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THE ANALYSIS OF INDEBTEDNESS OF RETAIL COMPANIES IN THE BALKAN COUNTRIES

The aim of this paper is to determine the factors which have an impact on the structure of capital of the companies in the trade industry in the Balkan countries, during the eight years period (2010-2017). In order to realize this goal, the panel data model with fixed effects was used. The sample included 2,057 companies that operated in the retail sector in all ten Balkan countries. The obtained results showed that almost all observed variables have a statistically significant impact on the financial leverage, long-term financing, and short-term financing. According to the obtained results of the research, we can conclude that the higher profitability, liquidity, the tangibility of assets and the company's size means a smaller indebtedness, measured by leverage. On the other hand, observed variables have different statistically significant influences depending on whether companies are financed from short-term or long-term sources. Achieving the optimal capital structure and improving the financial performance of the companies of the retail sector in the Balkan countries should be supported by investments and acquisitions based on the market standards of business applied by the developed countries of the European Union.
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1. Introduction

The decision on the capital structure is a decisive decision that affects various aspects of corporate governance. The structure of capital consists of the amount of debt and capital required to finance the company's operations. The companies opt for the capital structure bearing in mind the benefits and costs which are related to financing from own or other sources of funding. The optimal debt and capital ratio differ from company to company, from industry to industry and from country to country. The policy of financing of the company has an impact on the financial risk and the value of the company in the long run. The market value of any company should not be depended on its structure of capital. However, issuing debts that are categorized as risky has an impact on the present market value of any company.

Capital structure determines the sources of funds that a company uses to fund assets. There exist a lot of theories that explain what should be the structure of capital. The most important are the pecking order theory and the trade-off theory. According to the pecking order theory, the company should start with internal financing, then external financing and the last choice is to issue equity (Choudhry, Sundaram, 2013). Internal financing relies on retained earnings as a determinant of capital, then on some percentage of borrowing if there is a need for added funding sources and finally on issue capital in order to meet additional capital requirements. The internal funding represents liquid funds necessary to finance investments. It relies on the asymmetry of information and greater discretion in financing. An option of issuing equity is the next option after if there are not enough other sources of funding. In practice, small companies usually strive to borrow more, while larger companies usually rely on retained earnings in order to settle financial needs in the long run. The cost of external equity for the small company is often higher than for the large company. According to the pecking order theory, managers have a piece of more information and are not willing to issue shares that are underpriced. Sometimes, the managers avoid the high level of borrowing in order to protect their business.

The second one is the static trade-off theory that represents the optimal capital structure as the balance between the debt and equity or between the gains and costs of debt financing. A company sets the target level of debt and makes all efforts to achieve it (Huang, Song, 2006). Determining the capital structure is under the authority of the company's management bearing in mind the fact that the company's value should be maximized. The level of debt financing is an effective tool for determining the company's value. Large profitable companies that earn bigger profits and have a business with lower risk are more focused on borrowing than financing from the capital. According to this theory, financing from other sources is justified to a reasonable level.

There is a very important connection between the capital structure and the company’s value. When the capital market is perfect, the company’s value does not depend on its capital structure, it only depends on future cash flow. So, financial decisions that are focused on financing from own or borrowed sources do not essentially affect the growth of the company's market value. There is considered that at the perfect capital market does not exist taxes, transaction and bankruptcy costs, homogenous expectations, very limited assumptions and that the production capacity of the company is independent of its funding

methods (Bevan, Danbolt, 2002). In this market, it is complete all the same for companies to be financed from internal or external sources. The optimal capital structure maximizes the market value of the company or market value of the unpaid shares of the company, i.e. minimizes its overall cost of capital. There are considerations in which time the optimal structure of capital can lead to maximizing the value of the company. However, assuming that there is no perfect capital market, the choice between the debt and equity is conditioned by the specific characteristics of the company and becomes an important value-determining factor (Deesomsak, et al. 2004).

The optimal capital structure is also based on the concept of asymmetric information between the company and potential financiers which implies that the financial costs are conditioned by the different sources of funding. For example, when we talk about internal sources of finance where the company provides funding, the company will have more information than new holders of capital. So, it will be cheaper to use internal funds than to issue capital shares as a new holder of debt. Internal sources of funding are always cheaper than external sources of funding. Economic conditions in which companies operate have a very significant impact on the company's financing policy. The risk may be in a negative correlation with long-term debt ratio, but in a positive correlation with short-term debt ratio. The costs associated with leverage are different in the context of long-term or short-term debt. Also, when we talk about the measures of long-term and short-term funding, it is necessary to consider the factors which affect long-term and short-term financing.

There is a lot of literature about the company's capital structure. However, this topic has not been thoroughly researched in the Balkan region, especially having in mind the trade industry (retail sector). Additional reasons for choosing this sector are found in high indebtedness and low liquidity issues of retail companies, which lead to an increase in payment deadlines and transferring obligations to the supplier's liability. Retail chains attempt to solve liquidity problems by short-term funding from suppliers. The high rate of indebtedness is accompanied by high-interest rates and other unfavourable borrowing terms. Also, the financial risk associated with retail chains is relatively high. Further, we analyzed the effects of five independent factors (profitability, liquidity, tangibility of assets, sales growth and size of the company) on three indebtedness indicators (leverage, long-term and short-term financing of the company) in the retail sector in ten Balkan countries: Bulgaria, Albania, Bosnia and Herzegovina, Croatia, Greece, Montenegro, Macedonia, Romania, Slovenia and Serbia.

The paper is structured as follows. We start with Theoretical background wherein we set the hypotheses. After that, the Data and the methodology were considered, following the Results and their discussion. The last part presents the Conclusion with limitations and guidelines for future research.

