for day-to-day business operations. Thus, we can define four quadrants when analyzing the levels of solvency and liquidity.



Solvency	Solvent, but not liquid	Solvent and liquid
	Illiquid and insolvent	Liquid, but not solvent
	Liquidity	

Figure 1. Liquidity and solvency groups

It is presumed that depending on the financial condition or "health", the business entity will move from one quadrant to the other. Namely, healthy entities should be in the upper right quadrant indicating good financial performance. Conversely, the entities in bankruptcy whose businesses will be liquidated through the bankruptcy proceedings should be both, illiquid and insolvent. Business entities in reorganization are expected to be positioned in the solvent, but illiquid quadrant (Bryan, Tiras, & Wheatly, 2002). Namely, bankruptcy legislation regulates the conditions for entities to be able to file for bankruptcy, willingly or not. Usually, entities in reorganization, to some level, still have a profitable product assortment and are not indebted, but lack liquid assets in order to perform regular operations. The lower right quadrant is probably a position for bankrupt entities that sold their assets to be able to reimburse bankruptcy claims and therefore possess large amounts of cash. In addition, healthy entities in growth could also be positioned in this quadrant. Those entities possess high amounts of cash financed by long term loans. The purpose of this paper will be to classify sampled Serbian entities in reorganization, bankrupt and healthy entities in solvency and liquidity groups. The contribution of this paper reflects in providing a profile of insolvent and illiquid debtor for Serbian credit institutions, so that they could suspect which debt covenants will most probably be violated.

2. RESEARCH RESULTS

With the intention of accomplishing the goal of this paper, we have conducted research which included a collection of financial statements for 98 business entities in total. The sample includes 41 healthy entities, 37 bankrupt and 20 entities in reorganization. The financial statements are public data available for download at the Business Registers Agency's website. The sample includes medium and large-sized legal entities as per classification provided by the national law on accounting. It is important to note that previous research shows that liquidity and solvency levels of small entities vary significantly among

them and especially in comparison to the large-sized entities (Lee Huff, Harper, & Eikner, 1999). We have analyzed financial statements of bankrupt and entities in reorganization of the reporting period in which they entered the bankruptcy proceedings. The financial statements of healthy entities refer to the same period, as we wanted to neutralize the effect of performance from different periods. The next step was to calculate financial indicators, acid ratio and debt ratio, in order to measure liquidity and solvency levels of sampled entities.

As we have mentioned before, the purpose of the paper was to classify sampled entities in four quadrants according to their liquidity and solvency levels. To do so, we had to determine the limiting values of calculated indicators. Namely, the higher the acid test is, the greater the liquidity level of the entity is. Whereas the higher the debt ratio the lower the solvency. It is presumed that acid ratio should equal 1, because current assets less inventories should be at least equal to the value of current liabilities. That type of liquidity is called marginal liquidity (Proklin & Zima, 2011). Based on the analysis of the results presented in the research conducted by Stanisic, Radojevic, Mizdrakovic and Stanic (2012) on 53,996 business entities in Serbia, it can be concluded that sampled entities that had a debt ratio between 0.7 and 0.8 had significant increase in the percentage of bankrupt entities. Therefore, business entities that have a debt ratio higher than 0.75 face high solvency risk, and could be considered insolvent in Serbian market. The following figure presents the groups of all sampled entities per solvency and liquidity levels, whereas separate figures for healthy, bankrupt and entities in reorganization are given in appendices.

Regarding the liquidity, the results show that most business entities are positioned in the left lower and upper quadrants, which suggests that they face high liquidity risk. Of all bankrupt and entities in reorganization, only two of them are actually liquid. Therefore, based on this modest sample, we can conclude that Serbian market is quite illiquid. On the other hand, most entities are on the edge of insolvency, which indicates that they use the benefits of financial leverage. Still, a significant number of sampled entities is insolvent. It is rather

