

Article

Financial Aspects of Sustainability: An Evidence from Slovak Companies

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Abstract: Business sustainability has been one of the leading topics of the financial management of Slovak companies since the beginning of the millennium. The initially relatively strict link only to environmental aspects has been supplemented by the economic and social dimensions in recent years, under the pressure of the business environment. Examining the link between a company's financial performance and sustainability is addressed in this paper by the financial ratios method and the correlation and linear regression analysis methods. The subjects of investigation are enterprises from three selected sectors, with the selection criterion for the sample being determined based on the share of sales of the enterprises in the sectoral sales such that the sample includes enterprises with a total share of more than 50%. The aim was to design an integral indicator of business sustainability and linking it to the identified economic performance indicator, Economic Value Added, whereby it insists on economic pillar of sustainability exclusively. The research results show a strong direct dependence of the financial performance to the IU_{UP} (Integral business sustainability indicator) in the supply of "Supply of electricity, gas, steam and cold air" and the independence of the IU_{UP} in the "Information and communication" and "Industrial production" sectors. Further research should go beyond the borders of the Slovak Republic and should be aimed at proposing changes and amendments in IU_{UP}, applying more comprehensive evaluation procedures, while respecting the public availability of input information.

Keywords: sustainable business; business practices; financial performance; financial sustainability; sustainable strategy

1. Introduction

The business environment in the Slovak Republic has undergone fundamental changes in recent decades. The expansion of the automotive industry, a higher degree of digitization of business activities and the creation of an adequate e-business environment have led to the restructuring of customer expectations and requirements. At the end of the 20th century, the level of diversification, flexibility, versatility of production and distribution routes did not allow for full satisfaction of market participants' needs; the current population has increased significantly more than the real volume of capital and capital availability. The determining factor has been the level of marketing, which, with its basic mission—selling everything produced and convincing the customer about its unsatisfactory needs—has steadily increased demands on producers not only in the field of pricing policy. The demands for responsible entrepreneurship, the sustainability of production and living conditions, the greening of consumption, etc., are beginning to emerge, all of which are linked to the

requirement of higher ethics in business, while, in the broader context, we came to the issue of business sustainability [1,2]. The primary objective of the business is to continue to maximize profits, or, as the case may be, maximize the wealth of the owners and business interest groups. This concept of Smith's "invisible hand" generates an incentive to constantly grow and expand, which, in the presence of limited natural and capital resources, cannot be infinite. Profit can be considered as an oxygen for the business environment, but its achievement should not be at all costs. For more than a decade, financial management has been discussing a stronger link between real business and business sustainability, a qualitative shift has been made in implementing the sustainability of financial activities, including promoting social and environmental responsibility [3,4].

Against the backdrop of these trends, the question arises: are there measurable results that can demonstrate business efficiency and sustainable performance? The aim of the authors' research is to look for interactions between the financial indicators of the company and the strategy of sustainable entrepreneurship, which becomes one of the integral parts of company reporting as well as one of the evaluation criteria of environmental communities. The environmental aspect is very close to sustainability, but, as proof of theory and practice, it is not the only pillar of sustainable entrepreneurship. This is one of the motives that the authors follow, the environmental context, complemented by the economic terms of a sustainable and financial existence of the enterprise, in a brick and mortar and virtual environment.

2. Materials and Methods

2.1. Knowledge Status

The starting point for exploring e-business and sustainability interaction is the so-called triple bottom line, i.e., the application of three concepts—Sustainable Development (SD), Corporate Social Responsibility (CSR), and Corporate Citizenship (CC).

SD is based on the harmony between the economic, social and environmental environments, which can only be achieved through a targeted and regulated process of changing the behavior of human society, from large integration clusters and their Member States through entrepreneurs to individuals in households. It includes three aspects: the economic, social and environmental, which must be equally considered at the political level [5].

Corporate Social Responsibility (CSR) is the voluntary integration of social and environmental aspects into day-to-day business operations and interactions with corporate stakeholders. Corporate governance balances external and internal environments, contributes to sustainable development, meets or exceeds the ethical, legal, commercial, and public expectations of society from the enterprise itself, and implements corporate practices and values in a way that integrates all stakeholders [6,7].

Corporate Citizenship (CC) expresses the effort of the company to act as a "good citizen" in its place of business; in addition to fulfilling business goals, it has a medium-term strategy of building good relations with the population and a strategy for the development of its environment [8,9].

We maintain that achievement of satisfactory measure of sustainability require symbiosis of the functioning of all three pillars, so the enterprise cannot reach its sustainability without responsible approach to entrepreneurship and without voluntarism. In this context, it needs to connect soft and hard skills of managers, as well as their ability to communicate with surroundings in real and virtual environment. Many authors discuss the importance of building reputation, mainly online [10–12].