2. Theoretical Background

The decision about the capital structure is conditioned by the basic characteristics of the company, the legal framework and institutional country's surroundings for the company's operation. When looking at a specific country, the company can have a higher level of

borrowing, because of a higher percentage of new companies that decide to borrow more. Differences in the structure of capital between companies in different industries usually arise due to the specific characteristics of certain companies, and not differences in the industry. Given that there are different levels of leverage at the company level, managers are trying to achieve the best possible solution in terms of optimal capital structure, bearing in mind that financing from debt increases the value of the company, but also increases financial risk. Likewise, debt policy of any company could point to the imperfect or incomplete equity market.

In this paper, we observed the five determinants of capital structure and their impact on leverage, long-term and short-term financing. All these determinants will be explained hereinafter, according to previous literature and research in this field.

2.1. Profitability

Analyzing the relationship between profitability and indebtedness, we proceed from the pecking order and trade-off theory. The first one implies that more profitable companies with high gainings, greater self-financing ability and preferably more retained earnings are usually less indebted than a company that does not make high gainings. So, the pecking order theory decides for a negative relationship between these two variables. The second one relies on the fact that more profitable companies have a greater amount of debt due to the use of tax benefits and lower risk of bankruptcy. So, the trade-off theory decides for a positive relationship between these two variables. There is also a widely accepted understanding that the company which has a common practice of debt issuance is usually the company with high profitability because debt issuance is a significant signal for the stock market (Gomes et al., 2014).

A lot of studies have tested the effect of profitability on the company's level of indebtedness. In most studies, researchers have agreed that there was a significantly negative relationship between profitability and debt level. Wald (1999); Graham (2000); Serrasqueiro & Rêgo (2009) also determined a significantly negative relationship between profitability and leverage and considered that more profitable companies were less indebted and less financed by debt than less profitable companies.

Al-Najjar & Taylor, in their study, analyzed the relationship between capital structure and ownership structure of 86 non-financial companies in Jordan in a time period of ten years. The overall number of observations was 743 and there was used the panel data model. The obtained results relied on strong arguments that there was a significantly negative relationship between profitability and indebtedness. It was concluded that the profitability of the company is in a small extent taking into account when deciding whether and to what extent to invest in a company. Therefore, high profitability did not have to be a criterion for selecting a company for investment by an institutional investor (Al-Najjar & Taylor, 2008). Similarly, Li investigated the determinants of capital structure using samples of Shanghai 180 index of China in order to analyze the factors that have an impact on the structure of capital. The results of the panel data of 102 listed companies in the time period 2004-2006

showed that profitability has significantly negative effects on leverage and that the companies are mainly dependent on short-term funding (Li, 2015).

Majumdar analyzed the financial policy and the determinants of capital structure of unlisted manufacturing companies in India in order to realize the volume of external sources of funding. The size of the sample was 864 companies in two periods, 2006-2007 and 2009-2010. The results obtained by using a panel data model showed that the company's profitability had a statistically significant inverse relationship with total borrowing and short-term financing. On the other hand, the results obtained showed that there is a weak and statistically insignificant relationship between profitability and long-term financing (Majumdar, 2014). Similarly, Cassar and Holmes analyzed the determinants of the capital structure of 1,555 Australian unlisted companies in the time period 1995-1998 using ordinary least squares (OLS) regression. The obtained results showed that leverage, long-term and short-term debt financing are in a significantly negative relationship with the company's profitability. The strongest relationship was noticed between the company's profitability and the financial leverage, while the weakest was noticed between the company's profitability and the long-term financing (Cassar & Holmes, 2003).

Bearing in mind all previous research in this filed, we set the following hypotheses:

H1: Profitability has a statistically significant negative impact on leverage.

H2: Profitability has a statistically significant negative impact on long-term financing.

H3: Profitability has a statistically significant negative impact on short-term financing.

2.2. Liquidity

Liquidity represents the skill of the company to finance its mature liabilities. Current liquidity ratio shows the ability of the company to finance short-term liabilities with current assets. There are divided opinions about the impact of liquidity on the company's indebtedness. At one side, there is a positive relationship between liquidity and profitability, because more liquid companies are borrowing on a larger scale due to a greater ability to pay off their short-term liabilities. On the other side, according to the pecking order theory, there is a negative relationship between liquidity and profitability, because more liquid companies use their assets for own investments. Terra P., R., S researched the determinants of corporate debt maturity of 1,963 companies in Latin America for the period 1987-2002 by dynamic panel data analysis. The obtained results showed that the liquidity as determinant has a positive impact on the debt maturity. The company takes care of the mature of its liabilities in order to avoid the problem of liquidity that leads to bankruptcy in the long term (Terra, 2011).

Al-Najjar and Taylor in their study (previously explained in the context of factor profitability) also concluded that there is a positive relationship between liquidity and company's debt and also between the company's debt and the structure of the owner in the sense that the potential investors will be interested in companies with a high value of liquidity ratio because they are able to pay off matured liabilities (Al-Najjar & Taylor, 2008). On the other hand, from the aspects of high agency costs of high liquidity, the

potential investors may restrict the number of external funding sources for the company. This situation rests on the point of view that more liquidity companies are less indebted.

Rodrigues et al. analyzed the factors of determining the capital structure of 1,091 companies in Latin America and the USA in the time period 2009-2013. Using a pooled regression model, the authors concluded that the liquidity of the companies in Latin America is in a positive relationship with each level of borrowing (overall, long-term and short-term). Greater liquidity is necessary in order to be able to borrow on a larger scale with a higher level of risk in the business. However, the current liquidity of the USA companies had an inverse impact on the total debt, long-term and short-term debt (Rodrigues et al., 2017). The obtained results were in accordance with the research conducted by Li, who concluded that there was a significant negative correlation between liquidity and capital structure. The author used the panel data of 180 Chinese listed companies in the time period 2004-2006 and obtained empirical results were explained on the assumption that liquid assets were primarily used for the company's investment needs, and larger liquid assets did not imply greater borrowing capacity (Li, 2015).

According to all previous research and research conducted by Majumdar who showed that liquidity had a positive relationship with long-term financing and negative relationship with short-term financing and leverage of the company (Majumdar, 2014), we set the following hypotheses:

H4: Liquidity has a statistically significant negative impact on leverage.