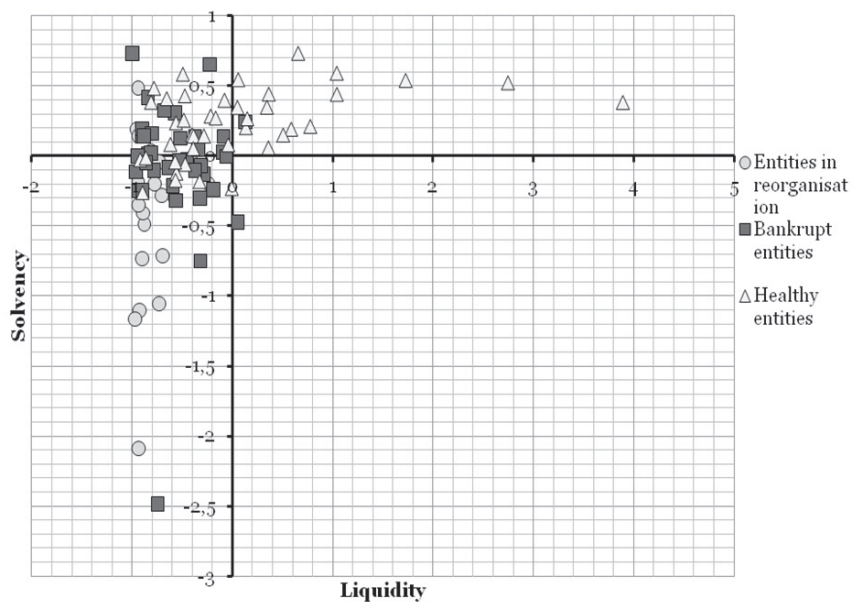


Figure 2. Liquidity and solvency groups of all sampled entities



noticeable that lower right quadrant, which represents entities at low liquidity risk and high solvency risk, is almost completely empty. There is only one entity within, which is bankrupt, it is insolvent and on the edge of liquidity. The highest number, almost 45% of sampled entities, are located in the lower left quadrant and they are mostly bankrupt entities or in reorganization. Those entities do not have a perspective future and will probably be liquidated.

The separate graphics presented in the appendices show information regarding the position of sampled healthy, bankrupt and entities in reorganization in defined quadrants. The healthy entities should be located in quadrant of liquid and solvent entities. However, 78% of healthy entities have a low solvency risk, but surprisingly only half of them are liquid at the same time. The other half are solvent, but are exposed to high liquidity risk. The quadrant, in which these entities are located, theoretically belongs to the entities in reorganization that will probably emerge from bankruptcy proceedings. The results are presented in Figure 3.

The bankrupt entities that will probably cease to exist should be positioned in the lower left quadrant indicating that these entities are both illiquid and insolvent. Over half of the entities could be found in the mentioned quadrant. Over 43% of bankrupt entities are located in the one theoretically dedicated to the entities in reorganization. If we have in mind that only every tenth reorganization plan gets to be voted for at the bankruptcy creditor's meeting, bankrupt entities have very slim chances to reorganize their business. Nevertheless, the results show that they should be in a position to do so. The results are presented in Figure 4.

Finally, entities in reorganization should be highly solvent, but they face a high liquidity risk, as well. Every fifth entity from our sample qualifies for reorganization, according to the previous characteristics. According to the classification presented in Figure 5, the remaining number of entities in reorganization should be actually liquidated, since they are illiquid and insolvent at the same time.

3. SUMMARY

Solvency and liquidity are very important abilities especially for business entities that operate on the emerging markets. The aforementioned includes serving their short term, as well as long term liabilities, because if not, they are exposed to high liquidity and solvency risks, which could be the reason for a bankruptcy filing. Although it is presumed that entities in reorganization are solvent, but currently have a lack of liquid assets, this research showed that most of the sampled Serbian business entities in reorganization are both, illiquid and insolvent. This should point out a red flag for banking institutions and creditors when they are setting loan clauses in agreements intended for bankrupt entities, as well as entities in reorganization process. Additionally, we would like to stress out that almost 19% of the sampled entities are liquid, which poses a great threat to the development of the Serbian economy and banking sector in the future. Having in mind that auditors should gather the evidence on the going-concern of a client's business operation, it would be interesting to analyze the auditor's opinions on this issue.

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PODELA PRIVREDNIH DRUŠTAVA IZ SRBIJE PREMA NIVOU SOLVENTNOSTI I LIKVIDNOSTI

Apstrakt:

U radu se poseban naglasak stavlja na podelu uzorkovanih privrednih društava iz Srbije na grupe prema nivou likvidnosti i solventnosti u datom trenutku. Kako bismo ostvarili zadati cilj, prikupili smo finansijske izveštaje za 98 privrednih društava koje smo zatim podelili u tri grupe: zdrava privredna društva, društva u bankrotstvu i privredna društva u reorganizaciji. Rezultati istraživanja pokazuju da su uzorkovana privredna društva koja posluju na tržištu u Srbiji izložena visokom nivou rizika likvidnosti. Sa druge strane, veoma mali broj zdravih privrednih društava je nesolventan, ali pritom uglavnom nelikvidan. Skoro polovina privrednih društava u bankrotstvu trebalo bi da bude u postupku reorganizacije, dok bi poslovanje 80% privrednih društava u reorganizaciji trebalo prekinuti, jer su i nelikvidna i nesolventna. Kao glavno ograničenje ovog istraživanja navodi se činjenica da je kvalitet finansijskog izveštavanja pod znakom pitanja, kao i kvalitet samih finansijskih izveštaja koji su korišćeni za potrebe ovog istraživanja. Kao drugo ograničenje navodimo veličinu uzorka, imajući u vidu da je ukupan broj privrednih društava u Republici Srbiji znatno veći. Stoga je potrebno pristupiti rezultatima istraživanja sa posebnom pažnjom.

