Financial leasing in the function of economic development of bosnia and herzegovina (statistical approach)

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ABSTRACT

The leasing institution is typical for countries with developed market economies, although it keeps gaining more importance in transition countries. Therefore, the research study is focused on the financial leasing market in Bosnia and Herzegovina, as one of the countries undergoing transition process. Its basic features have been assessed, together with determining turnover over the observed ten year period, both in Bosnia and Herzegovina as a whole and in its respective entities. The aim of the research is to establish the extent the financial leasing has contributed to the development of the small and medium enterprise (SME) sector and economic development of Bosnia and Herzegovina. Modern statistical methods have been applied to analyze the connection and interdependence of leasing and certain macroeconomic indicators in Bosnia and Herzegovina. For the purpose and in the context of this research, the following indicators, such as, the values of leasing, gross domestic product, export, import and foreign direct investments related to the period from 2009 to 2018 are presented in the respective tables and s. The analysis is based on the application of descriptive and econometric statistical methods of correlation and regression, as well as on the following statistical packages, IBM SPSS ver. 21, Microsoft XLSTAT. A particular dedicated segment of the analysis refers to determining the impact of financial leasing on the level of SME investment in relation to classic bank loans. That is, to what extent is financial leasing in the function of investment decision-making of small and medium enterprises in Bosnia and Herzegovina.

Key words: Financial leasing, GDP, export, import, FDI, SME.

INTRODUCTION

Leasing is a distinct form of obtaining fixed assets through lease. According to International Accounting Standard 17: A lease is an agreement whereby the lessor conveys to the lessee in return for a payment or series of payments, the right to use an asset for an agreed period of time. In its original form, leasing is actually letting (renting) movable and immovable property to a party, that is, a new type of contract that has gained its own particular economic characteristics in business practice. Since the goods are placed outside the usual forms, being cash and loans, it is said that a lease is a distinct method of financing, based on a particular contract, and with a leasing fee. This method generates preconditions for companies to procure equipment without exhausting depreciation funds and emptying their accounts. Instead of purchasing new equipment using their own funds or with loans, companies turn to a leasing company by practically renting the required equipment for a certain period of time, under appropriate conditions.
and respective compensation (Vunjak, 2005). The research conducted in the study is related to Financial Leasing Market in Bosnia And Herzegovina and is divided into three parts. The first part of the study focuses on the financial leasing market in the period from 2009 to 2018. Leasing arrangements in both entities (the Republic of Srpska and the Federation of BH) have been determined, as well as total financial leasing arrangements at the Bosnia and Herzegovina level. The annual trend of financial leasing was monitored, accompanied by a tabular and graphical presentation. The second part contains a statistical analysis of the interdependence of economic indicators (financial leasing, GDP, exports, imports and FDI), based on the application of econometric statistical methods of correlation and regression, obtained with the assistance of statistical software suites, IBM SPSS ver. 21, Microsoft XLSTAT. The final segment of the study, by means of comparative analysis assessed the role of leasing in equipment investment of small and medium enterprises in Bosnia and Herzegovina in relation to investing through standard bank loans for the period from 2009 to 2018. The conclusion highlights the key findings and summarized research results.