H5: Liquidity has a statistically significant positive impact on long-term financing.

H6: Liquidity has a statistically significant negative impact on short-term financing.

2.3. Tangibility of assets

The tangibility of assets represents the participation of net fixed assets in overall assets of the company. The company with a large investment in tangible assets has less financial distress costs than a company which has a large investment in intangible assets. According to the trade-off theory, theoretical assumptions and previous research in this field are based on the view that the high value of tangibility of assets ratio leads to more indebtedness. This positive relationship is the consequence of that the company strives to harmonize the maturity of assets with the maturity of the liabilities or to satisfy the maturity matching principle. The higher value of this ratio also has an impact on the reduction of the marginal agency cost of debt which arises in case of need to provide or substitute assets. Analyzing Non-Linearity in the Capital Structure Determinants of UK companies, Fattouh, Harris & Scaramozzino findings confirmed that the level of collateral showed in the form of tangible assets has a positive impact on the financial leverage for companies that have a low debt-equity ratio (Fattouh et al., 2008). It is considered that the companies that have a high share of fixed assets in total assets can borrow on a larger scale due to the fact that they could use higher fixed assets as collateral. This view is consistent with the agency theory of the structure of capital. However, the greater volume of fixed costs because of the larger

participation of net fixed assets could mean a higher risk of the company's business and that the lenders may not grant a loan.

Similar to previous research, Serrasqueiro & Rêgo Rogão also confirmed that there is a positive relationship between the tangibility of assets and indebtedness. Analyzing the structure of capital of 41 non-financial listed Portuguese companies in the time period 1991-2004, they confirmed that the tangibility of assets is the main factor that has an impact on the optimal policy of financing or adjusting the level of borrowing to the optimal level. They also concluded that a higher value of tangibility of assets ratio is a feature of large and profitable companies that reduce the transaction costs of the companies (Serrasqueiro, Rêgo Rogão, 2009).

The characteristics of the industry in which companies operate can be such that require large investments in fixed assets due to the fact that fixed assets are related to the collateral value of the company and non-debt tax-shield. The research conducted by Albanez who analyzed the impact of the cost of capital on the financing decisions of 235 Brazilian companies in the time period 2000-2011 showed that the tangibility assets ratio is in a negative relationship with the financial leverage (Albanez, 2015). This conclusion is in accordance with the pecking order theory which is based on the point of view that the companies with a lot of tangible assets had fewer problems with information asymmetry and rely more on the financing from equity. A negative relationship was also confirmed in the research conducted by Zhao & Zhu, 2006; Li et al., 2009 who rely on the assumption that the intense collateral ability to gain tangible assets implies a smaller amount of borrowing. Research conducted by Al-Najjar & Taylor showed that there was a significant negative relationship between the tangibility of assets and institutional investors. Potential investors will prefer the company that has a low level of tangibility asset ratio, given that the tangible assets are seen as an indicator of the company's debt capabilities (Al-Najjar, Taylor, 2008).

Bearing in mind all previous research and especially the research, conducted by Chittenden et al. (1996); Jordan et al. (1998); Michaelas et al. (1999); Hall et al. (2004); Sogorb-Mira (2005); Degryse et al. (2010); Abu Mouamer (2011); Majumdar (2014); Harc (2015); Rodrigues et al. (2017) we set the following hypotheses:

H7: Tangibility has a statistically significant positive impact on leverage.

H8: Tangibility has a statistically significant positive impact on long-term financing.

H9: Tangibility has a statistically significant negative impact on short-term financing.

2.4. Sales Growth

There are various factors for measuring the growth potential and from these factors depend on the relationship between the financial leverage and the growth opportunity. One of the indicators to measure the growth opportunity is sales growth. Sales growth is determined as sales growth rate on an annual basis. Companies, that have a high annual sales growth rate, usually have a large turnover of collecting customer receivables and paying out liabilities to suppliers which can affect the growth of total liabilities. The sales growth rate is an

attractive indicator for institutional ownership because the institutional investors decide to buy the stock of companies that have high sales growth rate (Tong, Ning, 2004).

Previous research stands at the point of view that there is a positive relationship between leverage and sales growth (Cassar & Holmes, 2003; Mahmud & Qayyum, 2004; Gomes et al., 2014; Li, 2015). A positive relationship is due to the fact that companies with greater opportunities for sales growth are usually successful companies that have a greater demand for funds and are easier to borrow. According to the pecking order theory, companies with a lot of growth opportunities should increase internal funds and also retain more earnings. In the case of a large volume of retained earnings, it is necessary to borrow more in order to achieve an acceptable level of leverage. Morri and Cristanziani agreed that borrowed funds tend to increase in case of invested funds are larger than retained earnings and to fall in case of invested funds are less than retained earnings (Morri, Cristanziani, 2009).

The companies with a larger growth opportunity usually use borrowed funds for investments and face lesser bankruptcy costs. It is expected that financing from short-term funds has a positive relationship with growth, reduce the agency problem and the cost of funding, especially if the company with a lot of growth opportunities is primarily financed from short-term rather than long-term funds (Michaelas et al., 1999). Achy emphasizes that higher sales growth rate means more cash and cash equivalents, receivables, inventories, so financing from short-term debt needs to fulfil all liquidity requirements (Achy, 2009). On the other hand, the companies with a lot of growth opportunities are more flexible in terms of investment, usually have severe agency problems and the future growth rate is expected to be in a negative relationship with long-term leverage (Al-Najjar, Taylor, 2008).