This three-pillar base expresses triple responsibility, or, as the case may be, triple benefit, which is commonly referred to as "3P—profit, people, planet." The 3P says businesses should follow the traditional business profits (profit), social (people) and environmental (planet) dimensions [13,14]. In view of the current situation in the world and the probability of its future development, seven basic noticeable principles can be identified [15,16]:

1. Natural resources are becoming more and more difficult to access and their price is steadily increasing.

2. Massive demographic changes are under way.
3. People are becoming the most important resource (renewable resource).
4. Cash flow is much more important than a company's profit.
5. The operating environment of each business will change dramatically over the next 3–5 years.
6. A chaotic external environment requires a cohesive and flexible internal environment.
7. Only a transparent and honest business will survive.

Managing the transition from unrestrained to sustainable entrepreneurship presupposes the development and implementation of a sustainable business strategy, a unique document integrating a responsible approach to the present, and a perspective view of company potential. The process of the actual formation of a sustainability strategy can be divided into four steps—new awareness, formulation of a vision including sustainability principles, situational analysis, design and the selection of action measures to achieve the vision [17]. The central idea of a sustainable business is to induce a change in behavior—to criticize the unsustainable behavior of Take–Make–Waste (“take–make–throw away”) and to gradually introduce a sustainable “Borrow–Use–Return” alternative [18]. The consequences of such a change can be quite simply summed up:

- New forms of company ownership and profit sharing ensure a more equitable distribution of the business results.
- Ethics, fairness and transparency are implemented in all workflows, in each business partnership and relationship.
- Employees are treated as valuable contributors to the success of the business, while their recruitment and remuneration are commensurate with environmental and social sustainability [19].

From the point of view of financial managers as key players in financial sustainability issues, specific investment barriers to Sustainable Entrepreneurship initiatives can be defined (Table 1).

Table 1. Barriers in the process of implementing Sustainable Entrepreneurship initiatives.

| Barrier | % |
|--|------|
| A lack of information about how to implement it | 50.0 |
| Implementing initiatives is too expensive | 50.0 |
| Initiatives have interfered with other business processes | 35.1 |
| Implementing initiatives is too complex | 32.4 |
| Employee apathy | 31.1 |
| Initial lack of commitment and a lack of business leadership | 18.9 |
| Local regulatory policy | 17.6 |
| State regulatory policy | 14.9 |
| Suppliers are unable to meet the requirements | 14.9 |
| Federal regulatory policy | 10.8 |
| Suppliers are not willing to meet the requirements | 10.8 |

[20–22].

The company Deloitte published the results of a survey in 2013, in which:

- 64% of respondents do not expect a return on investment in the Sustainable Business Initiative in less than two years;
- 58% of respondents pointed out that the economic benefits of investing in sustainable business are not properly quantified; and
- 48% of respondents see the benefits of investing in sustainable business as too small, compared to other projects [23].

According to the survey by Accenture (2012) [24], of the 250 executives asked from around the world, up to 80% of executives consider expenditures on Sustainable Business initiatives

more as an investment than as an ordinary cost. It is precisely such a concept that understands expenditures associated with sustainability as a business investment, with a clear specification of benefits, is necessary to demonstrate how to Creating Shared Value (CSV) that requires quantification of the added value of sustainable business.

For an enterprise, the main problem concerning the issue of business sustainability is the expense or financial and economic efficiency. In traditional corporate culture, social and environmental goals do not match financial targets, and the discussion of the issue requires linking with selected soft and hard factors (Table 2).

Table 2. Benefits of Business Sustainability—Comparison of Research Studies [25].

| Benefits | Aras and Crowther 2009 | IFC 2004 | MIT SMR 2009 | EXCEL Partner-Ship 2005 | Lee and Sean 2012 |
|--|------------------------|----------|--------------|-------------------------|-------------------|
| Improved image of the business and/or products | ⊗ | ⊗ | ⊗ | | |
| Increased sales and revenues | ⊗ | ⊗ | | | ⊗ |
| Cost savings | ⊗ | ⊗ | ⊗ | | ⊗ |
| Increased productivity | ⊗ | ⊗ | ⊗ | | ⊗ |
| Lower staff turnover | ⊗ | ⊗ | ⊗ | | ⊗ |
| Better relationships with stakeholders | | ⊗ | ⊗ | ⊗ | ⊗ |
| Better access to financial resources | ⊗ | ⊗ | ⊗ | ⊗ | ⊗ |
| Health and safety benefits | | ⊗ | | ⊗ | |
| More effective risk management | | | ⊗ | ⊗ | ⊗ |
| Product innovation and business models | | | ⊗ | | ⊗ |

Linking sustainability with a company's financial performance is warranted, as the resource for future sustainable business is the current financial performance. This is evidenced by the results of 159 studies (128 academic and 31 corporate) conducted on this topic in the period 1972–2008, with most of them (63%) concluding a positive correlation between business sustainability and the financial performance of an enterprise [19,26,27]. The company BSI GROUP (2014) [28] conducted interviews with 150 employees dealing with sustainability in businesses in the United Kingdom (United Kingdom and North Ireland) operating in 20 different sectors/industries. On the question "How important is a sustainable business to achieve good business results?", up to 51% of respondents said "Realizing sustainable business impacts the financial results of an enterprise over the ensuing two years," thereby confirming the strong interrelation of sustainable business and the financial performance of an enterprise.