(FINANCIAL) LEASING MARKET IN BOSNIA AND HERZEGOVINA

In the Western Balkans countries, including Bosnia and Herzegovina, the leasing sector has grown despite the lack of appropriate legislation. Although this can be perceived as a temporary relief for credit-laden companies, it is an area of great importance due to the lack of a suitable framework for supervising the consequences for the financial sector (Vukmirović, 2007). Due to the lack of legal regulations on leasing operations, in BH market, leasing functioned similarly to bank loans until 2007. Small and medium enterprises (SMEs), as well as entrepreneurs, leasing beneficiaries, procured fixed assets and equipment through loans. This was regulated by the current Law on Obligations and Basics of Property-Legal Relations, which were not appropriate for leasing. This type of financing was sometimes more expensive for small and medium enterprises in comparison to standard bank loans, as it obliged users to sign a comprehensive insurance policy. Therefore, in both entities (the Republic of Srpska and the Federation of BH), the adoption of the Law on Leasing was inevitable, thus enabling leasing services to transcend from a “quasi-banking” loan into adequate support for the development of small and medium enterprises and entrepreneurship. In the Republic of Srpska, the Law on Leasing was passed in mid-2007, and provided two types of leasing, operating leasing, financial leasing. According to this Law, the minimum amount of share capital of leasing companies is 250,000 Bosnian Convertible Marks (BAM), with the Banking Agency of the Republic of Srpska issuing the respective licenses, performs control and supervision of the operations of lessors. By bringing leasing within the legal framework, leasing services have been regulated as in developed market economies. This has made the leasing business a simpler and cheaper source of financing for small and medium-sized enterprises compared to standard bank loans. The adoption of the Law on Leasing has particularly affected those companies lacking sufficient capital to purchase fixed assets and equipment, or collateral mandatory to secure expensive bank loans. The Federation of BH adopted the Law on Leasing at the end of 2008. According to this Law, the Banking Agency of the Federation of BH shall issue licenses and perform supervision and control over the operations of leasing companies within its area of jurisdiction. It should be noted that the Law on Leasing in both entities regulates the mandatory payment of value added tax (VAT) on interest in any of the financial leasing arrangements. According to the Central Bank of Bosnia and Herzegovina, in the year of 2018, seven leasing companies in Bosnia and Herzegovina had leasing assets in the amount of 152.4 million euros, which had an increase of 18.97 million or 14.2% compared to the year before. The increase in the balance sum total was achieved by two leasing companies in the amount of 24.36 million euros, while four leasing companies registered a decrease in their balance sum total in the amount of 6.30 million euros, compared to 2017. 88% of the value of the leasing contract is related to financial leasing, and the remaining 12% relates to operating leasing. The value of leasing operations in 2018 amounted to 98.82 million euros, which is 32.2% more than in the year 2017. At the end of 2018, the leasing sector recorded a positive financial result in the amount of 1.69 million euros. Three leasing companies reported a loss of 1.23 million euros, and four leasing companies reported a profit of 2.92 million euros (Central Bank of Bosnia and Herzegovina, 2018). From January-December 2018, there were no registered lessors based in the Republic of Srpska. Table 1 shows the turnover of financial leasing in Bosnia and Herzegovina (BH), by entities (the Republic of Srpska and the Federation of BH), and total turnover in Bosnia and Herzegovina, over a ten-year period. Financial leasing at the financial market of Bosnia and Herzegovina registered a sharp decline in 2011, amounting to 61.258 million euros or 47.26%. The trend line of financial leasing maintained its decline until 2015, when a sharp increase of 36.13% was noted, only to be followed by a further decline in
Table 1: Comparative indicators of financial leasing turnover in Bosnia and Herzegovina (000 EUR).

| Year | The Republic of Srpska (%) | Federation of Bosnia and Herzegovina (%) | Bosnia and Herzegovina (%) |
|------|-----------------------------|-----------------------------------------|---------------------------|
| 2009 | 35.151                      | 68.5                                    | 100                       |
| 2010 | 44.887                      | 65.4                                    | 100                       |
| 2011 | 27.326                      | 60.0                                    | 100                       |
| 2012 | 27.527                      | 44.9                                    | 100                       |
| 2013 | 28.764                      | 55.5                                    | 100                       |
| 2014 | 27.991                      | 36.3                                    | 100                       |
| 2015 | 32.274                      | 46.1                                    | 100                       |
| 2016 | 32.250                      | 21.8                                    | 100                       |
| 2017 | 30.820                      | 21.5                                    | 100                       |
| 2018 | 37.474                      | 27.2                                    | 100                       |

Source: Banking Agencies from both entities (the Republic of Srpska, Federation of Bosnia and Herzegovina), Annual Reports 2009-2018.

2016 by 31.09%. Based on the indicators presented in Figure 1, it can be concluded that financial leasing placements in the Republic of Srpska recorded a sharp decline of 17.56 million euros or 39.12% in 2011. After 2011, the trend line of financial leasing maintained a slight growth until 2018. In contrast to financial leasing arrangements in the Republic of Srpska, financial leasing in the Federation of BH recorded a sharp decline of 43.698 million euros or 51.56% in 2011. The trend line of financial leasing registered a decline until 2015 when a slight increase was recorded, followed by a further decline in leasing investments in 2016 (Figure 2).

