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FINANCIAL STANDING AND SUSTAINABLE DEVELOPMENT OF MANUFACTURING ENTERPRISES – EVIDENCE FROM POLAND

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Purpose: The paper aims to assess the level of dependence between financial standing and the sustainable development of manufacturing enterprises in Poland from 2008 to 2021.
Design/methodology/approach: We created synthetic indicators of sustainable development and its pillars, conducted a correlation analysis and built single- and multi-equation econometric models. We used the Ordinary Least Square (OLS) and Seemingly Unrelated Regression (SUR) methods.
Findings: The research results show that financial standing statistically impacts the sustainability of Poland's manufacturing enterprises. The practical implications we have noted are the need to maintain appropriate financial standing, which is the basis for creditworthiness and investment opportunities.
Research limitations/implications: The availability of data, the choice of normalization method and the choice of research sample.
Practical implications: The empirical implications include that the results of the analyses can support the managers of enterprises in making operational and strategic decisions.
Social implications: The issue of taking into account social development not only in strategic analyses, but also in operational ones.
Originality/value: The study's novelty is an original approach to assessing financial standing and statistical models allowing for examining the relationship between it and sustainable development.
Keywords: financial standing, sustainable development, manufacturing enterprises.
Category of the paper: Research paper.

1. Introduction

The concept of a company's financial standing can be considered an ambiguous term and, at the same time, difficult to define. The financial standing of an enterprise should be related to its financial situation (Kowalak 2020). Financial standing is the ability of an enterprise to finance current and future activities from its assets. This financing may be different and may refer to both covering the costs of living and consumable labor, as well as loan repayments, dividend payments and settlement of current liabilities by the company. It may have its source in the company's external capital.

Good financial standing is the basis for sustainable development based on three pillars: economic, social and environmental, as it enables socially and ecologically responsible activities (Gubareva et al., 2023; Esparcia, Gubareva, 2024). The ground for assessing financial standing is the index assessment of liquidity, profitability, operational efficiency, and debt.

The manuscript's novelty is its original approach to assessing the impact of financial standing on the sustainable development of manufacturing enterprises. For this purpose, we have determined synthetic indicators of financial standing (FS) and sustainable development of enterprises (SD) and its three pillars: economic (E), social (S) and environmental (Env).

We build the single- and multi-equation models and use Pearson's r, Spearman-s Rho, Gamma and Kendall rank correlation coefficients, Ordinary Least Square (OLS) and the Seemingly Unrelated Regression (SUR). We checked the assumption of the methods, including unit root tests (KPSS test), homoskedaskity (White test), autocorrelation (Durbin-Watson and Breuscha-Godfreya tests), normality (Doornik-Hansen test), collinearity (Variance Inflation Factor).

We focus on the manufacturing section (PKD 2007: C) due to its size, role in creating GDP and jobs, and importance for environmental protection. The research period covers the financial crisis in 2008 to the COVID-19 pandemic. We want to analyze both the financial and property situation dynamics.

The limitations of the models are the selection of analytical variables for the synthetic indicators created, the research period and the choice of model estimation methods. Moreover, the impact of FS on Sd in other economic sectors may be different in terms of strength and direction of impact.

The presented model can support enterprises' decisions that respect the socio-economic development and climate aspects. Maintaining an appropriate financial and property situation should be important when creating a company's strategy.

2. An overview of the literature

2.1. Financial standing of the company

The financial standing of a company can be interpreted as the financial condition of the company (Kliestik et al., 2020). It means the overall financial condition of the company, which can be assessed on the basis of various factors such as profits, cash flow, debt, financial liquidity, profitability, etc. (Dirman, 2020). Assessment of the financial standing of a company is important both for internal management and for external stakeholders such as investors, lenders, and market analysts. Analysis of a company's financial standing usually requires the use of various indicators and methods to obtain a more complete picture of the situation (Masharipov, 2023; Blais et al., 2023). It is also important to take into account the market context and the specific nature of the industry in which the company operates (Möller et al., 2020).

