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Impact of FDI in Economic Value Added: Empirical Study in Terms of Renewable Natural Resources Mining within Wood-processing Industry

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Abstract
The traditional methods used in the past to assess the benefits of foreign direct investments (FDI) are no longer applicable. The presented study deals with the issue of increasing the potential of the renewable natural resources mining industries and increasing its efficiency and competitiveness through the specific methodology of industries performance measurement and diagnostic of the effects of FDI. The objective of the research was to analyse FDI in Slovakia and other countries of the Visegrad Four, identify significant measurable effects of the FDI impact on the development of the wood, paper and furniture sector in Slovakia as well as quantify the economic performance of given industries based on the EVA model. Appropriate mathematical and statistical methods were used in the research of interdependencies between quantitative variables. In two-dimensional inductive statistics, we applied correlation and linear regression analysis and analysis of variance (ANOVA). The results of the research should support investment decision-making in business and industry investment strategy to aim for the economic development of the renewable natural resources mining industries. Simultaneously, we offer a new methodology for evaluating the potential and economic performance of other Slovak mining industries, other post-communist European countries, and potential investors worldwide.

Keywords
Renewable natural resources mining; Wood, paper and furniture industry; Industry performance; Foreign direct investment (FDI); Slovakia; Economic value added (EVA).

Introduction

Foreign Direct Investment (FDI), which has overtaken aid, remittances, and portfolio investment as the largest source of external finance in many transition countries, supports development in other ways besides providing capital. A 2010 meta-analysis of the effects of FDI on local firms in developing and transition countries suggests that foreign investment robustly increases local productivity growth (Havránek and Iršová, 2010). It helps post-communist economies to integrate into international markets. It also spurs productivity gains by increasing competition and by enabling knowledge to spread across borders.

The investment gap in developing countries annually of 2.5 trillion USD was first estimated by the UNCTAD within investment requirements for the SDGs in World Investment Report 2014 (WIR, 2014), identifying 10 relevant sectors encompassing all 17 SDGs. Progress on investment in the SDGs – from all sources - domestic and international, public and private – is now evident across six Development implications: from global value chains to investment SDG Key Messages of the 10 SDG sectors (WIR, 2020): infrastructure, climate change mitigation, food and agriculture, health, telecommunication, and ecosystems and biodiversity.

FDI is closely linked to the achievement of set SDGs; therefore, it is necessary to investigate its context and measure their impact on the development of economies and their individual industries. Forestry, wood-mining and the wood processing industries provide employment for more than 2.6 million people in Europe. Forests are multifunctional, providing a range of ecosystem services, including the production of renewable materials that can substitute for alternatives with a higher environmental footprint, thus contributing to climate neutrality and overall sustainability (Forest Europe, 2020).

Processing capacities built in the past are currently with the need to innovate and invest. Insufficient domestic capital has been shown in the process of transformation, and a possible solution to this problem appeared to the FDI to the wood processing industry as an important renewable natural resources mining sector.

Current development is influenced by the globalisation process and the subsequent pressure on structural changes in the operating area of production, investment and trade, development of capital resources and methods for using them (Vidová, 2011). However, the traditional methods used in the past to assess the benefits of FDI are no longer applicable. Therefore, this article focuses on filling this gap and brings new methodologies to evaluate the impact of FDI on performance indicators within specific conditions of the wood-mining and processing industry in Slovakia. Economic Value Added is now becoming one of the key indicators used for measuring and managing business performance and determining the total value of a company for the owner or potential investors.

Literature Review

Most empirical studies conclude that FDI contributes to both factor productivity and income growth in host countries; beyond what normally would trigger domestic investment, the fastest-growing countries are also the biggest FDI-host countries. Several previous research studies were dedicated to FDI issues in CEE countries (Rajnoha et al., 2018; Dudáš and Lukáč, 2014; Merková et al., 2012; Gauselmann et al., 2011; Dow and Ferenčíková, 2010; Chidlow et al., 2009; Rugraff, 2008). Horta et al. (2016) demonstrated the impact of internationalisation and diversification strategies on the performance of construction industry companies. According to this study, the FDI may help to upgrade the industry and improve productivity by importing high-tech technologies and a new knowledge base. However, the analysis of locational advantages offered by the Czech Republic, Hungary, Poland, and Slovakia suggests that investors in these countries were mainly interested in low labour costs coupled with a well-trained and educated workforce and an expanding market with high growth rates in the purchasing power of potential buyers (Gauselmann, Knell and Stephan, 2011; Bilan et al., 2017). Research concerning the FDI determinants and effects, especially in Slovakia, is quite limited (Rajnoha et al., 2018). According to Dudáš and Grančay (2019), statistically significant determinants of FDI stock in regions of Slovakia are shown to be population and wages as well as the distance from the capital, access to freeway and presence of universities. On the other hand, the statistical significance of distance from the regional capital and the size of the largest city could not be established.

Slovakia has been included in the group of attractive countries for foreign investors in the last two decades. This is reflected in various sectors, most significantly in the automotive industry, which belongs today in Central Europe to the principal industries (Dudáš and Lukáč, 2014). On the other hand, forest cover in Europe has been increasing for a long time, in contrast to the global decline. Forests cover 35% of Europe's total land area, and around 75% of the forest area is available for wood supply. Slovakia is also setting an example for the world. The area of forests in Slovakia represents up to 41% of the territory and is growing annually (one hundred years ago, Slovakia's forest cover was only 31%), which is significantly more than the share of forest area in Europe (Forest Europe, 2020). Wood as a renewable strategic mining source of the 21st century (Jones and Wegner, 2009; UNECE, 2016) was also supported by the government program in Slovakia. As mentioned above, forest cover and wood stock as a typical sign and comparative advantage of the country, employment, even also current

problems in the industry, were the main reasons from a regional and sectoral point of view why Slovakia and the wood industry were chosen for our research.

On the other side, the wood-processing industry of Slovakia noted no innovation development focused on increasing the competitiveness of production and efficiency increasing. Positive is the labour productivity growth, the most significant in pulp and paper, where is recorded long-term growth above the average of industrial production, especially in periods with high inflows of FDI into the mentioned sector (Merková et al., 2012). Foreign capital firms, mostly multinationals, are a special category in the analysed sector. Here, the decisive channel for the transfer of innovations is the company's parent company, which decides on process innovations and their transfer to the given locality. At the same time, systems aimed at continuous improvement and support of innovations are implemented in companies in this way (Balog et al., 2013). However, except for some multinational enterprises operating in Slovakia, no significant investments were made in the modernisation of processing technologies (Green Report, 2019). Despite the positive development of economic indicators and the growth in the volume of domestic wood processing, there was no significant increase in the competitiveness of most mechanical wood processing companies (Green Report, 2020). Moreover, the dominant Slovak renewable natural resources industry, the pulp and paper sector, needs to keep up the competitive pressure with new trends in efficient production, which is certainly linked to investments and their expected effects (Soltes and Gavurova, 2014). Therefore, in the past, both quantitative and qualitative approaches were used by Merková, Rajnoha and Novák (2012) to diagnose FDI impact in specific conditions in Slovakia and especially in wood processing branches. The task of the evaluation was to define and compare the effects at different stages. They also specified vertical and horizontal spillovers as the indirect FDI effects and their impact on the shift of Slovakia and the wood processing industry specifically.

As mentioned above, FDI may bring significant effects on the country and its industries and businesses. Therefore, this empirical research attempted to identify and quantify them in specific conditions of the wood processing industry in Slovakia as a highly important renewable natural resources industry. We focused on traditional key indicators such as accounting profit or value-added usually used by national authorities (statistics offices, National Banks, industries associations etc.) as well as non-traditional ways of performance measuring, which can be considered an indicator of Economic Value Added (EVA). While the forest and wood branch and their authorities, the term "added value" (VA) has traditionally been used to describe what is more accurately called "secondary wood processing", in which the output of primary wood processing operations is further processed into more refined wood materials or manufactured wood products (Sathre and Gustavsson, 2009). However, based on the above-mentioned, there is no research dealing with the Economic Value Added (EVA) in the mentioned industries.

A number of concepts within business (corporate) performance measurement and management, including Balanced Scorecard, Economic Value Added (EVA), benchmarking and many others, are utilised by company managers to increase the total economic performance of the company (Gavurová, 2018; Knápková et al., 2014; Bisbe and Malagueňo, 2012; Gavurová, 2011, 2012). Corporate Performance Management (CPM) is integrating conception, which connects the business methodologies as Balanced Scorecard, Economic Value Added, Activity Based Management.