An active relationship between business sustainability and financial performance is also recognized by financial managers themselves. Deloitte (2012) [29] conducted a survey of 250 CFOs operating in 15 different sectors across 14 different countries (five continents) where 84% of the financial directors surveyed saw a direct link between business sustainability and financial performance. A year later (2013), Deloitte repeated the survey to see how the situation had changed year-on-year. The survey captured a significant year-on-year increase in financial managers (from 49% to 73%), which attributes a strong link to business sustainability and financial performance.

Based on the results of the presented studies, the high relevance of the issue and its link to the financial aspects of the business can be noted. Sustainability is a central factor limiting business behavior and awareness of the issue is sensitively perceived especially during an economic crisis when businesses are undertaking an extensive restructuring of their businesses and are looking for new fields of action.

2.2. Research Design

The data base for research purposes consists of information obtained from publicly available business documents, the disclosure of which is defined by Slovak legislation. These are financial statements and annual reports in the case of undertakings required to verify the financial statements by an auditor. These documents can be found in multiple databases, while the Registry of Financial

Statements [30], which is supplemented by a comparison of data from the Economic Register [31], the Portal IndexPodnikateľa [32] and the official websites of individual businesses in an attempt to eliminate the error rate of data. In addition to the stated, the “Annual Report of Production Industries” was worked with. It is a statistical form, which provides information on the economic activity of enterprises for the purposes of statistical surveys carried out regularly according to the Program of State Statistical Surveys issued in the Collection of Laws of the Slovak Republic. It contains information on the indicators characterizing business activities in the field of resource generation and distribution, financial management, employment and the specification of economic activities for the purpose of calculating a time series. It also includes environmental and social issues.

The subject of the survey is a selected sample of enterprises operating in the territory of the Slovak Republic for which the ratios were designed, subsequently analyzed, or confronted with the performance of each surveyed enterprise. The set of enterprises is based on the principle of diversity and sufficient access to the necessary business information. The selected sample of companies is presented by three branches of the Slovak Republic, namely: Industrial production (SK NACE C), Supply of electricity, gas, steam and cold air (SK NACE D) and Information and communication (SK NACE J). In the selection of enterprises, all companies in the industry have first been ranked according to the amount of annual sales. Subsequently, the first “X” companies were selected, the cumulative sum of which represented the overall majority of the sales volume for the whole industry. From this group of selected enterprises, those for which no financial statements were available for the period under review or the accounting information of which showed anomalies, in particular negative equity, were subsequently excluded. The total number of enterprises surveyed is 74, of which 49 enterprises are represented by the “Industrial production” sector, 6 enterprises in the “Supply of electricity, gas, steam and cold air”, while the “Information and communication” sector is represented by 19 enterprises.

The objective of the paper is to quantify the extent to which the implementation of sustainable business impacts on the financial performance of the rated enterprises or if at all based on quantitative analysis. It is based on the assumption of a positive correlation—enterprises that have embraced the elements of sustainable business achieve better financial and economic results than in times when this area was not part of their business strategy. Definition of sustainable entrepreneurship in the research sample required in conditions of Slovak republic to choose individual approach to each enterprise. Publicly available information does not include data about environmental investments, social aspects and interactions or publicly discussed business benefits. This argument may seem incomprehensible for the attentive reader, but company culture of Slovak enterprises does not allow publicization of some information, which has absolutely priority for this type of research. It highly complicates the research and the deeper qualitative analysis (in terms of Grounded theory) must be chosen when preparing information. Apprehensive of this limitation, the investigation of sustainability entrepreneurship and subsequent link to the financial performance of the enterprise has to restrict only to research of hard factors in the form of financial results. We claim that the enterprise concerned with sustainability entrepreneurship in terms of “triple bottom line” gives these facts in its financial results whether in balance sheet items or ones in income statement. This results in a link between sustainability and financial performance [33,34].

Financial performance is represented by two indicators: Economic Value Added (EVA) and Economic Value Added Momentum (EVA-Momentum). On the other hand, the indicator representing business sustainability and bearing the working title “Integral Business Sustainability Indicator” is constructed from six indicators, the statistical significance of which was demonstrated in previous research carried out in 2015–2017. In the next section, we focus on the interconnection of financial performance and sustainability, with the examined link being represented by two hypotheses:

- H1: There is a statistically significant dependence between the EVA indicator and the integral business sustainability indicator.
- H2: The value of the EVA indicator is positively dependent on the value of the integral business sustainability indicator.