Modern business management requires an accurate diagnosis of all aspects related to the environment and functioning on a given market, as well as quick making of various decisions, which sometimes have a huge impact on the future of the company, its assets, and the employees (Day, 1994; Ibeh et al., 2024; Litvaj et al., 2022). In order to rationally manage an economic entity, the Management Board must have the best possible understanding of the company's realities (including the industry in which it operates); they should also know the effects of past investments, as well as the effectiveness of the decisions made (Dong et al., 2021). An enterprise is an independent organisational unit with two main goals: survival on the market and maximisation of profits. These goals are interrelated, and their measures are solvency and profitability, respectively (Holátová et al., 2013). Lack of profits may affect financial liquidity, and, in turn, liquidity problems may reduce the ability to increase profits (Amoa-Gyarteng, 2021). Insolvency is the reason for bankruptcies of companies, which often go bankrupt even though they are profitable (Voda et al., 2021; Bolek et al., 2023). In order to make decisions that are rational for the company, the management board must be guided by its expected financial consequences (Bolek et al., 2019). Financial analysis is an extremely useful tool for assessing the above-mentioned activities.

Analysis as a research method allows you to divide the whole into individual factors, check the mechanisms of connections, and cause-and-effect relationships between the components. Financial analysis examines the dynamics and structure of elements of financial statements and the financial condition of an enterprise, mainly assessing its profitability, financial liquidity, operational efficiency, and financial structure (Hasanaj et al., 2019; Rafid et al., 2024). Enterprise analysis also allows you to effectively assess whether a given business entity is at risk of bankruptcy (Kanapickienė et al., 2023).

The results obtained using the discussed tool are used not only by the management of the business entity, but also by the owners (shareholders), who, based on the analysis, can conclude about the effectiveness of the policy and, if necessary, decide to change the management board (Shi et al., 2021; Zhou et al., 2022). The assessment of financial analysis is also useful for investors who want to invest their money in shares of a given company, contractors, and a bank granting an investment loan or an organisation subsidizing a given project - it allows to assess the direction in which the entity is heading and compare its results to the entire market, sector, or industry leader (Palepu et al., 2020; Kliestik et al., 2020; Kepramareni et al., 2023).

All decisions made in an enterprise that are used to achieve its primary goals by maintaining profitability and solvency are related to the financial sphere (Blessing et al., 2023; Fikri et al., 2023). Finance is a fundamental factor in the business management process because it provides useful tools to optimise the use of limited resources and make rational decisions. Comparability and choice between multiple, often significantly different, ventures are only possible because of their financial impact on the venture (Ibeh et al., 2024; de Zarzà et al., 2023; Ardanta et al., 2024).

Individual decisions made by the company's management can be classified into four groups, with specific financial consequences.

- operational decisions include: establishing a sales, production, and purchasing programme; establishing product margins; defining the rules for crediting recipients and repaying creditors; determining how to invest financial surpluses in the short term (Liu et al., 2024; Al-Surmi et al., 2022),
- investment decisions include investments in tangible and financial fixed assets and short-term securities, preceded by appropriate analyses (Adhikari 2020),
- financial decisions include obtaining equity capital through the issuance of shares or shares, obtaining external capital by taking out loans or credits (Nukala et al., 2021; Гринюк et al., 2023; Ahmed et al., 2024),
- dividend decisions involve the division of profit into a part that will increase equity capital or into a dividend (Sitompul et al., 2020; Tran, 2024; Leary et al., 2024).

Finance is therefore a very important factor in the effective management of an enterprise, as it enables making rational decisions and the comparability of decisions made; their effects are expressed in monetary units (Damodaran, 2024; Sitinjak et al., 2023).

2.2. Financial standing and sustainable development of manufacturing enterprises

Sustainable development is a concept that assumes harmonious economic, social, and ecological development, meeting the needs of current generations without compromising on the benefit of future generations. The term gained popularity thanks to the 1987 Brundtland Report (Brundtland, 1987), which defined sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their

own needs. Sustainability is not only a necessity, but also an opportunity to create value for businesses, society, and future generations (Hart et al., 2003). Companies that implement sustainable practices can gain a competitive advantage, improve their reputation, and contribute to a more sustainable world (Gomez-Trujillo et al., 2020; Delgado-Ceballos et al., 2023).