The model of EVA, currently used by investors from developed economies, was proposed with the original methodology by Stewart (1991). The ideological basis of this indicator can be found in microeconomics, which states that the purpose of business is to maximise profits. However, it is not accounting but economic profit that is created only when its range exceeds the so-called normal profit derived from the average cost of capital incurred by creditors (interest cost) as well as the owners - the shareholders, where it is the opportunity cost (Kislingerová–and Krabec, 2013). Vijayakumar (2012) realised an empirical analysis of the Indian automobile industry focused on calculating EVA and other accounting performance indicators. Research by Limarev et al. (2015) describes the methodical motivation of the using EVA indicator as an instrument of cost-performance management in organisations. The research study by Gavurová et al. (2018) provides an application of the Data Envelopment Analysis (DEA) approach to measure the environmental performance in OECD countries. The current research study by Tudose et al. (2021) provides a clarification of the methodology for determining the EVA, adapted to the Romanian companies in the automotive industry. The specific analysis of the EVA considering the business cycle was provided on the samples of original equipment manufacturers and suppliers in the Czech automotive sector (Pavelková et al., 2018). Crisóstomo et al. (2011) evaluated Brazilian companies using their accounting information, studying the distribution of value among stakeholders based on economic value-added (EVA). Only recently, Valmayor et al. (2021) analysed the information that should be contained in the SBS (Social Balance Sheet) report comparing the economic value-added (EVA) with other social value-added statements. Also, Wnuczak (2018) applied the concept of EVA in the performance measurement within specific conditions of cultural institutions, leading to the concepts of social EBIT (SEBIT) and social value-added (SVA).

Based on the literature review is evident that previous studies have been mostly applied within the corporate sector.

Although we are aware that the effects of FDI should be analysed in quantitative and also qualitative terms, in this paper, we focus only on quantitative indicators, namely the correlation and regression analysis of basic economic parameters, as well as the structure of value-added and also a unique application of the model EVA within specific conditions of the wood industry as a whole. Although this research has not addressed the qualitative or indirect FDI effects, they are also undeniably part of FDI's impact on this industry.

Material and Methods

Objective and Hypotheses

The main objective of the research was to identify significant measurable effects of the FDI impact on the development of the wood, paper and furniture sector in Slovakia, as well as quantify the overall economic performance of given industries based on the EVA model.

The partial objectives of the research were:

- Analysis of past development and current state of investment and FDI in Slovakia, Slovakia's industrial production and selected sectors.
- Identification of investment effects in renewable natural resources mining industry and the impact on the structure of value-added (VA),
- Quantification of the Economic Value Added (EVA) indicator in the wood, paper and furniture sector in Slovakia as a whole.

The following research hypotheses were set and tested:

H1: FDI in the renewable natural resources mining industry in Slovakia influences the growth of selected economic indicators, performance, and competitiveness of this sector.

H2: Indicator of value-added given wood-mining and processing industries has positive development, considering the quantity as well as its qualitative structure.

H3: Due to investment growth in wood processing sectors was simultaneously increasing the economic value added to the whole industry.

Material

Research data were drawn from relevant statistical sources from international databases, organisations and institutions: Eurostat, UNCTAD, World Bank, IMF, OECD; at the national level were used data from institutions Statistical Office of Slovak Republic, National Bank of Slovakia, Ministry of Economy of Slovak Republic. European System of National and Regional Accounts, implemented in September 2014, is the newest internationally compatible EU accounting framework for a systematic and detailed description of an economy; and it was also suitable for this research.

Selected economic groupings, whose data were compared with Slovakia, were as follows: World total, OECD, European Union, Visegrad Group, Czech Republic, Hungary, and Poland.

Industry categories at the national level analysed in the research are listed in the statistical classification of economic activities (NACE Rev.2). However, some data are not monitored according to the NACE classification for individual sectors. Therefore, the ESA 2010 methodology (European Union, 2013) was used for grouped categories. The research contains categories:

All NACE activities – Slovakia.

Category C – Manufacturing.

NACE C16: Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials.

NACE C17: Manufacture of paper and paper products.

NACE C31-32: Manufacture of furniture; other manufacturing.

For statistical analysis and numeric and graphical presentation of the research results, the programs Microsoft Excel and software Statistica12 from StatSoft, Inc. were used.

Methods Used in the Research

Appropriate mathematical and statistical methods were used to research interdependencies between quantitative and numerical variables. Indicators calculated in the research used formulas listed below.

By one-dimensional descriptive statistics, we analysed selected sample characteristics for one variable – sample size, mean, median, confidence level ±95%, min., max., variance, coefficient of variance, standard deviation, and standard error. Line plots and sequential/stacked plots were used as a graphical statistical method.

In two-dimensional inductive statistics, we applied correlation and linear regression analysis. This is the most used technique for investigating the relationship between two quantitative variables. Correlation quantifies the strength of the linear relationship between a pair of variables or within and between sets of variables,

whereas regression expresses the relationship in the form of an equation. On a scatter diagram, the closer the points lie to a straight line, the stronger the linear relationship between two variables. As a graphical statistical method in this analysis, the Scatterplots were used.

To quantify the strength of the relationship, the correlation coefficient was calculated. In algebraic notation, if exist two variables, x and y, and the data take the form of n pairs (i.e. $[x_1, y_1]$, $[x_2, y_2]$, $[x_3, y_3]$ ... $[x_n, y_n]$), then the correlation coefficient is given by the following equation:

$$r = \frac{\sum_{i=1}^{n}(x_i - \bar{x})\,(y_i - \bar{y})}{\sqrt{\sum_{i=1}^{n}(x_i - \bar{x})^2 \sum_{i=1}^{n}(y_i - \bar{y})^2}} \quad (1)$$

This is the product-moment correlation coefficient or Pearson correlation coefficient (Benesty et al., 2009; Cohen, 1988; Lee Rodgers and Nicewander, 1988; and others).

Correlation and regression analysis was aimed at FDI in Slovakia, the GDP growth of Slovakia, investment and other selected variables (value-added, fixed assets, wages, earnings) in the specific industry of Slovakia. These are indicators that characterise the economic situation in the sector, focusing on indicators that positively affect the sector's economic development.

Correlation and regression analysis tested the time series of 24 years (1996 - 2019), and the results were aimed at presenting the dependency relationships as follows:

- The results show a positive correlation (correlation coefficient in the range from 0 to 1), i.e. the growth of one variable causes another variable growth.
- The results show a large dependence between two variables (the correlation coefficient reaches a value of 0.5).
- It is possible to reject the null hypothesis, whereas the probability of error is $p < 0.05$.

In two-dimensional inductive statistics, we also applied analysis of variance (ANOVA) in the research. The purpose of ANOVA (Shapiro and Wilk, 1965; Iversen and Norpoth, 1976 and others) is to test differences in means (for groups or variables) for statistical significance. As a graphical statistical method, the Box and Whisker plots were used.

For testing of homogeneity of variances, we used the Levene test. Levene test is an inferential statistic used to assess the equality of variances for a variable calculated for two or more groups (Levene, 1960).

Based on the methodology of the statistical office of the European Union (Eurostat), we used key indicators:

$$\textit{Investment rate (\%)} = \textit{(Gross fixed capital formation (flows)) / (Value added) * 100} \quad (2)$$

$$\textit{Profit share on Value Added (\%)} = \textit{(Operating surplus and mixed income) / (Value added) *100} \quad (3)$$

The profitability of FDI is measured, as with conventional investment, as the rate of return on the investment. The equity income return is expressed as a percentage of the total FDI position (FDI inward stock). This measure, when examined across geography and industrial sectors, can give an indication of which investors are making the most profitable foreign direct investments. The definition used in this study for the return on FDI is (Central Statistics Office):

$$\textit{Rate of return on FDI (\%) = (FDI income) / (FDI position) * 100} \quad (4)$$

In addition to traditional indicators, the research in this area is focused on quantifying the EVA indicator in the wood, paper and furniture sectors separately for a period of 20 years (2000-2019).

Two basic models for setting the EVA indicator were developed in the past (Rajnoha and Chromjaková, 2008):

The financial model - can be regarded as more used and discussed currently. The basic formula for calculating the EVA indicator shall be the traditional well-known, and used form:

$$EVA = NOPAT-(WACC*C) \quad (5)$$

Where: *NOPAT* - Net Operating Profit After Tax; *WACC* - Weighted Average Cost of Capital; *C* – Capital.