A negative relationship between the sales growth rate and leverage is predicted by the trade-off theory due to the fact that the companies with a greater annual sales growth rate usually have greater profitability that implies greater internal funds, the smaller volume of funding from borrowed sources and higher financial distress costs. According to this theory, growing companies less rely on the borrowed funds, because the possibilities of growth cannot cut off as collateral. The agency theory of financing also highlights a negative relationship between growth and leverage as a result of conflicts between owners and creditors. These findings confirmed the research conducted by Wald (1999) and Fattouh et al. (2008). According to Brito et al. (2005) the company with high growth rates has high bankruptcy costs due to the fact that a vital part of the company's value is associated with the expectations of gainings and funds in the future which can't be liquidated in the case of financial problems. Bearing in mind this fact and the fact that the growing company is often trying to increase and realized the greater risks projects, the debt financing would be restricted, so the companies with high growth rate rely less on funding from borrowed sources (Brito et al., 2005).

Bearing in mind all previous research and research conducted by Tang & Jang (2007); Abu Mouamer (2011); Zani et al. (2014); Majumdar (2014), we set the following hypotheses:

H10: Sales Growth has a statistically significant positive impact on leverage.

H11: Sales Growth has a statistically significant negative impact on long-term financing.

H12: Sales Growth has a statistically significant positive impact on short-term financing.

2.5. The company's size

Most theoretical considerations are based on the understanding that there is a positive relationship between the company's size and financial leverage, because larger companies have a better treatment in the capital markets, more favourable borrowing terms and the benefits of economies of scale, wide range of investments, larger diversification of business, lower direct costs in the case of issuing debt or capital and lower risk to face bankruptcy. Larger companies have more funds to cover the liabilities and fewer bankruptcy costs that enable them to be financed from borrowed sources on a larger scale. So, potential bankruptcy costs and the probability of going bankrupt are in reverse relation with the company's size. The positive relationship between the company's size and financial leverage is confirmed in research conducted by Wald (1999); Cassar & Holmes (2003); Deesomsak et al. (2004); Akhtar (2005); Morri & Cristanziani (2009); Serrasqueiro & Rêgo (2009); Albanez (2015); Li (2015); Wei & Kong (2016).

The trade-off theory supports the view that greater company's size directs companies to turn to a larger volume of debt financing. In the case of conflicts that can occur between the owner of shares and lenders, small companies usually rely on a low volume of long-term financing and a high volume of short-term financing (Michaelas et al., 1999). So, the size effect is positively correlated with financing from long-term debt (Cassar & Holmes, 2003; Gomes et al., 2014) and influences better debt adjustment to the optimal level. Greater size contributes to the reduction of transaction costs that the owner of shares or managers can have in relation to creditors. On the other hand, research conducted by Song showed that although the company's size is positively related to the leverage ratio and short-term debt ratio, there is a negative relationship between the company's size and long-term debt ratio (Song, 2005). A negative relationship between the company's size and long-term debt ratio is also confirmed in research conducted by Rodrigues et al. (2017).

The supply of capital to smaller companies can be on a much smaller scale or the capital is offered at substantially higher costs, which affects the smaller volume of using borrowed sources for small companies. Likewise, if there is an inverse relationship between the operating risk and the company's size, this will affect smaller companies to less rely on debts and external sources of funding. Similarly, if there is an inverse relationship between the bankruptcy costs and the company's size, the stakeholders can question the survival of the company or making further operational decisions.

Research conducted by Al-Najjar and Taylor confirmed the positive relationship between financial leverage and the company's size but also found that there is a positive relationship between institutional ownership and the company's size. Institutional investors opt for investing in bigger companies due to lower stock investment risk and financial distress risk (Al-Najjar & Taylor, 2008). Research conducted by Fattouh et al. showed that the company's size has a positive influence on the financial leverage for the companies with a low debt-equity ratio, but a negative influence on the companies with a high debt-equity ratio. So, the results of quantile regression showed that the impact of company's size on leverage is positive at lower quantiles, but it is negative for companies in the upper quantiles (Fattouh et al., 2008).

According to the pecking order theory, there is a negative relationship between financial leverage and the company's size due to the fact that asymmetry of information between the

individuals within the company and capital markets is less represented in large companies and the cost of capital of large companies are usually smaller. Large companies should rely more on their own capital and less on debt. Sometimes, long-term funding sources are not a desirable source of funding due to high-interest rates. In such circumstances, larger companies are turning to other sources of funding, for instance, to issue shares. Bearing in mind that the costs of issuing shares are lower for larger than smaller companies, smaller companies are focused on short-term funding. Smaller companies strive to borrow more than to open their capital to external investors.

In certain circumstances, larger companies can have a monopoly in price formation that affects the creation of higher profits and a greater degree of reliance on self-financing. A negative relationship between the financial leverage and the company's size is confirmed in research conducted by Achy (2009); Yartey (2011); Tang & Jang (2007). Karadeniz et al. did not find any significant relationship between the leverage ratio and the company's size for lodging companies (Karadeniz et al., 2009).

Bearing in mind all previous research and especially research conducted by Song (2005); Abu Mouamer (2011); Majumdar (2014); Rodrigues et al. (2017) we set the following hypotheses:

H13: The size has a statistically significant positive impact on leverage.

H14: The size has a statistically significant negative impact on long-term financing.

H15: The size has a statistically significant positive impact on short-term financing.

3. Data and the Methodology

Panel regression analysis was used to research indicators of the capital structure of companies in the retail industry with the goal to achieve the optimal structure of capital for all participants in the value chain, i.e. suppliers, logistics and the food industry. The observed countries were Bulgaria, Albania, Bosnia and Herzegovina, Croatia, Greece, Montenegro, Macedonia, Romania, Slovenia, and Serbia. The selection of determinants of the capital structure is based on the chosen theory of capital structure. The sample consisted of 2,057 companies and a series of 8 years. However, after eliminating missing values, the model included 14,211 observations. The source of data was based on the aggregate indicators of the balance sheet and the company's income statement. TP Catalyst database with all information on public and private companies was the source of the data (Bureau van Dijk, A Moody's Analytic's Company, 2018). We took all the companies in the trade industry into research, sector retail, except for the sale of motor vehicles and motorcycles. Statistical program Stata 13 was used for data processing.