Sustainable development of manufacturing enterprises is a comprehensive approach that requires the integration of economic, ecological, and social aspects of activity. Companies that effectively implement sustainability strategies can achieve benefits in the form of greater operational efficiency, better access to capital, improved reputation, and increased market competitiveness (Rubio-Andrés et al., 2024; Bagh et al., 2024). In the long term, sustainable development becomes not only an obligation, but also an opportunity to build lasting value for all stakeholders. This means that companies must balance their financial goals with environmental and social responsibility (Khatib, 2024; Coelho et al., 2023; Barauskaite et al., 2021).

The financial standing of a company and sustainable development are two key aspects that can influence each other (Zhou et al., 2022). Sustainable development of manufacturing enterprises refers to conducting business activities in a way that is beneficial both to the economy, the environment, and society (Shabbir et al., 2020; Al Frijat et al., 2024). Companies that invest in environmentally friendly technologies, energy efficiency, and responsible production practices can improve their financial standing in the long term. These investments can lead to lower operating costs and reduced regulatory risks (Bhat et al., 2024; Rahi et al., 2024). Companies that demonstrate a commitment to sustainability may also have easier access to financing. Investors and financial institutions increasingly take into account ESG criteria (Environmental, Social, and Governance) when making investment decisions (Oliver Yébenes, 2024; Park et al., 2021). In addition, its strong financial standing enables the company to invest in sustainable technologies and practices (Ikram et al., 2021). Businesses in good financial condition can make long-term investments that can bring benefits in the future. Companies with a good financial situation can allocate more funds to research and development (R&D), which may lead to innovations in the area of sustainable development (Duque-Grisales et al., 2020; Adomako et al., 2024). An innovative approach to production, use of raw materials, and waste management can significantly reduce the negative impact on the environment (Mostaghimi et al., 2023). Sustainability practices can lead to greater operational efficiency, for example by reducing energy, water, and raw material consumption (Li et al., 2023; Majid et al., 2023). This, in turn, can reduce operating costs and improve profitability. Companies must develop risk management strategies that take into account financial and sustainability aspects (Alkhodary, 2023; Jasiyah et al., 2024; Fu et al., 2024).

3. Research methods

The research's primary aim is to assess the strength and direction of the impact of financial standing on the sustainable development of manufacturing enterprises in Poland from 2008 to 2021. The analysis covers the period from the financial crisis to the COVID-19 pandemic. We focus on the manufacturing section because of its contribution to GDP, employment participation and its impact on the natural environment.

We formulated the following central hypothesis:

The financial standing has a statistically significant ($p < 0.05$) and positive impact on the sustainable development of manufacturing enterprises in Poland from 2008 to 2021.

This approach results from the fact that good financial standing means a higher ability to get external financial resources, credits and loans, which allows for the implementation of socially and ecologically responsible investments.

Additionally, we formulated the following research questions:

- Which economic, social or environmental development dynamics are higher in the analyzed period?
- Did the financial crisis and then the COVID-19 pandemic affect the financial standing of manufacturing enterprises?
- Which pillar of sustainable development is most influenced by financial standing?

We conducted our research in several stages. First, we specified indicators of sustainable development of enterprises (SD) and its pillars: economic (E), social (S) and environmental (Env). We use the following procedure:

$$SD_i = E_i + S_i + Env_i = \frac{1}{n}\sum_{j=1}^{n} E_i + \frac{1}{n}\sum_{j=1}^{n} S_i + \frac{1}{n}\sum_{j=1}^{n} Env_i \; ; \; (i = 1, 2, \dots, n) \quad (1)$$

where:

Sd_i – the synthetic indicator in the i-year,

n – is the number of metrics,

E_i – economic development in the *i*-year,

S_i – social development in the *i*-year,

Env_i – environmental development in the *i*-year.