Ključne reči:

stečaj,
reorganizacija,
finansijski izveštaji.



APPENDICES

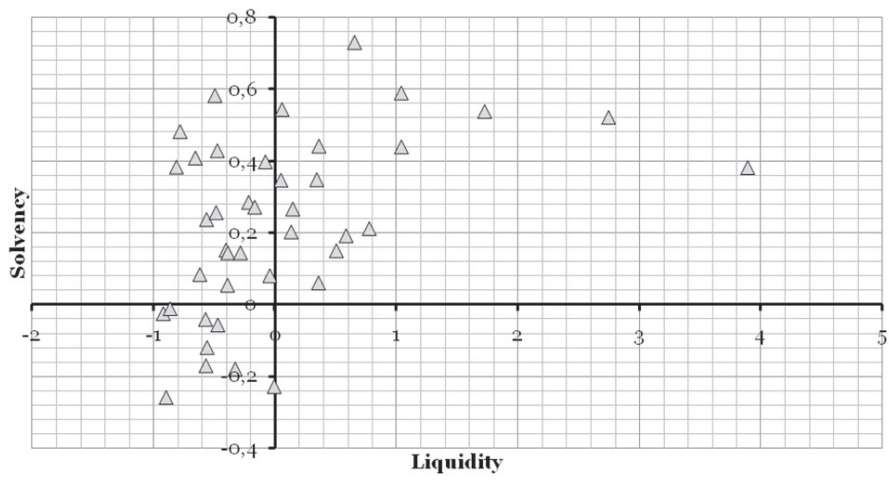


Figure 3. Liquidity and solvency groups of healthy entities

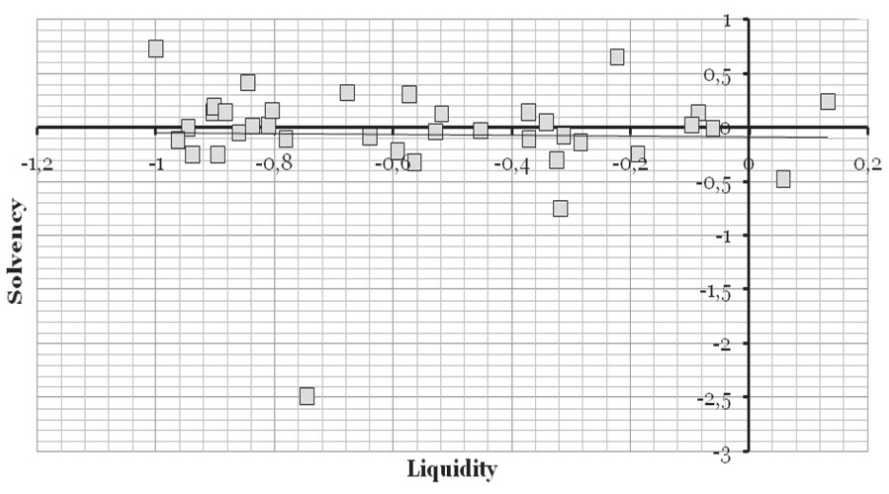


Figure 4. Liquidity and solvency groups of bankrupt entities

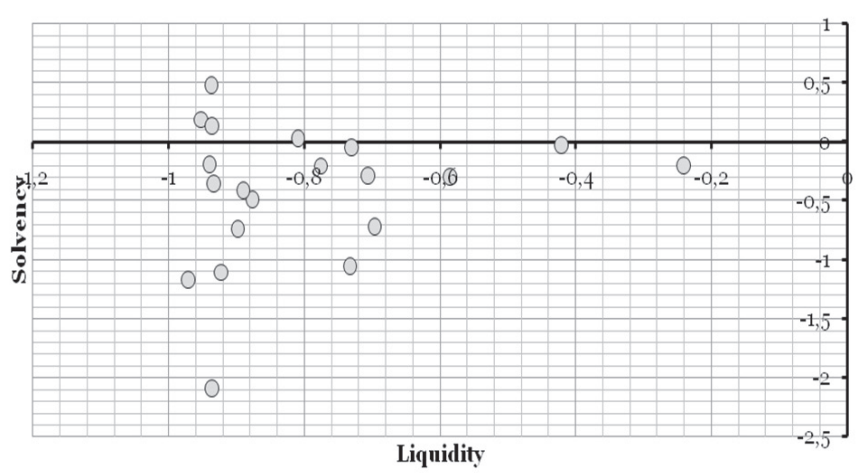


Figure 5. Liquidity and solvency groups of entities in reorganization