In order to analyze the indebtedness of the companies in the Balkans, we consider indebtedness as the dependent variable and profitability, liquidity, the tangibility of assets, sales growth and the company's size as independent variables. Indebtedness was measured by leverage, short-term financing, and long-term financing. Leverage determines the ratio between total liabilities and total assets (Cassar, Holmes, 2003; Song, 2005; Abu Mouamer,

2011; Harc, 2015; Majumdar, 2014; Rodriques et al, 2017). It determines the total amount of funds financed by debt (Zani et al., 2014). It represents the most comprehensive determination of leverage or what remains to shareholders in the circumstances when liquidation occurs. However, it does not indicate whether the company faces the risk of default in the near period.

There are two forms of leverage in corporate finance theory: short-term and long-term. Short-term financing is such a form of financing in which the debtor is obliged to settle their obligations within a contracted term, usually shorter than one year. Consistent with previous research, we measured short-term debt financing as the ratio between short-term liabilities and total assets (Cassar, Holmes, 2003; Song, 2005; Harc, 2015; Majumdar, 2014; Rodriques et al., 2017). On the other hand, long-term funding represents liabilities that will be paid over a period of more than one year as a percentage of total assets (Cassar, Holmes, 2003; Song, 2005; Harc, 2015; Majumdar, 2014; Rodriques et al., 2017). It is a preferred source of financing for companies when they want to finance growth (Tang, Jang, 2007).

Profitability as an independent variable was measured by return on assets that represents the skill of the company to earn yield using its funds. It is measured by the ratio of operating income to total assets (Fattouh et al., 2008; Terra, 2011; Gomes et al., 2014). The requirement for profitability is derived from the company's goal because the goal of each company is to maximize results in a long run.

Liquidity represents the company's ability to finance its mature short-term liabilities with short-term assets. Consistent with previous research, current liquidity ratio was measured as the ratio of current assets to current liabilities (Al-Najjar, Taylor, 2008; Terra, 2011; Albanez, 2015; Li, 2015; Abu Mouamer, 2011).

The tangibility of assets was measured as net fixed assets to total assets ratio according to previous research conducted by Cassar & Holmes (2003); Mahmud & Qayyum (2004); Achy (2009); Karadeniz et al. (2009); Harc (2015). Net fixed assets represent non-current assets or overall land, building, equipment and other fixed assets reduced to the cost of depreciation of land, building, equipment and other fixed assets of any company (Fattouh et al., 2008).

Sales growth as an independent variable was measured as a growth of the company's total sales on an annual basis (Cassar, Holmes, 2003; Mahmud, Qayyum, 2004; Fattouh et al., 2008; Zani et al. 2014; Li, 2015). According to Brito et al., sales growth is calculated as company's annual sales growth rate, bearing in mind the value of sales of the current and previous period (Brito et al., 2005).

The company's size is measured as a natural logarithm of the total assets (Akhtar, 2005; Fattouh et al., 2008; Al-Najjar, Taylor, 2008; Morri, Cristanziani, 2009; Abu Mouamer, 2011; Li, Reinhard, 2010; Li, 2015). On the other hand, some authors calculated the company's size based on the book value of its total assets on an annual basis (Mahmud, Qayyum, 2004; Rodriques et al., 2017).

An overview of all used indicators and the method of their calculation is presented in Table 1.

Table 1

Indicators of indebtedness and factors that can have an impact on the indebtedness

Indicators	Method of calculation
Leverage	Total liabilities/Total assets
Long-term financing	Long-term liabilities/Total assets
Short-term financing	Short-term liabilities/Total assets
Profitability	ROA- Operating income/Total assets
Current liquidity	Current assets/Current liabilities
Tangibility of assets	Net fixed assets/Total assets
Sales Growth	(Sales of Current Period – Sales of Previous Period) / Sales of Previous Period
The company's size	Ln Total assets

Source: Author's calculation.

Following the previous studies, the methodology of the analysis of panel data series was used. Hereby, Pooled Ordinary Least Squares model, fixed-effects model, and the random-effects model could be used. The Pooled OLS model and fixed effects model have the same, the general model of the equation of panel data regression. The random-effects model starts from the general model and adds the variance of the random effect. The starting assumption of application fixed or random effects is that a fixed-effects model is applied when the sample consists of all units belonging to the observed sample and the random-effects model is applied when the units in the sample are randomly selected from the whole population (Brooks, 2008). Similarly, the fixed effects model observes the internal data dimensions or the influence within the unit. On the other hand, the random-effects model observes the internal and external data dimensions or the influence within the unit and the influence between the units.

During the research, we used three types of tests that should show us which model is the most representative for the application: F-test, Breusch-Pagan LM test and Hausman specification test. F-test points out whether we should use the fixed effects or pooled OLS regression model. Bearing in mind that its p values for all three models were lower than 0.05, the fixed effects approach was more appropriate for our analysis. For choosing between random effects or pooled OLS regression model, the Breusch-Pagan LM test was applied. Its results, with p values lower than 0.05 for all indebtedness models, indicated that for our research, the random-effects model was more representative. Finally, the results of the Hausman specification test (where p values in all three cases were lower than 0.05) pointed out that the use of fixed effects model was more appropriate than the random effects model.

According to Brooks (2008) and bearing in mind all previous explanations, we defined three fixed-effects models in the following way:

$$SF_{it} = \alpha_i + \beta_1 ROA_{it} + \beta_2 CR_{it} + \beta_3 TA_{it} + \beta_4 SG_{it} + \beta_5 CS_{it} + U_{it}$$

$$LF_{it} = \alpha_i + \beta_1 ROA_{it} + \beta_2 CR_{it} + \beta_3 TA_{it} + \beta_4 SG_{it} + \beta_5 CS_{it} + U_{it}$$

$$LEV_{it} = \alpha_i + \beta_1 ROA_{it} + \beta_2 CR_{it} + \beta_3 TA_{it} + \beta_4 SG_{it} + \beta_5 CS_{it} + U_{it}$$

SF_{it}, LF_{it}, LEV_{it} presents the dependent variable;

α presents the intercept coefficient of company i;

β presents a k×1 vector of a parameter that should be estimated on the explanatory variables;

ROA, CR, TA, SG, CS presents the independent (explanatory) variables;

ROA_{it}, CR_{it}, TA_{it}, SG_{it}, CS_{it} is a 1×k vector of observations on the explanatory variables;

U presents the residual error;

i signify each company (i=1,….., N) and t signify time (t=1,…., t).