To quantify the financial performance of the selected sample of enterprises, the EVA-Momentum indicator is selected from the available modern performance indicators as it evaluates performance in terms of its dynamics, while the most commonly used modern EVA indicator is rather static. EVA-Momentum shows how an enterprise is managing with the achieved EVA value in the context of the changed sales level [34]. It represents the latest innovation of the EVA relative indicators. Its basic characteristics can be summarized as follows [35]:

- It is based on economic and not accounting profits.
- It is based on the year-to-year change and is not the absolute value of the EVA indicator in a given year, and this change in economic profit is in proportion to revenue. This makes it a relative indicator, which enables an inter-company comparison.
- It is suitable for maximizing value. The economic profit of an enterprise that shows a zero value for this indicator neither increases nor decreases. It only generates the return that investors expect. Positive EVA-Momentum is good, negative is bad and zero is a breakpoint in terms of economic significance. Each positive EVA-Momentum means an increase in the EVA indicator.
- A drop in EVA-Momentum represents a warning sign for managers about the decline in business performance before it is apparent from the results of the other indicators [36].

EVA-Momentum is calculated as the ratio of the change in the economic profit of an enterprise over a given period (measured by EVA) to the enterprise's revenue at the beginning of that period [37].

$$\text{EVA - Momentum} = \frac{\text{EVA}_t - \text{EVA}_{t-1}}{\text{T}_{t-1}} = \frac{\Delta\text{EVA}}{\text{T}_{t-1}} \quad (1)$$

$$\text{EVA} = (\text{OP} - \text{IC}) \times \left(1 - \frac{\text{EBT}}{\text{TAX}}\right) - (\text{R}_f + \beta \times \text{R}_p) \times \text{E} \quad (2)$$

where EVA_t is Ending Economic Value Added; EVA_{t-1} is Beginning Economic Value Added; ΔEVA is Changing Economic Value Added; T_{t-1} is Beginning Turnover; OP is Operating Profit; IC is Interest Cost; EBT is Earnings before Taxes; R_f is Risk-Free Rate; β is Beta coefficient; R_p is Market Risk Premium; and E is Equity.

We chose modern ratios such as EVA and EVA-Momentum for the following reasons: (i) they eliminate criticized inadequacies of traditional ratios and consider time factor and focus on future; (ii) they are based on the main objective of value-based approach to business management—enterprise market value maximization—in this context where the economic profit is the main pillar; (iii) close coupling to shareholder value; and (iv) they consider the calculation of risk and extent of the locked up capital. The positives may set against some limitations: (i) excessive requirements for the availability and reliability of information; and (ii) classical approaches to the quantification of indicators value require the adaptation of variables (the current status of capital market in Slovakia is characterized by long time stagnation and failure its main functions). In summary, the most significant problem is determination, where the accounting model [38] has been applied in research implied to Slovak enterprises from available data within a year 2014:

- Industrial production

$$\begin{aligned} \text{Betâ}_{2014} = & -0.4406514 - 0.0173795 \times \ln(\text{Ibeta})_{2014} + 0.074573 \times \text{Size}_{2014} \\ & - 0.035128 \times \ln(\text{Flev})_{2014} - 0.1081229 \times \text{DUebit}_{2014} \end{aligned} \quad (3)$$

- Supply of electricity, gas, steam and cold air

$$\begin{aligned} \text{Betâ}_{2014} = & -0.1954539 - 0.0610448 \times \ln(\text{sdebit})_{2014} + 0.0225202 \times \text{Size}_{2014} \\ & - 0.0759927 \times \ln(\text{Flev})_{2014} - 0.0120981 \times \ln(\text{NWC})_{2014} \end{aligned} \quad (4)$$

- Information and communication

$$\begin{aligned} \text{Betâ}_{2014} = & 0.0944028 + 0.0790653 \times \ln(\text{Flev})_{2014} + 0.9790653 \times \text{DOZ}_{2014} \\ & - 0.688234 \times (\text{NWC})_{2014} + 0.0485418 \times \text{Size}_{2014} \\ & + 0.2676489 \times (\text{ROA})_{2014} - 0.1244495 \times \text{DUebit}_{2014} \end{aligned} \quad (5)$$

where β is Operating Profit/Total Assets; Flev is Total Liabilities/Total Assets; DOZ is $\ln(\text{Inventories}/\text{Revenues})$; ROA is EBITDA/Total Assets; DUebit is Average Income from Operations of Enterprise by Industry; Size is $\ln(\text{Total Assets})$; NWC is CAPEX/Total Assets; and sdebit is standard deviation of EBIT indicator.

Business sustainability consists of a three-pillar base: the economic pillar, social pillar, and environmental pillar. The individual activities and results of a sustainable business are then grouped into one of these pillars. The model of an integral indicator includes the economic pillar and the social pillar. Its construction is based on the established relationships for the “Supply of electricity, gas, steam and cold air” sector, as correlation and regression analysis has been demonstrated in this industry by strong links between business sustainability and financial performance at a defined level of materiality.