The weighted average cost of capital is determined according to the following formula:

$$WACC = rd(1-t)*D/C + re*E/C \quad (6)$$

Where: *rd* – cost rate of debt; *t* – corporate tax rate; *D* – Debt capital; *E* – Equity; *C* – Capital (*C*=*E*+*D*); *re* – cost rate of equity.

In calculating the WACC is necessary to set:

rd - the cost of interest-bearing debt capital means the interest rate that can be determined as the weighted average of obtained concluded loan agreements,

re - the cost of equity is determined based on the risk-free rate (risk-free interest rate, which is derived as the yield on government bonds) plus a risk premium for the business.

The calculation-accounting model - this value for the EVA indicator uses calculated interest, which determines the price or cost of debt capital and equity as operationally necessary capital (counting of calculated interest in operating costs means the interest of not only debt capital but also equity). Specification of operationally necessary capital is based on the assets as a whole, i.e. investment (long-term) and also current (short-term) assets.

In the economic theory of business management is already well known that the process of quantifying the performance based on *EVA* covers the volume of generated economic value added in the form of net operating profit after taxes (*NOPAT* = *EBIT* x (1 - tax rate)) depending on the cost of used capital (*EVA* = *NOPAT* - the cost of capital). It is primarily oriented to the management of business market performance, focusing on maximum use of internal business potentials for increasing the yield of corporate assets. In terms of strategic management directly regulates the target return of used equity and debt capital (using indicators such as *ROI*, *ROCE*, *RONA*), operatively is then concentrated on the direct influence of the share of added or not added value in business processes through VAI - index of value-added in business processes (Rajnoha and Chromjaková, 2008) – see Fig. 1 below.

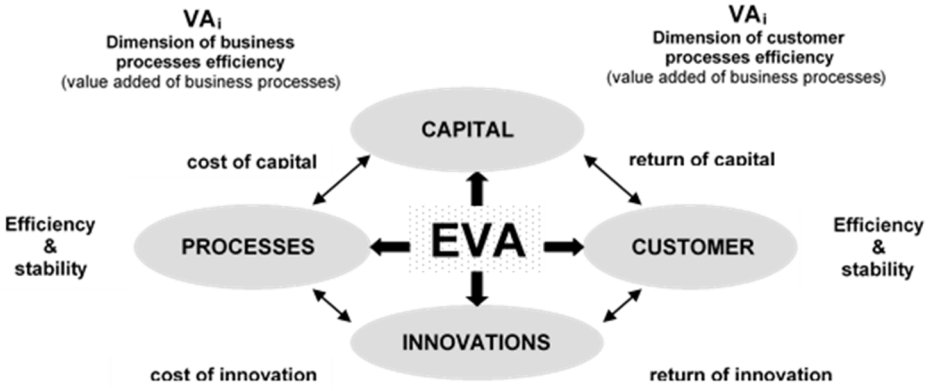

Fig. 1 Strategic dimensions in management of the economic value-added. Source: Rajnoha and Chromjaková, 2008

Economic value-added in business processes is not generated automatically; only by correctly designed and selected investment strategy. This strategy only defines the way in which it can be achieved; provided that there is an interplay of fundamental success factors, the positive change of EVA can be purposefully optimised only with the assumption of linking it with the knowledge of real value-added business processes (Fig. 1). The combination of EVA and VAI brings a fully new concept into the management process of economic efficiency of business processes thanks; on the one hand, it shows the real cost and profitability of corporate assets based on knowledge of the actual inclusion of a certain amount of assets in the production process and on the other hand, it evaluates the effectiveness of the use of these assets by the real workload for a correctly defined total continuous manufacturing times.

In the research was then analysed the impact of FDI and the cost of used capital to value the EVA indicator in selected industry in Slovakia. Other factors of performance affecting this indicator (see Fig. 1) as the performance of internal processes, the performance of customer processes and innovation activity will be the subject of another parallel research.

The methodology of EVA indicator, recently used primarily in management and performance measurement of the company, is applied in this research non-traditionally for the performance valuation of the whole industry, specifically focusing on the renewable natural resources branches in Slovakia.

Results

Empirical analysis of FDI in Slovakia compared with other economies

All regions and economic groupings currently see negative FDI growth rates. Empirical data for FDI published by UNCTAD (WIR, 2020) show that global investment flows peaked in 2015 and since declining slowly, with a sharper decline in 2020 and 2021 expected because of the pandemic crisis. Both new greenfield

investment project announcements and cross-border mergers and acquisitions (M&As) dropped by more than 50 % in the first months of 2020 compared with last year. New OECD data and analysis show that the COVID-19 pandemic accelerated a steady decline and contributed to sinking global FDI flows to their lowest levels since 2005. In 2020, global FDI flowed represented only 1% of world GDP, its lowest level since 1999.

FDI flows to Visegrad Group (V4) countries, namely Czechia, Hungary, Poland and Slovakia, did not follow the rise of FDI in Europe as a whole in 2019. Their combined inflows declined by 18 % (WIR, 2020). Flows increased in Slovakia but dropped in the other three V4 members. Most of the inflows into the V4 originated in other EU member countries; however, MNEs from third countries often use EU affiliates to invest in this group. FDI data for ultimate investors that were available for the Czech Republic, Hungary and Poland indicate a high share of investment from Chinese, Korea and the United States.

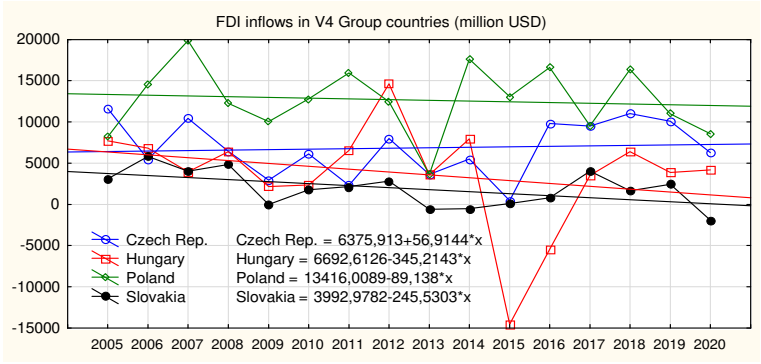

Fig. 2 FDI inflows in V4 Group countries (million USD). Source: own (OECD data)

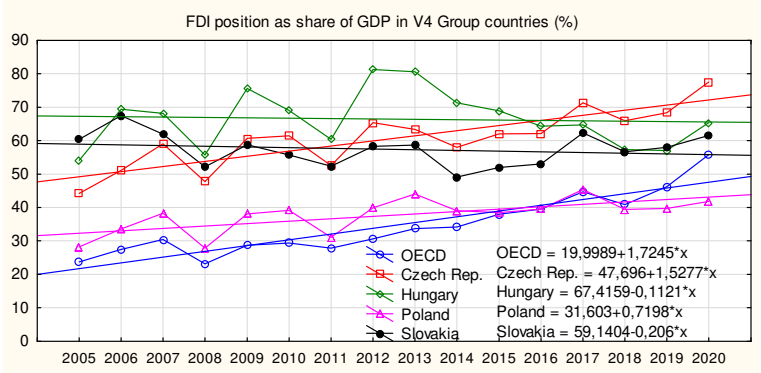

Fig. 3 FDI position as a share of GDP in V4 Group countries (stock, %). Source: own (OECD data)

In Figs. 2 and 3, the development of FDI in the V4 countries is shown. In total, Slovakia has the lowest amount of FDI in the long term. However, in assessing the relative FDI position as a share of GDP, Slovakia notes a better position, ranking above the OECD average, and this indicator shows a slow upward trend since 2014.

The rate of return on inward FDI global was 6.7 % in 2019 (Szmigiera, 2021), compared to a higher value in Slovakia of 7.6% in 2019 (Tab. 1). Slovakia recorded a decline in the indicator in 2020, but not as significant as other V4 countries. The most significant year-on-year decrease was in the Czech Republic by 4.3% percentage points. The average indicator in Slovakia is at the level of 8.8% compared to the average of 6.1% in the OECD during the period 2005-2020. Fig. 4 displays the rate of return on FDI inward position (%) in OECD compared to Slovakia.