4. Empirical Results and Discussions

Table 2 presented descriptive statistics of dependent and independent variables of the proposed models.

Table 2

Descriptive statistics

Variables	Mean	SD	Min	Max
Size of the Company	15.96254	1.691892	1.219676	22.79627
Tangibility of Assets	0.4076419	0.2638776	0	1
Return on Total Assets	4.424815	13.84293	-98.227	99.438
Current Ratio	2.011493	4.663511	0	99.879
Sales Growth	-0.1442071	8.520768	-751.0767	1
Short-term Financing	0.5330965	2.379247	-0.0254588	260.8
Long-term Financing	0.0948157	0.175349	0	2.956189
Leverage	0.6279123	2.382617	0	260.8

Source: Author's calculation.

According to the presented results in Table 2, it can be concluded, for example, that the average profitability rate of the companies in the retail industry was 4.42% that was below the reference value of 10%. According to the average value, it is concluded that the companies in the retail industry were not profitable during the observed period. This indicator showed a high level of dispersion, with the lowest value of -98.23 and the highest value of 99.44%. The average value of the current liquidity ratio was 2.01, which was in accordance with the reference value that is equal and bigger than 2. The highest value of the current ratio was 99.88, which means that in the retail industry exist companies that had an extremely high ability to cover short-term liabilities from current assets. It was noticeable that companies in the retail industry had an unsatisfactory value of sales growth indicator, which ranges from -751.08 to 1. The negative average value of sales growth (-0.14) showed that companies in the retail industry had a problem with achieving sales growth in the observed period. The reasons should be sought in the fact that the economies of these

countries are adapting to a new growth model that is more focused on investment and exports, and less on domestic consumption.

The share of long-term debts in total assets (0.095) was about six times lower compared to the share of short-term liabilities in total assets (0.533). The value of short-term financing also had a high level of dispersion, from -0.02 to 260.8. The retail companies used short-term loans in order to solve the illiquidity problem in the Balkans economy. Likewise, the most common form of loans approved by banks due to higher systematic risk were short-term loans. Finally, the part of the funding was transferred to suppliers bearing in mind the fact that prolonging the settlement of liabilities to suppliers leads to an increase in their participation in the financial structure. Finally, leverage also showed significant value variations with the average value of 0.63, which showed, for example, that on 1 Serbian Dinar (RSD) of the capital comes to 63 pounds of debt. The average value of leverage (0.63) is higher than the reference value (0.5) with high dispersion from 0 to 260.8.

Table 3

Correlation matrix

Variables	*Size*	*Tan.*	*ROA*	*CR*	*SG*	*SF*	*LF*	*Lev.*
Size of the Company	1.0000							
Tangibility of Assets	0.2197 (0.0000)	1.0000						
Return on Total Assets	-0.0708 (0.0000)	-0.1987 (0.0000)	1.0000					
Current Ratio	-0.0568 (0.0000)	-0.0600 (0.0000)	0.0898 (0.0000)	1.0000				
Sales Growth	0.0077 (0.3555)	0.0012 (0.8818)	0.0222 (0.0078)	-0.0254 (0.0024)	1.0000			
Short-term Financing	-0.1159 (0.0000)	-0.0674 (0.0000)	-0.1694 (0.0000)	-0.0535 (0.0000)	0.0106 (0.2056)	1.0000		
Long-term Financing	0.1951 (0.0000)	0.2270 (0.0000)	-0.1644 (0.0000)	-0.0263 (0.0014)	-0.0508 (0.0000)	-0.0176 (0.0320)	1.0000	
Leverage	-0.1014 (0.0000)	-0.0506 (0.0000)	-0.2022 (0.0000)	-0.0554 (0.0000)	-0.0146 (0.0813)	0.9973 (0.0000)	0.0560 (0.0000)	1.0000

Source: Author's calculation.

Correlation coefficients for all dependent and independent variables were presented in Table 3. There were no high coefficients of correlation (higher than 0.5) between independent variables. For detecting multicollinearity, variance impact factors (VIF) have been calculated for all independent variables. As all VIF values were less than 5 (their values were shown in Table 4), it can be concluded that there was no problem with multicollinearity.

Table 4

Variance impact factors of variables (VIF)

Variables	VIF	1/VIF
Size of the Company	1.05	0.949291
Tangibility of Assets	1.09	0.917929
Return on Total Assets	1.06	0.944792
Current Ratio	1.01	0.987883
Sales Growth	1.00	0.998634

Source: Author's calculation.

The further results have presented through Table 5, Table 6, and Table 7 (for each independent variable one by one). In addition to the coefficients, the tables contained their mean values and p values. Also, each table presented the results of F test, Breusch-Pagan test and Hausman test based on which the fixed effects approach was applied.

Table 5

Leverage

	Leverage			
Independent variables	*Coefficients*	*SD*	*t-ratio*	*p-value*
Size of the Company	-0.057703	0.0046217	-12.49	0.000
Tangibility of Assets	-0.1904479	0.0226343	-8.41	0.000
Return on Total Assets	-0.0053474	0.0002258	-23.68	0.000
Current Ratio	-0.0089744	0.0006248	-14.36	0.000
Sales Growth	-7.34e-06	0.0002624	-0.03	0.978
R^2	0.1241			
Hausman Test	H = 515.49 (0.0000)			
Breusch-Pagan Test	LM = 10596.17 (0.0000)			
F test Results	F(2042, 12163) = 12.93 (0.0000)			

Source: Author's calculation.