The economic and social pillar are represented by selected sub-indicators of business sustainability as an integral indicator of business sustainability. All suggested indicators could not be used, as many of them can only be quantified by accessing unpublished business records. These indicators are omitted because the goal is that the output is also applicable to an external participant to quantify the business sustainability of the selected business. Based on the principle of public availability of the data required for the construction of indicators, six sub-indicators of business sustainability are selected:

- Value added per employee
- Value added per unit of annual turnover
- Value added per unit of annual balance sheet total
- Rate of growth of value added
- Wage per unit of value added
- Rate of wage growth per unit of value added

However, only four indicators of business sustainability enter the process of creating an integral indicator, since the use of all the first three indicators together results in the multiple counting of the same phenomenon, respectively, the saturation of the integral indicator by the given phenomenon. These indicators, value added per employee, value added per unit of annual turnover, value added per unit of annual balance sheet total are variants of economic performance characteristics compiled in variants corresponding to generally accepted criteria for enterprise size determination. The most appropriate enterprise size criterion is the annual balance sheet total. Therefore, from these three indicators, the Value added per unit of annual balance is selected, which, at the same time, showed the strongest dependence in the correlation and regression analysis, which confirms the correctness of this selection.

In this way, two indicators for the economic pillar (value added per unit of annual balance and growth rate of added value) and two indicators for the social pillar (growth rate of value added and wage per unit of value added) are represented in the integral indicator, thus achieving a certain balance of the economic and social pillar due to the number and character of the selected indicators.

One of the possibilities of compiling an integral indicator is the simple adding up of the resulting values of these indicators, or their simple arithmetic mean. While this approach is undemanding, it abstracts the fact that each of the variables shows the different intensity of the financial performance presented by the EVA indicators, which directly interferes with the quality of the content meaning of the integral indicator. Therefore, a more appropriate method of creating an integral indicator is the weighted arithmetic mean, the weights being calculated based on the dependence of the business

sustainability relationship and the financial performance of the given coefficient expressed by the correlation coefficient. Their calculation can be seen in Table 3.

Table 3. Calculation of weights of partial indicators of business sustainability.

| A partial Indicator of Business Sustainability | Correlation Coefficient | Conversion | Weight |
|--|-------------------------|----------------------|--------|
| Value added per unit of balance | 0.6171 | $0.6171 \div 2.0881$ | 0.296 |
| Rate of added value growth | 0.3635 | $0.3635 \div 2.0881$ | 0.174 |
| Wage per unit of value added | 0.5952 | $0.5952 \div 2.0881$ | 0.285 |
| Rate of wage growth per unit of value added | 0.5123 | $0.5123 \div 2.0881$ | 0.245 |
| Total | 2.0881 | | 1.000 |

Own processing.

Consequently, the final form of an integrated business sustainability indicator (hereafter referred to as “IU_{UP}”) can be compiled as the weighted arithmetic mean of the individual sub-indicators of business sustainability that are assigned different levels of importance by weight.

$$IU_{UP} = 0.296 \times \frac{PH_t}{RBS_t} + 0.174 \times \frac{PH_t - PH_{t-1}}{PH_t} + 0.285 \times \frac{MzN_t}{PH_t} + 0.245 \times \frac{MzN_t - MzN_{t-1}}{PH_t} \quad (6)$$

where IU_{UP} is Integral business sustainability indicator (coeff.), PH_t is value added in current year (€), PH_{t-1} is value added last year (€), RBS_t is annual balance sheet total in the current year (€), MzN_t is wage costs in current year (€), and MzN_{t-1} is wage costs in the last year (€).

In the interest of the usability of IU_{UP} in practice, it is important to test its reliability, to determine to what extent it can explain the dependence of financial performance on sustainable business activities that integrate it. These findings will give us the results of a linear regression analysis. Similar to the testing of individual sub-indicators of business sustainability, the financial performance representative is an EVA indicator as a dependent variable and the materiality level is set at $\alpha < 0.005$. An independent variable is an integral business sustainability indicator in this case.

3. Results

Theoretical knowledge from abroad was confronted with the results of companies from the Slovak Republic. In a deeper study of the EVA-Momentum relationship and business sustainability indicator, results (Table 4) showing a broad-spectrum dependence were identified.

Table 4. Corresponding analysis results—EVA-Momentum and BS Indicators.

| Indicator EVA-Momentum in Relation to: | Industry | | | | | |
|---|--|----------------|-------------------------------|----------------|-----------------------|----------------|
| | Supply of Electricity, Gas, Steam and Cold Air | | Information and Communication | | Industrial Production | |
| | r | R ² | r | R ² | r | R ² |
| Value added per employee | −0.0522 | 0.27% | 0.2421 | 5.86% | −0.0410 | 0.17% |
| Value added per unit of annual turnover | 0.1651 | 2.73% | −0.0693 | 0.48% | 0.0258 | 0.07% |
| Value added per unit of balance sheet total | 0.0629 | 0.40% | −0.0046 | 0.00% | 0.2461 | 6.06% |
| Rate of value added growth | −0.1510 | 2.28% | 0.1192 | 1.42% | −0.0108 | 0.01% |
| Wage per unit of value added | 0.0528 | 0.28% | 0.0006% | 0.00% | −0.0143 | 0.02% |
| Rate of wage growth per unit of value added | 0.1068 | 1.14% | −0.0483 | 0.23% | 0.0064 | 0.00% |

Own processing.