The percentage share of financial leasing arrangements in the Republic of Srpska registered a constant growth until 2015, in relation to the total financial leasing arrangements in Bosnia and Herzegovina. On the other hand, the percentage share
in financial leasing of the Federation of BH decreased until 2015 in the total financial leasing turnover in Bosnia and Herzegovina Figure 3. Based on the data from Table 1, it is evident that financial leasing was more present in the Republic of Srpska from 2013 to 2018 in relation to financing through leasing in the Federation of BH. This leads to the conclusion that small and medium enterprises in the Federation of BH used a greater percentage of other sources to finance their business activities. Despite this situation in the leasing market, it should be noted that innovations in leasing operations have not missed the BH leasing market, which is best confirmed by the activities of the European Bank for Reconstruction and Development (EBRD), namely, the European Bank for Reconstruction and Development, as the largest investor in Central and Eastern Europe and the Commonwealth of Independent States, approved a credit line for small and medium enterprises in Bosnia and Herzegovina in the amount of 7 million euros through Raiffeisen Leasing Sarajevo. Since the beginning of 2007, this bank has financed small and medium enterprises in Bosnia and Herzegovina through leasing, by assisting in the implementation of 130 projects, in the amount of 1.8 billion euros (https://lat.rtrs.tv/vijesti/vijest.php?id=207892).

### ANALYTICAL APPROACH TO THE RELATIONS BETWEEN ECONOMIC INDICATORS IN BOSNIA AND HERZEGOVINA

The analyzed economic indicators of Bosnia and Herzegovina are presented in Table 2 and represents different levels of a certain phenomenon by years. In order to assess the relationship between the observed phenomena, as well as their mutual influence, it is necessary to apply correlation and regression analysis. The correlation analysis should indicate whether there is a quantitative matching between the observed phenomena, while the regression analysis assessed the level of impact of variables such as leasing, exports, imports and foreign direct investment (FDI) on gross domestic product (GDP). The results of the correlation analysis are given in Table 2. Given that the impact of leasing, exports, imports and foreign direct investment on GDP will be assessed in the remaining of the study, it was necessary to analyze how these variables are

### Table 2: Economic indicators in Bosnia and Herzegovina (mil. EUR).

| YEAR | LEASING | GDP    | EXPORT | IMPORT | FDI   |
|------|---------|--------|--------|--------|-------|
| 2009 | 112     | 13,523 | 2,835  | 6,332  | 166   |
| 2010 | 129     | 13,296 | 3,638  | 6,982  | 545   |
| 2011 | 68      | 13,731 | 4,216  | 7,961  | 314   |
| 2012 | 61      | 13,948 | 4,029  | 7,821  | 466   |
| 2013 | 52      | 14,491 | 4,297  | 7,778  | 225   |
| 2014 | 43      | 14,455 | 4,768  | 7,936  | 424   |
| 2015 | 59      | 15,108 | 5,068  | 7,803  | 268   |
| 2016 | 42      | 15,914 | 5,429  | 8,017  | 236   |
| 2017 | 39      | 16,671 | 6,434  | 9,077  | 414   |
| 2018 | 51      | 17,453 | 6,956  | 9,556  | 409   |

**Source:** Council of Ministers of Bosnia and Herzegovina, Directorate for Economic Planning, Economic Trends - Annual Reports 2009 - 2018.
related to the GDP variable in Table 3. As the variables do not deviate from the normal distribution, the Pearson correlation coefficient was used and the results indicate that all variables, except for FDI, are in a statistically significant correlation with GDP. Likewise, it is necessary to stress that the leasing variable is negatively correlated with GDP, thus indicating that the growth of one variable is associated with a decrease in the other variable ($\rho = -0.666$). Apart from this connection, it is evident that a direct and strong correlation is established by the variables export and import with GDP ($\rho = 0.962$ and $\rho = 0.875$). It is important to note that there is an extremely strong correlation between export and import. Such correlation is direct and indicates that the growth of one implies the growth of the other variable ($\rho = 0.951$). Both import and export established a statistically significant correlation with leasing, but this relation is indirect, meaning that the increase of one variable implies the decrease of another. In addition to the correlation analysis, a regression analysis was performed, aimed to show whether the changes in these four variables have an impact (and to what extent) in explaining the changes in the GDP variable. On the account of the above, a multiple regression was applied in which GDP was the dependent variable, whereas the independent (explanatory) ones were leasing, export, import and FDI. Due to the strong correlation between the variables of export and import, it was necessary to exclude one of them from further analysis, as multicollinearity would occur otherwise. With this in mind, leasing, export and FDI remained as explanatory variables in further analysis. The results of the regression analysis are given in Table 4 above.