According to the presented results in Table 5, we concluded that the variable size of the company (-0.057703) had a statistically significant negative influence ($p<0.05$) which means that the hypothesis H13 was rejected. Similarly, the variable tangibility of assets (-0.1904479) had a statistically significant negative influence ($p<0.05$) which means that the hypothesis H7 was also rejected. So, in the retail industry, the larger companies and the companies with the higher value of tangibility of assets to a lesser extent financed from other sources. This results did not support the requirements of Trade off Theory and the Pecking Order Theory. Although, the greater size assumes greater diversification of activities and less possibility of bankruptcy, the greater companies in the retail industry will not borrow on a larger scale. These results are in accordance with the results of Zani et al. (2014) and Rodrigues et al. (2017). Likewise, the higher level of tangible assets of retail companies did not presume that they will use it as collateral security in order to borrow more and reduce the agency costs of capital. This finding was also confirmed by Karadeniz et al. (2009) and Wei & Kong (2016).

On the other hand, the variables return on total assets (-0.0053474) and current ratio (-0.0089744) had a statistically significant negative impact on leverage ($p<0.05$) which means that the hypotheses H1 and H4 were confirmed. So, more profitable and liquid retail companies had smaller leverage as an indicator of possible borrowing that measures the risk of investing in the company. The higher profitability reduces the level of debts which is in accordance with the Pecking Order Theory, so it can be concluded that these companies use a high level of retained earnings instead of financing from debts. The reasons could be found in insufficiently developed capital markets in the Balkan countries that causes higher costs of increasing capital. Higher financial costs and higher risk premiums were the results of expensive borrowing conditions in the Balkan countries. The negative relation between profitability and leverage was also confirmed by Li & Reinhard (2010) and Zani et al. (2014).

More liquid companies in the retail industry usually use liquid assets in order to finance their investments rather than borrowed from external sources which is in accordance with the research conducted by Deesomsak et al. (2004). In a situation when retail companies encounter a problem of illiquidity, they borrow more on a short-term basis which leads to the growth of the total leverage and confirms the statistically significant negative relationship between the liquidity and financial leverage. The possible level of indebtedness of retail companies will be achieved up to the equality of the rate of return on assets and the capital costs.

The last coefficient was the sales growth which influence was negative and not statistically significant ($p>0.05$) which means that the hypothesis H10 was rejected. The negative relationship between the growth opportunities as measured by the sales growth and leverage is contrary to the requirements of the pecking order theory. The reasons should be sought in insufficiently high-quality sources of funding in the Balkans countries that significantly impact on fewer opportunities for growth. This relation is statistically significant only in the case of long-term debt financing.

Table 6

Long-term financing

Independent variables	Long-term financing			
	Coefficients	*SD*	*t-ratio*	*p-value*
Size of the Company	-0.0009302	0.002154	-0.43	0.666
Tangibility of Assets	0.1366392	0.0105489	12.95	0.000
Return on Total Assets	-0.0003399	0.0001052	-3.23	0.001
Current Ratio	0.0017442	0.0002912	5.99	0.000
Sales Growth	-0.0002672	0.0001223	-2.19	0.029
R^2	0.0506			
Hausman Test	H = 90.71 (0.0000)			
Breusch-Pagan Test	LM = 14686.27 (0.0000)			
F test Results	F(2042, 12163) = 11.62 (0.0000)			

Source: Author's calculation.

According to the presented results in Table 6, it can be concluded that the tangibility of assets, return on total assets, current ratio and sales growth had a statistically significant

influence ($p<0.05$). The exception is the size of the company which influence was not statistically significant ($p>0.05$). The variable tangibility of assets (0.1366392) and current ratio (0.0017442) had a positive statistically significant influence which means that the hypotheses H8 and H5 were confirmed. The positive relation between assets tangibility and long-term indebtedness means that the retail companies in the Balkans have used capital assets as collateral in order to get higher long-term loans which are in accordance with the agency theory of the structure of capital. High tangible assets of retail companies lead to the higher liquidation value of these companies and consequently, to the high level of the collateral for long-term debts. The high value of the collateral is especially important for new retail companies on the market that did not have such a close relationship with creditors. Likewise, the retail companies managed to satisfy the maturity matching principle or to adjust the maturity of the assets with the maturity of the liabilities in the long run on what indicated the positive relation between the current ratio and long-term indebtedness. It also means that retail companies had easier access to long-term debts.

On the other hand, the variables return on total assets (-0.0003399) and sales growth (-0.0002672) had a negative statistically significant influence which means that the hypotheses H2 and H11 were confirmed. So, more profitable retail companies and companies that achieve higher sales growth are less likely to borrow from long-term sources of borrowing in order to finance their investments and add value to products or services that are sold. Higher growth opportunities of retail companies are financed with less borrowed funding which is in accordance with the trade-off theory. A negative relationship between growth rate and long-term debt was also confirmed in research conducted by Fattouh et al. (2008).

The last one variable was the size of the company (-0.0009302) which influence was negative, but not statistically significant ($p>0.05$) which means that the hypothesis H14 was rejected. Although, the larger retail companies have diversified operations and longer existence on the market and as a result lower cost of capital, reducing the size of these companies did not have a statistically significant impact on the decrease in the volume of long-term borrowing. Bearing in mind that the most usual form of long-term borrowing in Balkans countries is very expensive loans from the bank, larger retail companies are often relying on own sources of funding when they finance growth.

Table 7

Short-term financing

	Short-term financing			
Independent variables	*Coefficients*	*SD*	*t-ratio*	*p-value*
Size of the Company	-0.0567727	0.0045577	-12.46	0.000
Tangibility of Assets	-0.3270871	0.0223211	-14.65	0.000
Return on Total Assets	-0.0050075	0.0002227	-22.49	0.000
Current Ratio	-0.0107185	0.0006161	-17.40	0.000
Sales Growth	0.0002598	0.0002587	1.00	0.315
R^2	0.1956			
Hausman Test	H = 423.58 (0.0000)			
Breusch-Pagan Test	LM = 8925.46 (0.0000)			
F test Results	F(2042, 12163) = 10.66 (0.0000)			

Source: Author's calculation.