The strongest dependence is found within the “Industrial production” sector between the EVA-Momentum and Value Added per unit of annual balance sheet total. Their variability is explained by 6.06%, which is still a small number, as the values of these indicators affect other quantities in the share of 93.94%. Similar results reached the relationship between EVA-Momentum and Value added per employee in the “Information and communication” sector, the variability of which is explained by

5.86%. This again means that 94.14% of the change of one quantity is influenced by factors other than the second quantity being investigated. For the “Supply of electricity, gas, steam and cold air” sector, the highest values of the determination coefficient were reached by the indicator Value added per unit of annual turnover (2.73%) and the growth rate of value added tax (2.28%).

The reason for this proven independence may not be the fact that there is no relationship between financial performance and business sustainability in companies operating in the Slovak Republic. In particular, it may be a time shift of the effects of changing one indicator to another. This means that improving the realization of business sustainability (expressed by an increase in the values of the proposed Sustainability Indicators) will positively affect the financial performance only in the coming immediate or later period.

Another factor causing the independence of selected variables may be the non-compliance of the “volume characteristics” of the compared quantities. EVA-Momentum is a dynamic indicator reflecting the year-on-year change in economic earnings per one euro of last year’s revenue. It therefore contains only the part of the generated economic profit, which is different from the previous year. It does not represent the overall absolute value of EVA, which appears to be a more appropriate alternative to selected business sustainability indicators as their construction is based primarily on the absolute values of the individual variables. This compares the impact of the overall annual “production” of one quantity (business sustainability indicator) on the year-on-year difference in production of the second variable (EVA-Momentum). This is a “volume” discrepancy, as both quantities are measured in a given year from the initial zero value.

It can be said that the EVA-Momentum indicator deviates from business sustainability indicators temporally and in terms of volume. It is precisely this discrepancy that can be explained, to a certain extent, by the demonstrated mutual independence. The correlation analysis can be further developed in conjunction with the EVA core indicator, which by its design does not cause these negative temporal and volume discrepancy phenomena (Table 5).

Table 5. Corresponding analysis results—EVA and business sustainability Indicators.

| Indicator EVA-Momentum in Relation to: | Industry | | | | | |
|---|--|----------------|-------------------------------|----------------|-----------------------|----------------|
| | Supply of Electricity, Gas, Steam and Cold Air | | Information and Communication | | Industrial Production | |
| | r | R ² | r | R ² | r | R ² |
| Value added per employee | 0.2201 | 4.84% | 0.6576 | 43.24% | 0.2565 | 6.58% |
| Value added per unit of annual turnover | 0.0013 | 0.00% | 0.1115 | 1.24% | −0.0538 | 0.29% |
| Value added per unit of balance sheet total | 0.6171 | 38.08% | 0.1327 | 1.76% | −0.0454 | 0.21% |
| Rate of value added growth | 0.3635 | 13.21% | 0.0079 | 0.01% | 0.0366 | 0.13% |
| Wage per unit of value added | 0.5952 | 35.43% | −0.0733 | 0.54% | −0.0384 | 0.15% |
| Rate of wage growth per unit of value added | 0.5123 | 26.25% | 0.0137 | 0.02% | −0.0158 | 0.02% |

Own processing.

The results of the new correlation analysis show a much stronger relationship between the EVA indicator and the individual Sustainability Indicators. For the “Industrial production” sector, there is a confirmed lack of statistically significant dependence between the EVA indicator and the individual Sustainability Indicators tested. The highest value of the 6.58% determinant was the value added per employee, which is still a very small proportion of the variability explanation. At the same time, this indicator was the only one to exhibit a direct dependence (positive correlation coefficient), while the others are related to the financial performance of the presented EVA indicators in an indirect, very low dependence. In the “Information and communication” sector, on the other hand, only one indicator of business sustainability is in indirect correlation with the EVA indicator, but almost all have shown a very weak or non-existent relationship. An exception is the value added per employee, which explains up to 43.24% of the variability of the EVA indicator, the highest result of the correlation dependence within the investigated relationships. The results of the correlation analysis for the “Supply of electricity, gas, steam and cold air” sector are completely different and, as the only one,

demonstrate the potential for statistically significant dependence on financial performance and the realization of business sustainability. Excluding the first two indicators characterizing Sustainable Business behavior (Value added per employee and Value added per unit of annual turnover), there is a relatively strong dependence between them and the EVA indicator, reaching a coefficient of 13% to 38% (Table 6).