Table 5: Statistical significance indicators of the model.

| Model | Sum of Squares | df  | Mean Square | F     | Sig.   |
|-------|----------------|-----|-------------|-------|--------|
| Regression | 17194762.652  | 3   | 5731587.551 | 55.355 | 0.000b |
| Residual    | 621253.348    | 6   | 103542.225  |       |        |
| Total       | 17816016.000  | 9   |             |       |        |

a. Dependent Variable: GDP
b. Predictors (Constant), FDI, LEASING, EXPORT

Source: authors' own processing.
two coefficients are statistically significant and uniquely contribute to the prediction of the dependent variable. The coefficients in questions are B2 (t test = 9.392; p value = 0.000) and B3 (t test = -2.600; p value = 0.041), respectively, that is, the variables export and FDI. In contrast, leasing variable lacks a statistically significant coefficient B1 and its contribution cannot be treated as significant and unique. In the column of standardized coefficients (beta) it is evident that export variable has more than five times higher contribution to the explanation of GDP than variable FDI (1.113 > -0.217). Therefore, it can be said that in the observed model, a unique and statistically significant contribution to the elaboration of GDP is given by export and FDI, while leasing variable bears no statistical significance.

FINANCIAL LEASING IN THE FUNCTION OF INVESTMENT DECISION-MAKING OF SMALL AND MEDIUM ENTERPRISES IN BOSNIA AND HERZEGOVINA

In developed western countries, leasing plays a very important role in economic development, and especially in the development of small and medium enterprises. The purpose of leasing here is, above all, the development of the economy, as evidenced by over 90% of leasing placements aimed at legal entities (small and medium enterprises). Small and medium-sized enterprises (SMEs) that require working capital, and borrow funds on that account, leasing arrangements are a very convenient and useful option. Leasing arrangements, which make up over 20% and in some cases over 30% of the total equipment procurement in the world, allows for a simpler and cheaper way of purchasing equipment. These arrangements are particularly applicable when an entity is faced with insufficient equity and bank loans that are still unfavorable. One of the greatest advantages of financial leasing is the effective protection of creditors, which makes leasing competitive in relation to other financial arrangements and bank loans (Subotić, Erceg and Mitrović, 2018). Banks in Bosnia and Herzegovina require high loan collateral, thus transferring as much risk as possible onto the borrower. The following is normally used as a collateral, deposits, guarantees of other commercial banks, real estate, debtors’ own promissory notes and other forms of loan collateral. An additional problem for companies when applying for this type of loan is the extensive documentation that is normally an integral part of the procedure. The amount of the loan mainly depends on the creditworthiness of the company. Small and medium enterprises (SMEs) in Bosnia and Herzegovina are increasingly facing the problem where the necessity for financial assets exceeds the amount of newly created money accumulation remaining at their disposal. Such events and developments cause them to increasingly direct their financial demands to banks and bank loans. By approving and placing loans, banks enable small and medium-sized enterprises to, maintain liquidity, permanent continuity and business stability (Subotić, Erceg and Mitrović, 2018). A closer look at credit placements in public and state-owned enterprises, as well as in small and medium enterprises (SMEs) in Bosnia and Herzegovina shown in Table 7, allows us to register a growth tendency in the period from 2009 to 2018. Total credit placements in Bosnia and Herzegovina over the same time period also recorded growth in Figure 4. Loans to small and medium-sized enterprises (SMEs) in Bosnia and Herzegovina followed the growth of total loans by year, as presented in Figure 5. The results of the comparative analysis of the indicators presented in Figure 6 above indicates that credit placements in Bosnia and Herzegovina grew permanently from 2009 to 2018. Loans to small and medium-sized enterprises (SMEs) in Bosnia and Herzegovina also registered a permanent annual growth and follow the growth of total credit placements. In contrast to credit placements, financial leasing arrangements in Bosnia and Herzegovina have recorded a permanent decline.