According to the presented results in Table 7, we concluded that the first four observed variables (size of the company, tangibility of assets, return on total assets and current ratio) had a statistically significant negative influence ($p<0.05$). Presented results showed that the variable size of the company (-0.0567727) had a negative impact on short-term financing which means that the hypothesis H15 cannot be accepted. So, with the growth in the size of the retail companies, the volume of financing from short-term sources did not increase.

The variables tangibility of assets (-0.3270871), return on total assets (-0.0050075) and current ratio (-0.0107185) had a negative impact on short-term financing which means that the hypotheses H9, H3, and H6 were confirmed. So, the higher the profitability, liquidity and, tangibility of assets means a smaller volume of borrowing from short-term sources. More liquid retail companies were borrowed in the short-term to a lesser extent, which could mean that they use their liquid assets to settle short-term operating liabilities which primarily include suppliers. In that way, they try to ensure synchronization of deadlines of the collection of receivables from customers and deadlines for settlement of obligations to suppliers. On the other hand, unsatisfactory level of profitability and unavailable cash flow for financing capital investments, credit and operating liabilities could lead to an increase in other sources of funding, especially short-term. Lack of money for maintaining a satisfactory level of liquidity, reducing purchasing customer's power, a smaller volume of investments and difficulties in collecting receivables can be the result of crisis business conditions (Pjanic, Vukovic & Mijic, 2018). In those circumstances, retail companies may use short-term debts to solve the problems, especially the problem of liquidity which supports the fact that there is a statistically negative correlation between short-term leverage and liquidity.

The negative relation between the tangibility of assets and short-term financing means that the retail companies only used capital assets as some kind of guarantee to get funds from the lenders in the financial market in the long run. These companies did not need collateral to borrow in short runs and most of their fixed assets were financed from long-term sources.

The last one variable, sales growth (0.0002598) had a positive impact on short-term financing, but not statistically significant ($p>0.05$), which means that the hypothesis H12 was rejected. It means that a higher sales growth of retail companies in the Balkans market, which will lead to higher revenues in the future, requires a larger volume of short-term borrowing. The positive and highly significant relationship between the growth opportunity and short-term financing is confirmed by Cassar & Holmes (2003).

To sum up, the obtained results, i.e. the effects of all independent variables (profitability, liquidity, the tangibility of assets, sales growth and the company's size) on three indebtedness indicators (leverage, long-term financing, and short-term financing) are presented in Table 8.

Table 8

Hypotheses and respective relations

Hypotheses	Leverage		Long-term financing		Short-term financing	
	Expected	Found	Expected	Found	Expected	Found
Profitability	Negative	Negative	Negative	Negative	Negative	Negative
Liquidity	Negative	Negative	Positive	Positive	Negative	Negative
Tangibility of assets	Positive	Negative	Positive	Positive	Negative	Negative
Sales Growth	Positive	nss -	Negative	Negative	Positive	nss +
The company's size	Positive	Negative	Negative	nss -	Positive	Negative

Notes: This table provides the list of hypotheses and respective expected and found relations.
nss - – not statistically significant, negative
nss + – not statistically significant, positive

Source: Author's calculation

5. Conclusion

The major aim of this paper has been the identification of key factors influencing the capital structure of the companies in the trade industry. In our study, we investigated the five determinants of the capital structure (profitability, size, the tangibility of assets, liquidity and sales growth) and their impact on the indebtedness measured by leverage, long-term and short-term financing. A sample of 2,057 companies that operated in the retail sector in the Balkan countries was chosen. The methodology of the analysis of panel data series was applied in order to investigate the factors that influence capital structure of those companies.

Our findings suggest that indebtedness (measured by leverage) is negatively influenced by profitability, liquidity, the tangibility of assets and the company's size. This suggests that the more profitable and liquid retail companies had smaller leverage as an indicator of possible borrowing that measures the risk of investing in the company. Also, the larger retail companies and the companies with the higher value of tangibility of assets to a lesser extent were financed from other sources.

The study also has shown that the indebtedness (measured by long-term financing) is negatively influenced by profitability and sales growth, and positively by liquidity and tangibility of assets. This means that more profitable retail companies and companies that achieve higher sales growth are less likely to borrow from long-term sources of funding in order to finance their investments and add value to products or services that are sold. Also, the retail companies have used capital assets as collateral in order to get higher long-term loans. High tangible assets of retail companies lead to the higher liquidation value of these companies and consequently, to the high level of the collateral for long-term debts.

Finally, the obtained results have shown that the determinants of capital structure which negatively affect indebtedness (measured by short-term financing) of Balkan retail companies are profitability, liquidity, the tangibility of assets and company's size. In other words, the higher the profitability, liquidity, and tangibility of assets means a smaller volume of borrowing from short-term sources. More liquid retail companies use their liquid

assets to settle short-term operating liabilities which primarily include suppliers. Also, with the growth in the size of the retail companies, the volume of financing from short-term sources did not increase.

The study provides a basis for future research analyzing the relationship of capital structure determinants on indebtedness. Our study suffers from several limitations that are at the same time guidelines for future research:

- An obvious restriction of this study is the quality and reliability of the data, that is similar to most financial studies relying on reported financial statements.
- Explaining the indebtedness, it is necessary to use determinants taking into account market values in models.
- It would have been advisable to include organizational and managerial factors, besides financial variables, so that the behaviour of the dependent variable could be better described.

Further research might also consider other factors that have not been included in our model (it could be made with the addition of further variables, or the removal of existing variables). It might be also conducted a comparative study that includes retail companies in a different group of countries in order to figure out whether the determinants of indebtedness are the same in different business environments in other regions. Clearly, more research is needed on the indebtedness of retail companies in the Balkan countries in order to supplement the initial findings in this study.

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