Table 6. Selected linear regression analysis results—EVA and business sustainability indicators; Industry: Supply of electricity, gas, steam and cold air.

| EVA | R | R Square | Beta | Sig. $\alpha < 0.005$ |
|---|------|----------|------|-----------------------|
| Value added per unit of balance sheet total | 0.62 | 38% | 0.62 | 0.000 |
| Rate of added value growth | 0.36 | 13% | 0.36 | 0.048 |
| Wage per unit of value added | 0.60 | 35% | 0.60 | 0.001 |
| Rate of wage growth per unit of value added | 0.51 | 26% | 0.51 | 0.004 |

Own processing.

The regression analysis (Table 6) confirms the results of the correlation analysis of the direct dependence of financial performance and sustainable business, adding to the causal relationship, which is the direct dependence of the EVA indicator on the individual sustainability indicators of the tested variables, the value added per unit of annual balance sheet total, which explains up to 38% of the variability of the value of the EVA indicator, is most affected. The EVA indicator has also shown a strong dependence on other business sustainability indicators tested, with the weakest relationship ratio having a value added growth rate indicator that only explains 13% of the variability of the EVA indicator. At the same time, this is the only case where the value of significance exceeded the acceptable level $\alpha < 0.005$.

Linear regression analysis is performed in the last step separately for each sector, with a primary focus on the sector “Supply of electricity, gas, steam and cold air”. In the other two sectors, contradictory results are assumed confirming/not confirming the reliability of the IU_{UP} model in their conditions. This is partly indicated by the results of a regression analysis of partial sustainability indicators that showed a low dependence, as well as a lack of relationship between them and the financial performance expressed by the EVA indicator and the EVA-Momentum indicator (Table 7).

Table 7. Linear regression analysis result—Integrated Business Sustainability Indicator (IU_{UP}).

| EVA | Industry | R | R Square | Beta | Sig. $\alpha < 0.005$ |
|------------------|--|------|----------|-------|-----------------------|
| IU _{UP} | Supply of electricity, gas, steam and cold air | 0.55 | 30% | 0.55 | 0.002 |
| | Information and communication | 0.03 | 0% | −0.03 | 0.801 |
| | Industrial production | 0.02 | 0% | −0.02 | 0.783 |

Own processing.

Linear regression analysis confirms the assumption of the independence of the IU_{UP} in the “Information and communication” and the “Industrial production” sectors. Not only is the dependency force extremely low, almost completely zero, but it is even an indirect dependence (negative Beta coefficient). In addition, the materiality level has greatly exceeded the acceptable limit, therefore, based on these results, the H₁₀ hypothesis is rejected for these two sectors. The alternative hypothesis H_{1alt}, which claims that there is no statistically significant dependence between the EVA indicator and the IU_{UP} indicator, is accepted. At the same time, based on these results, the H_{2alt} hypothesis is excluded from further investigation because of its irrelevance for these two sectors.

With regard to the “Supply of electricity, gas, steam and cold air” sector, the results of the correlation analysis confirmed the strong direct dependence of financial performance from the IU_{UP} indicator, which explains up to 30% of the variability in the value of the EVA indicator. Significance reached 0.002, representing only a 0.02% probability of error. Based on these results, the H₁₀ and H₂₀

hypotheses are assumed at the level of significance of $\alpha < 0.005$ for this sector. Thus, it can be argued that there is a statistically significant dependence between the EVA indicator and the IU_{UP} indicator, and the value of the EVA indicator is positively dependent on the value of the IU_{UP} indicator.

4. Discussion

This paper give an overview of the financial aspects of business sustainability in the realities of the Slovak Republic, while the theory and practice coincide in recognition of its strategic importance and the positive impact on a company's non-financial and financial results. Although this attitude is not unanimous, we are inclined towards it based on the results of many foreign studies and surveys conducted by private companies on the subject. We conducted the research in the period 2015–2017. Naturally, it could not capture the overall complexity of the problem since there are several parallel scientific schools just in the area of financial ratios and their interpretation. Simplifications were adopted, consisting of a shorter object of investigation, by a selective rendering of the three-pillar essence of business sustainability and the selection of only relevant business indicators. Removing these simplifications is a possible alternative and incentive for exploration areas.

The first aspect of the simplification of the research is a narrower object of research that does not represent the overall Slovak market in terms of the equal representation of all sectors, but only the three selected sectors. For each sector, a group of companies was selected, the sum of revenues of which in 2015 accounted for the overall majority of the total turnover of the industry (approximately 50.1%). The total number of enterprises surveyed is 74, of which 49 enterprises are represented by the "Industrial production" sector, 6 enterprises in the "Supply of electricity, gas, steam and cold air", while the "Information and communication" sector is represented by 19 enterprises. Within these sectors, various outcomes of financial performance dependence on business sustainability have been identified. Only in the sector of the "Supply of electricity, gas, steam and cold air" was there a statistically significant dependence of these two variables. It is already clear from these various partial conclusions that the results cannot be generalized for the overall domestic environment or for Slovak enterprises in general. To adopt comprehensive conclusions, it is necessary to carry out further research for all sectors of the SR, ideally represented by a larger number of enterprises than in this research. The basic assumption is the availability and reliability of relevant accounting information.