Tab. 1 Rate of return on inward FDI (%) in OECD and Slovakia. Source: own

Rate of return on FDI [%]	´05	´06	´07	´08	´09	´10	´11	´12	´13	´14	´15	´16	´17	´18	´19	´20
OECD	7.3	6.9	7.4	8.1	5.7	6.8	7.2	6.4	6.0	6.2	5.3	5.2	4.9	6.0	4.9	3.6
Slovakia	11.8	11.7	10.8	8.9	6.8	10.1	12.1	7.4	5.7	7.9	9.6	9.3	7.3	7.6	7.6	6.2

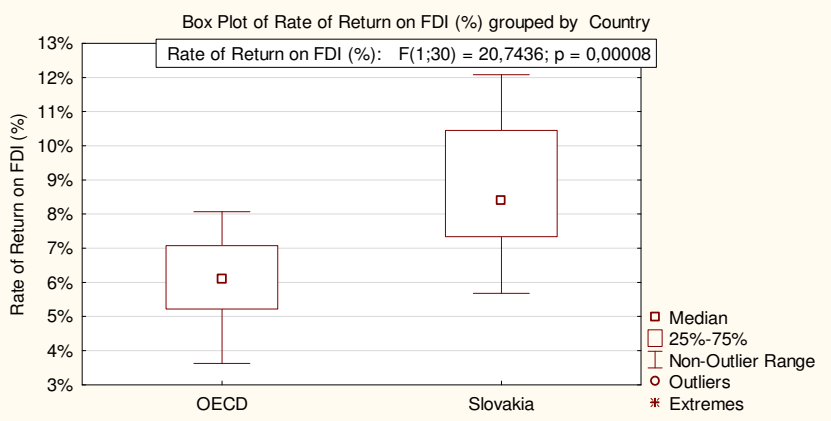

Fig. 4 Rate of Return on inward FDI (stock, %) in OECD and Slovakia. Source: own

Statistical testing between FDI flows and GDP growth in Slovakia presented in Tab. 2 demonstrated a significant correlation ($p < 0.05$, $r = 0.46$). Fig. 5 shows the results for the period 1996 – 2019 ($N = 24$), and the regression $Y = 2.1421 + 0.0008*x$ means the positive impact of FDI on the country's real economic growth.

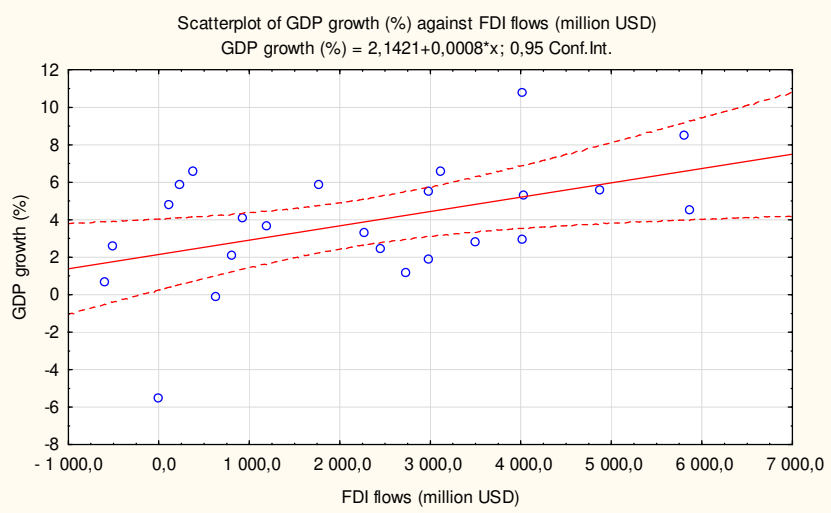

Fig. 5 Correlation analysis: FDI flows and GDP growth in Slovakia (period 1996-2019). Source: own (OECD data)

Tab. 2 Correlation analysis: FDI flows and GDP growth in Slovakia. Source: own

Var. X & Var. Y	Mean	Standard deviation	Correlation (r)	Determination (r^2)	Probability of error (p)	Number (N)	Constant (a)	Constant (b)
FDI flows [millions USD]	2229.069	1938.909						
GDP growth [%]	3.846	3.197	0.46	0.21	0.023	24	2.142	0.0008

Comparative analysis of investment and selected key performance indicators between Slovak industry and wood-processing sectors of Slovakia

FDI position in C-Manufacturing as well as in Slovakia (listed in Tab. 3) shows a similar - stabile increasing trend. Share of C-Manufacturing reaches one third in Slovakia in long-term average. FDI stock as a share of wood processing branches in Slovakia achieves 1.9% on average during the period 2009 - 2015.

FDI stock in wood processing sectors presented in Fig. 6 reported almost constant volume in the analysed period 2009-2015. The largest values were in the paper sector from 2009 - 2012, and the furniture industry dominated the next three years. Different, the decreasing trend is in the wood industry with the smallest amount of FDI stock.

Tab. 3 FDI position (stock) in wood processing industries in Slovakia. Source: own (NBS Data)

FDI stock	Slovakia (total) [million euro]	C-Manufacturing [million euro]	C16 Wood [million euro]	C17 Paper [million euro]	C31 Furniture [million euro]	C16+C17+C31 [million euro]	Share of C-Manufacturing in Slovakia [%]	Share of (C16+C17+C31) in Slovakia [%]
2009	36 469	12 548	231	455	163	848	34.4	2.3
2010	37 665	12 939	219	415	157	792	34.4	2.1
2011	40 173	12 368	201	350	151	702	30.8	1.7

2012	41 780	13 707	196	369	137	702	32.8	1.7
2013	42 072	13 612	163	290	312	765	32.4	1.8
2014	40 969	13 690	175	292	339	805	33.4	2.0
2015	42 265	14 055	131	317	341	789	33.3	1.9
2016	45 150	14 570	NA	NA	NA	NA	32.3	NA
2017	49 620	15 918	NA	NA	NA	NA	32.1	NA
2018	52 279	13 284	NA	NA	NA	NA	25.4	NA
2019	NA	NA	NA	NA	NA	NA	NA	NA

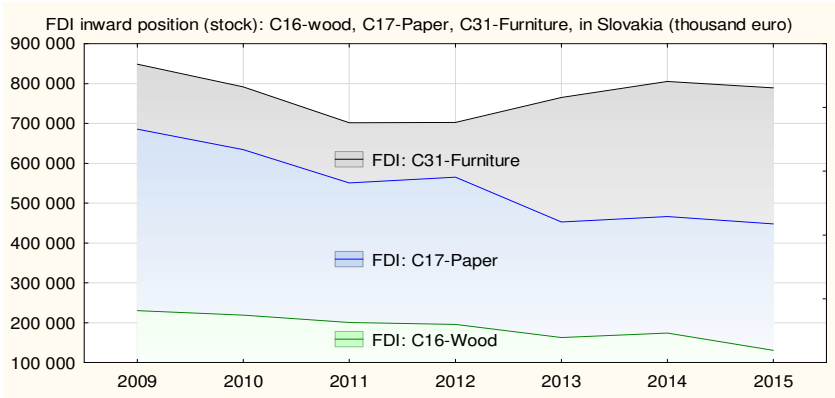

Fig. 6 FDI position (stock) in C16-Wood, C17-Paper, C31-Furniture, in Slovakia. Source: own (NBS data)

The investment rate at which enterprises invest earnings in longer-term assets is an indicator of business expansion – if the rate declines, then this typically decreases the rate of cumulative business expansion. Eurostat publishes the "business investment rate" in relation to the issue. This ratio at the business level is equal to the investment rate defined by formula 2 in the paper. It indicates how much of the total income is reinvested in new fixed assets. Typically that ratio is about 20–23% of gross value-added. According to ANOVA testing (Tab. 4, Fig. 7), analysed sectors reach significantly different values. The average investment rate in C-Manufacturing in Slovakia was at the level of 31.7%, steadily above normal values. The sector of C16-Wood ran into a lower average of 16.8% during 2000-2019, but it covers two different characteristic periods. By 2008 it oscillated around the usual 20%. However, the consequences of the global financial and economic crisis resulted in a massive decline in the investment rate. In 2010 the value even fell to 5%, and the wood sector in Slovakia has been undercapitalised since that.