Table 6: Multiple linear regression coefficients.

| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. | Correlations | Collinearity Statistics |
|-------|-----------------------------|---------------------------|---|-----|-------------|-------------------------|
|       | B | Std. Error | Beta | t | Sig. | Zero-order | Partial | Part | Tolerance | VIF |
| (Constant) | 9314.165 | 855.952 | 10.882 | 0.000 | | | | | | |
| LEASING | 7.057 | 5.387 | 0.153 | 1.310 | 0.238 | -0.666 | 0.472 | 0.100 | 0.424 | 2.359 |
| EXPORT | 1.247 | 0.133 | 1.113 | 9.392 | 0.000 | 0.962 | 0.968 | 0.716 | 0.414 | 2.415 |
| FDI | -2.494 | 0.959 | -0.217 | -2.600 | 0.041 | 0.013 | -0.728 | -0.198 | 0.834 | 1.199 |

a. Dependent Variable: GDP

Source: authors’ own processing.
Table 7: Loan placement in Bosnia and Herzegovina (000 EUR).

| Year | THE REPUBLIC OF SRPSKA (RS) | FEDERATION OF BOSNIA AND HERZEGOVINA (Federation of BH) | TOTAL BOSNIA AND HERZEGOVINA |
|------|----------------------------|---------------------------------------------------|--------------------------------|
|      | Public enterprises | SME | Total (Federation of BH) | Public enterprises | SME | Total |
| 2009 | 27,449 | 911,825 | 939,274 | 94,361 | 2,408,347 | 2,502,708 | 3,441,982 |
| 2010 | 36,504 | 982,261 | 1,018,765 | 122,105 | 2,469,451 | 2,591,556 | 3,610,321 |
| 2011 | 105,927 | 938,102 | 1,044,029 | 133,214 | 2,667,830 | 2,801,044 | 3,845,073 |
| 2012 | 111,985 | 928,390 | 1,031,876 | 129,772 | 2,674,907 | 2,804,679 | 3,836,555 |
| 2013 | 109,510 | 957,223 | 1,066,733 | 138,208 | 2,732,610 | 2,870,818 | 3,937,551 |
| 2014 | 109,481 | 942,038 | 1,051,519 | 121,779 | 2,889,093 | 3,010,872 | 4,062,391 |
| 2015 | 123,315 | 938,464 | 1,061,779 | 107,929 | 3,228,491 | 3,336,420 | 4,398,199 |
| 2016 | 137,705 | 939,151 | 1,076,856 | 164,868 | 3,397,765 | 3,562,633 | 4,639,489 |

Source: Banking Agencies from both entities (the Republic of Srpska, Federation of Bosnia and Herzegovina), Annual Reports 2009-2018.

Figure 4: Loan placement in Bosnia and Herzegovina (mil. EUR)
Source: authors’ own processing.

Figure 5: SME Loan placement in Bosnia and Herzegovina (mil. EUR)
Source: authors’ own processing.

Figure 6: Loan placement in Bosnia and Herzegovina (mil. EUR)
Source: authors’ own processing.
since 2011, with the exception of a slight increase in 2015 (Figure 7). On the other hand, leasing arrangements in European countries recorded a permanent annual growth from 2009 to 2018 as shown in Figure 8. That is, the line of leasing trend in Bosnia and Herzegovina keeps declining, with the exception of 2015 and 2018, while the leasing trend line in European countries maintains slight growth.