The second aspect of the simplification of research was to selectively render the three-pillar essence of business sustainability, where only the economic and social pillars came into the investigation. The examined business sustainability is thus abstracted from the environmental pillar. The reason is the strong qualitative character of the information concerning the activities of the company involved in the state of the environment or environmental information. For their inclusion in the research, which is based on the quantitative expressions of the phenomena examined, their transformation into numerical characteristics is necessary. However, this is not an easy process, especially in an area where there is insufficient information and studies. However, without this result, research involving the complexity of the three-pillar nature of business sustainability, which is another recommended area of research, cannot be realized.

The final simplification of research is the selection of only a few business sustainability indicators that have tested financial dependency. Of all the proposed indicators, only those that can be quantified based on publicly available company sources were selected. Indicators that required access to unpublished business listings were not part of dependency testing. The reason is the time required to obtain them and the reluctance of enterprises to provide additional information to a third party. At the same time, by maintaining the principle of public availability of the data needed to construct the indicators, an integral indicator is also available for an external interested party to quantify the business sustainability rate of any business. However, this simplification has meant that only six sub-indicators of business sustainability have been tested. The proposal for future exploration is to extend test objects to all suggested sub-indicators, which is much more time-consuming.

Further research should aim to confirm or correct the proposed indicators, respectively, to propose amendments through more complex testing methods, with a simultaneous transnational review of the subject. Another proposed area of future research is to conduct a survey among financial managers. Although it is a survey of a rather qualitative nature, it is also beneficial to compare its results with the outputs of quantitative research as financial managers can calculate the impact of a sustainable business strategy on a particular subject.

5. Conclusions

The subject of the research was a selected sample of enterprises operating in the Slovak Republic, as the aim of the research was to get acquainted with the existence and nature of the relation between business sustainability and financial performance for the domestic environment, for which this status has not yet been quantified. It can be said that this is the first research of its character carried out in Slovak enterprises, so its results need to be verified by other research studies, which will have a quantitative character.

Based on the results of the analyses in the statistically significant sector, an integral IU_{UP} indicator was constructed by the weighted arithmetic mean method, the weights being calculated based on the dependence force expressed by the correlation coefficient. The regression analysis results in this sector confirmed the strong direct dependence of financial performance from the IU_{UP} , which explained up to 30% of the EVA value variability at the significance of $\alpha = 0.002$.

Based on the findings of this research, as well as the study of foreign sources, the necessary changes in financial management in the context of business sustainability can be identified in the following way [39,40]: adopting a new role of the strategist and catalyst in general and especially in the area of business sustainability where its traditional function for reporting and measurement should be expanded. This is most evident in the financial aspects that have been identified as areas most affected by the sustainability strategy, such as risk management, compliance, financial reporting, investor relations and non-financial reinsurance.

The findings revealed by the process of acquiring theoretical knowledge as well as the practical implementation of the research itself have led us to a number of recommendations for theory, practice and education: improving the form and accuracy of company data reporting in general, preference for quantitative characteristics in business sustainability reports, increasing their transparency and brevity, financial managers dedicated to value added and wage costs for achieving better financial results, whose dependence on the realization of business sustainability cannot be completely ignored [41,42].

Further research on the importance of business sustainability should be aimed at completing the coherence of this research through the expansion of the research object, the comprehensive rendering of the three-pillar essence of business sustainability and the testing of all sub-indicators of business sustainability. At the same time, further research is needed to verify proposed indicators and to conduct a survey among Slovak financial managers on issues of business sustainability to compare their views with quantitative research [43] and the opinions of foreign managers [44].

Finally, what we have to consider as an impulse for another cooperation and subsequent research, we have to call attention to extremely difficult access for evaluation of social and ecological aspects of sustainability. These aspects, as result of unavailability of relevant information had to be inclusive of research vicariously, by means of actually spent financial sources (containable in statement of finance and annual reports presented). By definition, the methodology presented does not have to reflect status quo objectively, however it can be considered for the base of approach applicable in the conditions of transforming economies. There is a lack of awareness about the sustainability entrepreneurship problem in Slovakia. The knowledge of its content definition as well as the basis of doing such a business is at a very low level. Especially in corporate practice, it is commonly understood and realized only at the level of mentioned partial concepts, eventually it can meet with own incomplete explanations. Even domestic literature is rarely and only marginally devoted to this topic. Many domestic authors do not consider it important to define this term absolutely [45,46].

Different results between industries examined can be caused by different characters of enterprises explored. The industry where the dependency was confirmed was presented only by big enterprises publishing annual reports and accounting under IFRS with audited statement of finance by an independent auditor which made the information reliable and detailed. Therefore, the results of research are not distorted by the absence of needed data for the years observed and the error rate of accounting data, which is common for smaller enterprises.

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