Positive findings in C16-Wood are in terms of profit share on value-added (Tab. 5, Fig. 8). Analysed the time series 2000-2019, the average of the indicator was 54.95%, so the C16-Wood is the branch that creates a significantly higher profit share in value-added than the whole Slovak industry with an average 29.9%. In contrast with the small downturn in C-Manufacturing (30.81 - 0.06**x*), C16-Wood has a growing trend (41.24 + 0.95**x*). It can be stated that there is a very little investment rate in the wood sector, but the capital invested works very effectively with a positive economic impact on value-added. In addition, a quantified increasing indicator offers optimistic future expectations in terms of the contribution of the wood sector to the Slovak economy.

Tab. 4 ANOVA testing: Investment rate (%) in C-Manufacturing and C16-Wood, in Slovakia. Source: own

Levene's Test for Homogeneity of Variances					
	MS Effect	MS Error	F	p	
Investment rate [%]	0.000031	0.001498	0.020803	0.886	
Univariate Tests of Significance					
Effect	SS	Degree Of Freedom	MS	F	p
Investment rate [%]	0.222899	1	0.222899	47.9699	0.000
Error	0.176572	38	0.004647		

Tab. 5 ANOVA testing: Profit share on VA (%) in C-Manufacturing and C16-Wood, in Slovakia. Source: own

Levene's Test for Homogeneity of Variances					
	MS Effect	MS Error	F	p	
Profit share on VA [%]	0.000177	0.001513	0.116737	0.734	
Univariate Tests of Significance					
Effect	SS	Degree Of Freedom	MS	F	p
Profit share on VA [%]	0.626608	1	0.626608	133.549	0.000
Error	0.178295	38	0.004692		

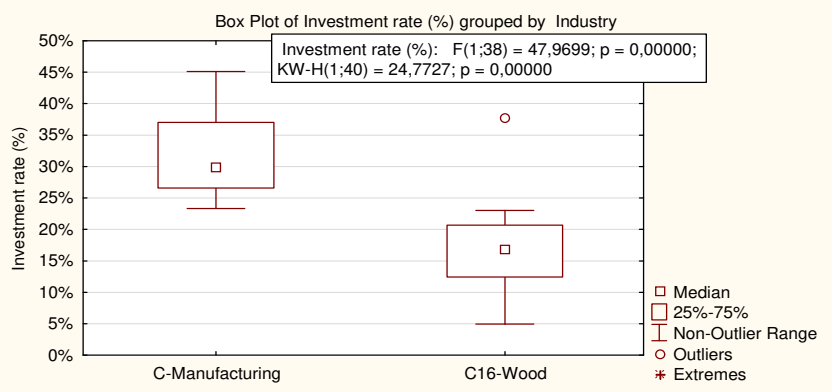

Fig. 7 Investment Rate (%) in Slovakia in C-Manufacturing and C16-Wood. Source: own

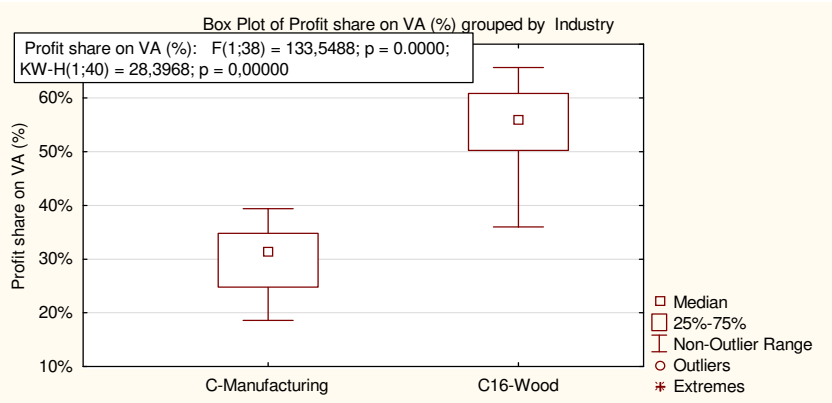

Fig. 8 Profit share on VA (%) in Slovakia in C-Manufacturing and C16-Wood. Source: own

Quantitative analysis of investment and key performance indicators - the results of correlation and linear regression

The significant impact of investment in C16-Wood in Slovakia was demonstrated by correlation and regression analysis (Tab. 6). There is a strong correlation between investment and value-added to the sector (p 0.0008, r 0.64, r^2 0.40). Similarly, we can conclude that investment has a positive impact (p 0.001, r 0.62, r^2 0.38) on the growth of the operating surplus.

Tab. 6 Selected results of correlation and regression analysis in C16-Wood, Slovakia. Source: own (Eurostat data)

Variables	Indicator [million euro]	Mean	Standard deviation	Correlation (r)	Determination (r^2)	Probability of error (p)	Number N	Constant (a)	Constant (b)
X	Investment	71.421	44.505						
Y	Value added	436.663	239.908	0.635	0.403	0.0008	24	192.114	3.424
X	Investment	71.421	44.505						
Y	Operating Surplus	246.254	157.976	0.617	0.380	0.001	24	89.889	2.189

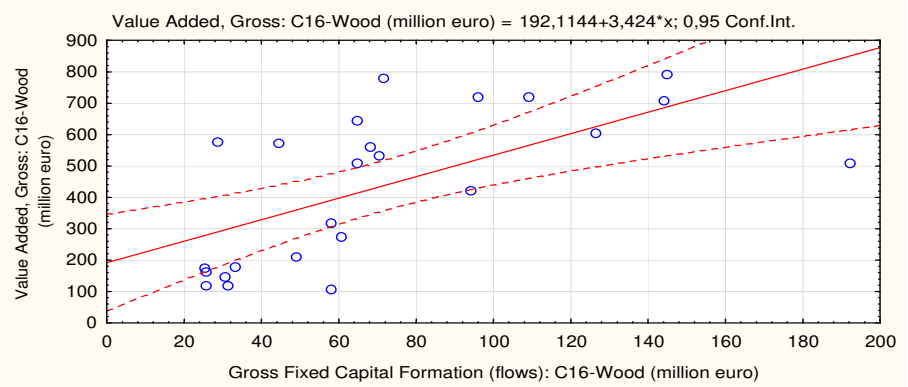

Fig. 9 Correlation analysis: Investment and Value Added: C16-Wood (period 2000-2019). Source: own (Eurostat data)

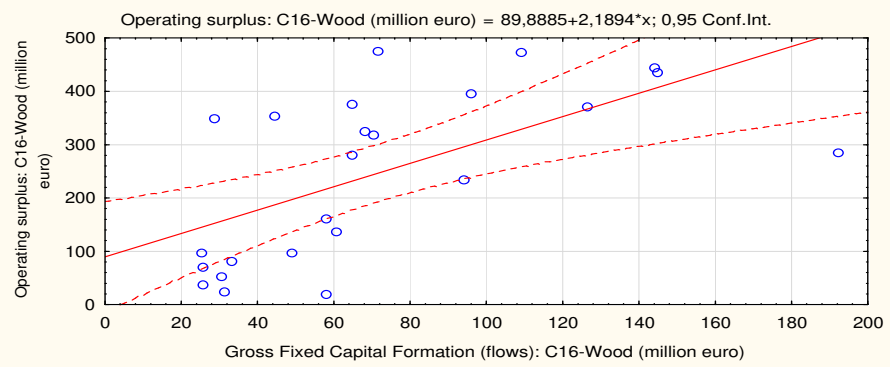

Fig. 10 Correlation analysis: Investment and Operating Surplus: C16-Wood (period 2000-2019). Source: own (Eurostat data)

Focused on individual components of value added (depreciation and amortisation of fixed assets, wages, and profit), the time series in C16-Wood in Slovakia are shown in Fig. 11. Three facts it is necessary to highlight. First, the annual volumes of gross value added are growing. Second, this positive trend is caused by the increase in absolute values of profit as well as wages. And third, the most significant impact on value-added has a relative volume of profit, with an average of 55%.