CONCLUSION

The results of this research showed that the financial leasing market in Bosnia and Herzegovina is quite scarce and underdeveloped, while financial leasing activities are performed by seven different leasing companies located in the Federation of Bosnia and Herzegovina. In the Republic of Srpska, as the second entity in Bosnia and Herzegovina, there are no entities registered for financial leasing operations. Despite this fact, the financial leasing market in the Republic of Srpska registered a slight growth in the period from 2011 to 2018. In contrast to financial leasing arrangements in the Republic of Srpska, financial leasing in the Federation of Bosnia and Herzegovina registered a decline in the period from 2011 to 2015, therefore making the downward-upward trend line of financial leasing in this entity. In order to assess the relationship between economic indicators in Bosnia and Herzegovina, and their mutual effect and influence, a correlation and regression analysis was used. Correlation analysis was used in determining the quantitative matching between the observed phenomena, while the regression analysis assessed the level of influence of the following variables, leasing, export, import and foreign direct investment (FDI) onto the value of gross domestic product (GDP). By using the Pearson correlation coefficient, the results that were obtained indicated that all variables, except FDI, were statistically significantly correlated with GDP. Variable leasing is negatively correlated with GDP, indicating that the growth of one variable is related to the decrease of another variable. On the other hand, a direct and strong correlation of variables
such as export and import with GDP was observed. It is important to note that a statistically significant indirect relation is achieved both between import, export and leasing, meaning that the growth of one variable implies the decline of another variable and vice versa. The results of the regression analysis indicate that two coefficients (B2 and B3) are statistically significant, giving a unique contribution to the prediction of the dependent variable, namely, the variables of export and FDI. In contrast, leasing variable has no statistically significant coefficient B1 and its contribution cannot be treated as significant and unique. Based on the above, it can be concluded that in the observed model, a unique and statistically significant contribution to the elaboration of GDP is provided primarily by export and FDI, while leasing variable has no statistical significance. A comparative analysis of financial leasing and loans, as a form of financing, indicates the fact that financial leasing was not in the function of deciding and making strategic decisions to replace credit arrangements by this distinct and more favorable form of financing business activities in Bosnia and Herzegovina. While a permanent decline in leasing arrangements has been registered over the last few years, credit placements have been growing at a more faster rate. In contrast to leasing arrangements in Bosnia and Herzegovina, which maintained their tendency to decline over the recent years, leasing financing in developed European countries has been growing steadily, which was particularly notable in the period from 2015 to 2018. By summarizing the results of financial leasing market research, as well as that of statistical indicators of correlation and regression analysis, together with the results of comparative analysis of financial leasing and loans, it can be said that the impact of financial leasing on SME development and economic development of Bosnia and Herzegovina over the observed ten year period was negligible and insignificant.

REFERENCES

A loan of seven million euros to support small and medium enterprises. https://lstr.rs/vijesti/vijest.php?id=207892
Banking Agency of Federation of BH (2009-2018). Annual reports, Sarajevo. https://www.fba.ba/images/Publikacije_Banke/informacija_o_sujetima_bankarskog_sistema_31032018_eng.pdf
Banking Agency of the Republic of Srpska (2009-2018). Annual reports, Banja Luka
Central bank of BH (2018). Annual reports, Sarajevo.
Council of Ministers of Bosnia and Herzegovina, Directorate for Economic Planning (2009 - 2018) Economic Trends-Annual reports, Sarajevo.
Subotić S, Erceg Ž, Mitrović G (2018). Finansijski lizing u funkciji strategijskog odlučivanja o financiranju poslovne aktivnosti (eng. Financial leasing in the Function of Strategic Decision-Making - on Financing Business Activities), Poslovni konsultant/Business Consultant No. 76, Finconsult Tuzla, Tuzla. https://gbr.pepperdine.edu/2010/08/the-role-of-finance-in-the-strategic-planning-and-decision-making-process/
Vukmirović N (2007). Kreiranje povoljnijeg ekonomsko-preduzetničkog ambijenta (eng. Creating a more favorable economic and entrepreneurial environment), Proceedings of the round table "Ambience for Entrepreneurship", State Agency for Development of Small and Medium Enterprises, Banja Luka.
Vunjak N (2005). Finansijski menadžment-Poslovne financije (eng. Financial Management - Business Finance), Proleter Bečej, Faculty of Economics in Subotica, Subotica.

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