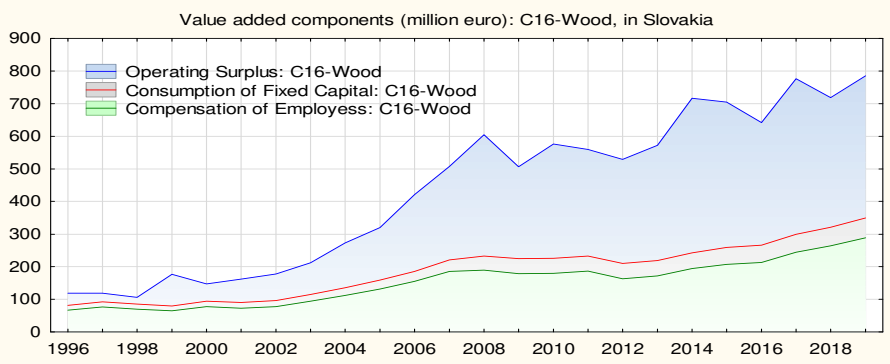

Fig. 11 Value-added Components (million euro): C16-Wood, in Slovakia. Source: own (Eurostat data)

Quantification of the economic value-added (EVA)

Tab. 7 presents input parameters and results of calculation of the weighted average cost of capital (WACC), then Tab. 8 presents the input parameters and quantification of the EVA indicator in NACE16 – Manufacture of wood and wood products in Slovakia.

Tab. 7 Calculation of WACC (%): C16-Wood, Slovakia. Source: own

WACC: C-16 (Wood)	Government bonds coupon rate[a] [%]	Debt interest rates[b] (*i*) [%]	Corporate tax rate[c] (*t*) [%]	Cost rate of Equity[d] [%]	Cost rate of Debt[e] (*i* * (1-*t*)) [%]	Share of Equity E/C	Share of Debt D/C	WACC [%]
2000	10.7	12.0	29	12.7	8.5	0.67	0.33	11.3
2001	7.8	9.3	29	9.8	6.6	0.67	0.33	8.7
2002	7.7	9.0	25	9.7	6.7	0.62	0.38	8.6
2003	5.0	7.3	25	7.0	5.5	0.64	0.36	6.5
2004	5.0	5.8	19	7.0	4.7	0.63	0.37	6.2
2005	3.5	4.2	19	5.5	3.4	0.66	0.34	4.8
2006	4.4	5.4	19	6.4	4.4	0.65	0.35	5.7
2007	4.5	5.5	19	6.5	4.4	0.59	0.41	5.6
2008	4.7	5.5	19	6.7	4.4	0.58	0.42	5.8
2009	4.7	3.3	19	6.7	2.7	0.59	0.41	5.1
2010	3.9	3.2	19	5.9	2.6	0.61	0.39	4.6
2011	4.4	3.3	19	6.4	2.6	0.59	0.41	4.9
2012	4.6	2.5	19	6.6	2.1	0.59	0.41	4.7
2013	3.2	2.2	23	5.2	1.7	0.56	0.44	3.6
2014	2.1	2.1	22	4.1	1.6	0.55	0.45	3.0
2015	0.9	2.1	22	2.9	1.6	0.55	0.45	2.3
2016	0.5	2.2	22	2.5	1.7	0.54	0.46	2.2
2017	0.9	2.0	21	2.9	1.6	0.52	0.48	2.3
2018	0.9	2.2	21	2.9	1.7	0.53	0.47	2.3
2019	0.2	1.9	21	2.2	1.5	0.54	0.46	1.9

a Source: data from the Debt and Liquidity Management Agency in the Slovak Republic
b Source: data from the National Bank of Slovakia
c Source: data from the Ministry of Finance of the Slovak Republic
d Determined as the government bonds coupon rate in the Slovak Republic plus the spread 2%
e Determined as the average interest rate in commercial banks in Slovakia minus the corporate tax

It can be positively stated that the cost of capital decreases. The weighted average cost of capital indicator acquired values in the large range of 1.9-11.3%, with a gradual decrease during the whole analysed period 2000-2019. The trend was influenced by still lower government bonds and thus cost rate of equity and lower debt interest rates. The decline in WACC was also highlighted by the fact that debt and loans, which are cheaper, were gradually used to a greater extent than more expensive equity capital.

Tab. 8 Calculation of EVA indicator (million euro): C16-Wood, Slovakia. Source: own

EVA indicator C-16 (Wood)	NOPAT [million euro]	Capital (C) [million euro]	WACC [%]	Capital costs = C*WACC [million euro]	EVA = NOPAT-(C*WACC) [million euro]
2000	53.0	467.1	11.3	53	0
2001	71.7	485.7	8.7	42	29
2002	81.8	524.9	8.6	45	37
2003	97.8	589.6	6.5	38	60
2004	137.7	668.2	6.2	41	96
2005	161.2	742.5	4.8	36	125
2006	235.4	852.6	5.7	49	187
2007	286.1	1 099.9	5.6	62	224
2008	371.9	1 330.7	5.8	77	295
2009	281.5	1 405.2	5.1	71	210
2010	350.0	1 382.0	4.6	63	287
2011	325.9	1 418.9	4.9	69	257
2012	319.0	1 449.5	4.7	68	251
2013	353.1	1 463.7	3.6	53	300
2014	474.2	1 529.2	3.0	46	428
2015	445.4	1 638.8	2.3	38	407
2016	375.8	1 656.4	2.2	36	340
2017	476.6	1 712.7	2.3	39	437
2018	396.7	1 796.1	2.3	42	355
2019	435.2	1 935.6	1.9	37	398

The obtained results (Fig. 12) show positive and growing EVA in the wood industry in Slovakia, indicating an increased performance. This sector achieved significantly negative EVA during 1996-1999 due to low profits (or losses), but the results of this period are not given due to different source databases and are not fully compatible with the currently presented values. Since 2000, the EVA indicator has had a growing trend with slightly varying development, with the highest value obtained in 2017. It is possible to see the connection with FDI flows in Slovakia, which reached a peak in the same year 2017 since the global financial and economic crisis in 2008.

Components of the EVA indicator presented in Fig. 13 display that NOPAT and Capital had the same - growing development and indicate that, based on them, the volume of EVA would be a constant. However, WACCs have been declining, and it is this determinant that explains the growing trend of the EVA indicator.

It is important to note that NOPAT in C16-Wood was positive throughout the period analysed. Its close connection with EVA was manifested in the last 5 years when the WACC reached a stable value at 2.2%, and the profit correlated exactly with the achieved EVA indicator.

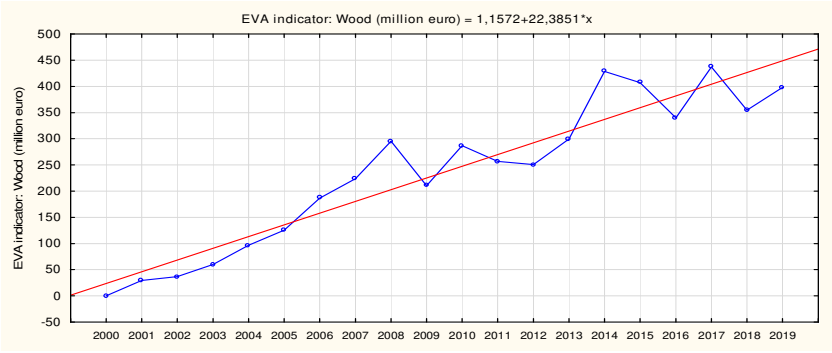

Fig. 12 Economic value added-EVA (million euro): C16-Wood, in Slovakia. Source: own

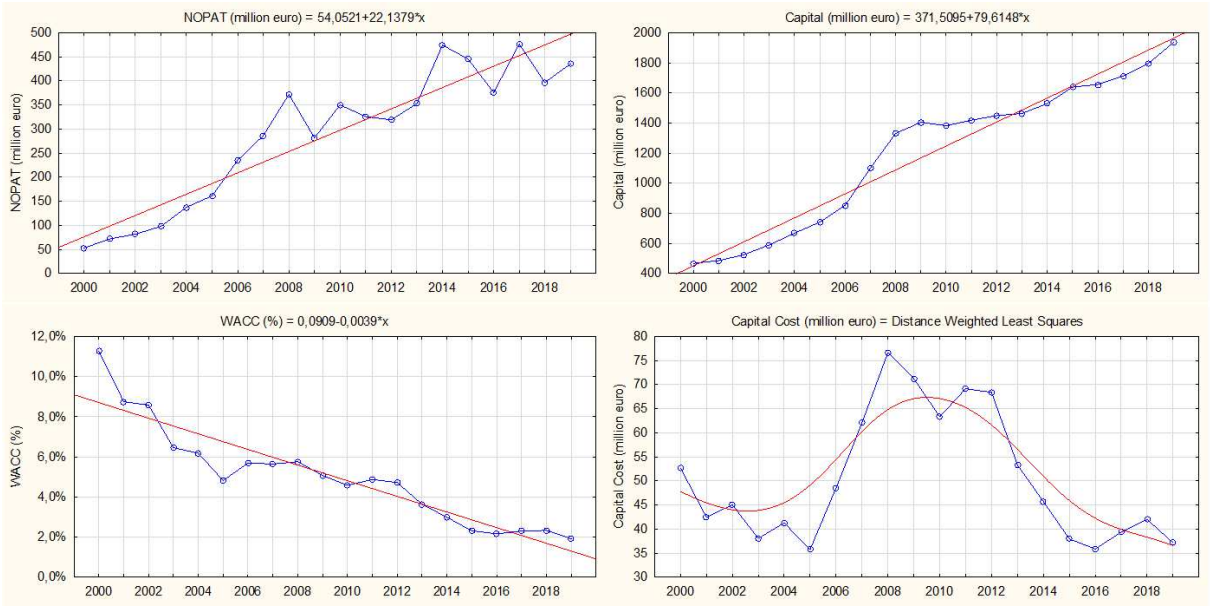

Fig. 13 Components of EVA indicator: C16-Wood, in Slovakia. Source: own

It was appropriate to compare the values of the EVA indicator between sectors of the wood processing industry. It can be observed (Fig. 14) that the wood industry dominates in absolute volumes, with an average of 236 million euros per year. There is a significant lag in the paper and furniture industry in terms of creating the EVA indicator.

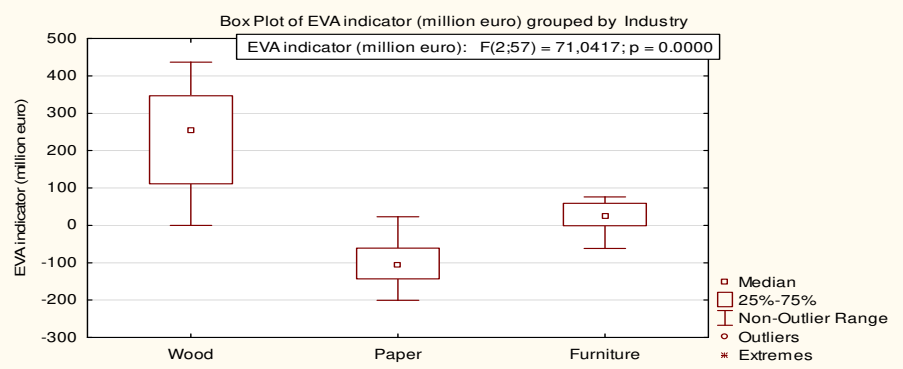

Fig. 14 Economic value added- EVA (million euro): Wood-processing industries in Slovakia. Source: own

Discussion

Considering the factors affecting the EVA indicator in terms of the renewable natural resources mining industry in Slovakia, we can discuss particularly the cost of capital or trend of the NOPAT based on the study's results. We also recognise that the EVA and thus the performance of the whole industry and its businesses is affected by many other factors explained in theory and methodology (see Fig. 1). As we mentioned above, these are the subject of our further research.

It is necessary to support the development of sectors with higher value-added, especially those with a negative trade balance, including sectors engaged in producing secondary paper products and processing recovered paper (Green Report, 2020). Based on the results of the EVA analysis, we can say that the wood industry generates the EVA indicator's positive values, which shows the good performance, which is important in terms of future national economic policy in Slovakia as well as in terms of potential domestic and foreign investors. We reflect that these positive results achieved in quantifying the EVA indicator, excepting objective factors influencing the performance of the Slovak wood industry, are significantly affected by the risk premium, which we have subjectively included in calculating the cost rate of equity only at the level of 2%. Economic development in Slovakia, however, suggests that the relatively low-risk rate, which we have set in the calculations, is justified.

Investment in innovations and R&D could seem to be the ideal solution for even stronger growth in the sector. However, as Balog et al. (2013) stated in this case, investment in basic research is very inefficient, and the support of applied research also encounters the problem of the current level of development of the sector. Certain progressive measures have been and will be unnecessary because companies are not showing interest in them, as several projects have already been done. Required meet with SDGs runs into a lack of ability to specify the innovation strategy, introduce an innovative corporate culture and drive innovations in the wood industry. Manufacturers of technological equipment are a sector that is more innovative than the wood processing industry itself, so very often, they come up with innovative technologies capable of improving existing production processes or introducing completely new process procedures to lead to the higher economic performance of the sector.

Limitations for the use of knowledge from this study and their application are characteristic of the current situation caused by the pandemic crisis, and decreasing investment flows worldwide. WIR (2020) states that the pandemic is a supply, demand and policy shock for FDI. The lockdown measures slowed down existing investment projects. The impact, although severe everywhere, varies by region. Developing economies are expected to see the biggest fall in FDI because they rely more on investment in global value chain - intensive and extractive industries, which have been severely hit, and because they are not able to put in place the same economic support measures as developed economies. Longer-term, developing economies may be further penalised by the trend towards re-shoring or regionalisation of international production, which could accelerate in response to the actual pandemic crisis. Many least developed countries (LDCs) are dependent on FDI in extractive industries; many landlocked developing countries are disproportionally affected by supply chain blockages. Developing economies appear more vulnerable to this crisis, contrary to the situation after the global financial and economic crisis, which had a much stronger effect on FDI in developed countries.

For further research, the three highlighted elements are appropriate. First, it would be possible to approach the risk premium differently for the individual sectors, to consider the specificities of the sectors, the risk sources and factors, to reflect it into the adequate level of the risk premium for each branch and consequently different cost rate of equity. Second, in determining the cost rate of debt, we used the uniform – average interest rate for business units in commercial banks in Slovakia. Unfortunately, due to the unavailable data on debt interest rates just for the analysed industries, it was not possible to use the concrete rate for separate sectors. That means that the cost rate of debt in this research depended on the whole country's economic and political situation, not only on the analysed branches. And third, the capital asset pricing model (CAPM) could be used to find the cost of equity. This model uses a company's beta, the risk-free rate, and the market's expected return to determine the cost of equity, so this methodology could be more specific to the given industry.

The research findings can be useful as a support for investment decision-making in business and industry investment strategy to aim for the economic development of the renewable natural resources mining industries. Simultaneously, the study offers the methodology of increasing the potential and the economic performance of other Slovak mining industries, other post-communist European countries, and potential investors worldwide.

Conclusions

The measurable effects of FDI within the specific conditions of Slovakia and the selected industry are shown in the research results through correlation and regression analysis. Based on the quantitative research realised through the selected statistical methods, the following facts can be stated:

- Investment in the renewable natural resources mining and wood-processing industry positively affects the value-added and created profit in the sector.
- The results of the economic value-added, which allows specifying the individual factors affecting the performance of the industry, show an upward trend in the EVA indicator. Therefore, the growth of economic performance of the wood-mining and processing industry in Slovakia as a key renewable natural resources mining sector.

In further research, we would like to analyse other factors of industry performance affecting the EVA indicator as to the performance of internal processes, the performance of marketing processes and innovation activity in terms of Slovak renewable natural resources mining industries.

References

Balog, M., Baláž, V, Brighton, D. et al. (2013). Innovative Slovakia - starting points and challenges. Slovak Innovation and Energy Agency.

Benesty, J., Chen, J., Huang, Y. and Cohen, I. (2009). Pearson correlation coefficient. Noise reduction in speech processing (pp. 1-4). Springer, Berlin, Heidelberg.

Bilan, Y., Gavurova, B., Stanisław, G. and Tkacova, A. (2017). The Composite Coincident Indicator (CCI) for Business Cycles. *Acta Polytechnica Hungarica*, 14(7), 71-90.

Bisbe, J. and Malagueño, R. (2012). Using strategic performance measurement systems for strategy formulation: Does it work in dynamic environments? *Management Accounting Research*, 23, 296-311.

Chidlow, A., Salciuviene, L. and Young, S. (2009). Regional determinants of inward FDI distribution in Poland. *International Business Review*, 18(2), 119-133.

Cohen, J. (1988). Statistical Power Analysis for the Behavioral Sciences (2nd ed.).

Crisóstomo, V. L., de Souza Freire, F. and De Vasconcellos, F. C. (2011). Corporate social responsibility, firm value and financial performance in Brazil. *Social Responsibility Journal*, 7, 295–309.

Dow, D. and Ferenčíková, S. (2010). More than just national cultural distance: Testing new distance scales on FDI in Slovakia, *International Business Review*, 19(1), 46-58.

Dudáš, T. and Grančay, M. (2019). Regional structure of foreign direct investment in Slovakia–a district-level gravity-type model 2009–2016. Ekonomicky casopis, 67(8), 811-836.

Dudáš, T. and Lukáč, M. (2014). Increase in labour productivity in the context of FDI inflows into the automotive industry of Visegrad Group member states. *Actual Problems of Economics*, 162(12), 96-105.

European Commission Statistical Database (Eurostat). Available from http://epp.eurostat.ec.europa.eu

European Union (2013). European System of Accounts ESA 2010. Luxembourg: 2013. doi:10.2785/16644

Eurostat. Statistical Explained Glossary. URL: http://ec.europa.eu/eurostat/statistics-explained/index.php/Thematic_glossaries

Foreign Direct Investment data. National Bank of Slovakia. Available from http://www.nbs.sk/en/statistics/balance-of-payments-statistics/foreign-direct-investment

Forest Europe (2020). State of Europe's Forests 2020. https://foresteurope.org/wp-content/uploads/2016/08/SoEF_2020.pdf

Gauselmann, A., Knell, M. and Stephan, J. (2011). What drives FDI in Central-Eastern Europe? Evidence from the IWH-FDI-Micro database. *Post-Communist Economies* 23(3), 343-357.

Gavurová, B. (2011). Systém Balanced Scorecard v podnikovom riadení. *Ekonomický časopis / Journal of Economics*, 59(2), 163-177.

Gavurova, B. (2012). Source Identification of Potential Malfunction of Balanced Scorecard System and its influence on system function. *E & M Ekonomie a Management*, 15(3), 76-90.

Gavurova, B., Kocisova, K., Behun, M. and Tarhanicova, M. (2018). Environmental performance in OECD countries: A non-radial DEA approach. *Acta Montanistica Slovaca*, 23(2), 206-215.

Green Report (2019). Report on forestry in the Slovak Republic for 2018. The Ministry of Agriculture and Rural Development of the Slovak Republic, National Forestry Center. URL: https://www.mpsr.sk/zelena-sprava-2019/123---14927/

Green Report (2020). Report on forestry in the Slovak Republic for 2019. The Ministry of Agriculture and Rural Development of the Slovak Republic, National Forestry Center. URL: https://www.mpsr.sk/download.php?fID=19612/

Havránek, T. and Iršová, Z. (2010). Which foreigners are worth wooing? A meta-analysis of vertical spillovers from FDI.

Horta, I. M., Kapelko, M., Lansink, A. O. and Camanho, A. S. (2016). The impact of internationalization and diversification on construction industry performance. *International Journal of Strategic Property Management,* 20(2), 172-183.

Income tax rate. Ministry of Finance of the Slovak Republic. Available from http://www.finance.gov.sk.

Iversen, G. R. and Norpoth, H. (1976). Analysis of Variance.

Jones, P. and Wegner, T. H. (2009). Wood and paper as materials for the 21st century. MRS Online Proceedings Library (OPL), 1187.

Kislingerová, E. and Krabec, T. (2013). Valuation methods for the advanced. A deeper look at selected issues. (2013): 439-444.

Knápková, A., Homolka, L. and Pavelková, D. (2014). Utilization of Balanced Scorecard and the effect of its use on the Financial Performance of Companies in the Czech Republic. *E + M Ekonomie a Management,* 17(2), 146-160.

Lee Rodgers, J. and Nicewander, W. A. (1988). Thirteen ways to look at the correlation coefficient. *The American Statistician*, 42(1), 59-66.

Levene, H. (1960). Contributions to Probability and Statistics: Essays in Honor of Harold Hotelling. Stanford University Press. pp. 278–292.

Limarev, P. V., Limareva, Y. A., Zinovyeva, E. G. and Usmanova, E. G. (2015). Methodical motivation of the using EVA (economic value added) as instrument of cost-performance management in organizations. *Mediterranean Journal of Social Sciences*, 6(5), 489.

Merková, M., Rajnoha, R. and Novák, P. (2012). Quantitative and Qualitative Diagnostic Methods for Measuring the Effects of Foreign Direct Investment in Terms of the Wood-Processing Industry in the Slovak Republic. *Drewno*, 55(187), 65-87.

OECD. Foreign Direct Investment Statistics: Data, Analysis and Forecasts. URL: https://www.oecd.org/investment/statistics.htm

OECD. Glossary of Statistical Terms. URL: http://stats.oecd.org/glossary/index.htm

Pavelková, D., Homolka, L., Knápková, A., Kolman, K. and Pham, H. (2018). EVA and Key Performance Indicators: The Case of Automotive Sector in Pre-Crisis, Crisis and Post-Crisis Periods. *Economics and Sociology*, 11(3).

Rajnoha, R. and Chromjaková, F. (2008). Increasing of the company competitiveness by management the indicator EVA (Zvyšovanie konkurencieschopnosti firmy riadením ukazovateľa EVA). New Theory of Economics and Management: Proceedings. Praha: University of Economics in Prague, Faculty of Business Administration, Czech Republic, p. 89.

Rajnoha, R., Merková, M., Dobrovič, J. and Rózsa, Z. (2018). Business performance management and FDI: Key differences between foreign and domestic-owned firms-A case of Slovakia. *Journal of Business Economics and Management*, 19(1), 42-62.

Results of Auctions by year. Debt and Liquidity Management Agency. http://www.ardal.sk/sk/statne-cenne-papiere/statne-dlhopisy/vysledky-aukcii-sd/vysledky-aukcii-podla-jednotli

Return on FDI. Central Statistics Office, Ireland. Available on: https://www.cso.ie/en/releasesandpublications/ep/p-fdi/foreigndirectinvestmentinireland2017/rfdi/.

Rugraff, E. (2008). Are the FDI policies of the Central European countries efficient? *Post-Communist Economies*, 20(3), 303-316.

Sathre, R. and Gustavsson, L. (2009). Process-based analysis of added value in forest product industries. *Forest Policy and Economics*, 11, 65-75.

Shapiro, S. S. and Wilk, M. B. (1965). An analysis of variance test for normality (complete samples). *Biometrika* 52, 591-611.

Soltes, V. and Gavurova, B. (2014). Innovation policy as the main accelerator of increasing the competitiveness of small and medium-sized enterprises in Slovakia. Emerging Markets Queries in Finance and Business (EMQ 2013). Procedia Economics and Finance, 15, 1478-1485.

Stewart, G.B. (1991). The Quest for Value: The EVA Management Guide; Harper Business: New York, NY, USA, 1991.

Szmigiera, M. (2021). Global rates of return for inward FDI 2010-2019. Statista. Available on: https://www.statista.com/statistics/964037/global-rates-return-inward-fdi/ (Mar 12, 2021).

The 21st Century will be the century of wood (2016). United Nations Economic Commission for Europe Information Unit Available on: https://unece.org/forestry/press/21st-century-will-be-century-wood

Tudose, M. B., Rusu, V. D. and Avasilcai, S. (2021). Performance Management for Growth: A Framework Based on EVA. *Journal of Risk and Financial Management*, 14(3).

Valmayor, M. Á. M., Duarte Monedero, B. and Gil-Alana, L. A. (2021). The Social Balance Sheet as Part of the Annual Report in Financial Institutions. A Case Study: Banco Bilbao Vizcaya Argentaria (BBVA). *Sustainability*, 13(6), 3075.

Vidová, J. (2011). Establishment of Industrial Parks and their Effects on Unemployment in the Economy. *Ekonomic Journal*, 59(8), 823-840.

Vijayakumar, A. (2012). Economic value added (EVA) and other accounting performance indicator: An empirical analysis of Indian automobile industry. *International Journal of Marketing and Technology*, 2(3), 131.

Wnuczak, P. (2018). Social value added (SVA) as an adaptation of economic value added (EVA) to the specificity of cultural institutions. *Journal of Management and Business Administration. Central Europe*, 26(1), 100-120.

Wood Processing Industry – Sectoral Analysis (2010). Ministry of Economy of the Slovak Republic. Available from http://www.economy.gov.sk.

World Investment Report (2014). United Nation Conference on Trade and Development, Geneva. Available on: https://unctad.org/system/files/official-document/wir2014_en.pdf

World Investment Report (2020). United Nation Conference on Trade and Development, Geneva. Available on: https://unctad.org/system/files/official-document/wir2020_en.pdf.