Then, we transform the explanatory variables to unify their measuring scales using the following formulas:

- for the stimulants:

$$z_{ij} = \frac{y_{ij}}{\max_i\{y_{ij}\}}, z_{ij} \in [0; 1]; \quad (2)$$

- for the destimulants:

$$z_{ij} = \frac{\min_i\{y_{ij}\}}{y_{ij}}, z_{ij} \in [0; 1]. \quad (3)$$

where:

z_{ij} – the normalized value of the *j*-th variable in the *i*-th year,

y_{ij} – the value of the *j*-th variable in the *i*-th year,

$\min_i\{y_{ij}\}$- the lowest value of the *j*-th variable in the *i*-th year,

$\max_i\{y_{ij}\}$- the highest value of the *j*-th variable in the *i*-th year.

We normalized the SD and its pillars (E, S, Env) indicators based on diagnostic variables divided into stimulants and destimulants (Table 1). We assumed no collinearity between the variables and equivalent weights of the impact on SD.

Table 1.
Diagnostic variables used in the SD and its pillars (E, S, Env)

Synthetic index	Diagnostic variable	Description of the variable	Stimulant	Destimulant
Economic development (E)	y_1	Total number of companies in a country	+	
	y_2	Turnover or gross premiums [million PLN]	+	
	y_3	Production value [million PLN]	+	
	y_4	Value added at factor cost [million PLN]	+	
	y_5	Gross operating surplus [million PLN]	+	
	y_6	Total purchases of goods and services [million PLN]	+	
	y_7	Gross investment in tangible goods [million PLN]	+	
	y_8	Investment rate (investment/value added at factors cost) [%]	+	
	y_9	Share of personnel costs in production [%]		+
	y_{10}	Average personnel costs [thousand PLN]		+
Social development (S)	y_{11}	Wages and Salaries [million PLN]	+	
	y_{12}	Social security costs [million PLN]	+	
	y_{13}	Total number of employees in a country	+	
	y_{14}	Turnover per person employed [thousand PLN]	+	
	y_{15}	Apparent labour productivity [thousand PLN]	+	
	y_{16}	Gross value added per employee [thousand PLN]	+	
	y_{17}	Growth rate of employment [%]	+	
	y_{18}	Number of persons employed per enterprise	+	
	y_{19}	Investment per person employed [thousands PLN]	+	
	y_{20}	Personnel costs [million PLN]		+
Environmental development (Env)	y_{21}	Carbon dioxide emission [tons]		+
	y_{22}	Methane emission [tons]		+
	y_{23}	Nitrous oxide emission [tons]		+
	y_{24}	Sulphur oxides emission [tons]		+
	y_{25}	Ammonia emission [tons]		+
	y_{26}	Carbon monoxide emission [tons]		+
	Y_{27}	Nitrogen oxides emission [tons]		+
	y_{28}	Generation of total waste [tons]		+
	y_{29}	Generation of total waste [tons]		+
	y_{30}	Generation of chemical waste [tons]		+
	y_{31}	Generation of glass wastes [tons]		+
	y_{32}	Generation of paper and cardboard wastes [tons]		+
	y_{33}	Generation of plastic wastes [tons]		+

Source: own study on the basis of GUS database.

We calculated the FS (4) index based on the following variables:

- stimulants: current ratio (CR), quick ratio (QR), return on sales (ROS), return on assets (ROA), return on equity (ROE), total assets turnover (TAT) / Productivity of assets,
- destimulants: operating cycle (OC, in days), debt ratio (DR), long-term debt to equity (LD/E).

$$FS_i = \beta_0 + \beta_1 \frac{CR_{ij}}{\max_i\{CR_{ij}\}_i} + \beta_2 \frac{QR_{ij}}{\max_i\{QR_{ij}\}_i} + \beta_3 \frac{ROS_{ij}}{\max_i\{ROS_{ij}\}} + \beta_4 \frac{ROA_{ij}}{\max_i\{ROA_{ij}\}_i} + \beta_5 \frac{ROE_{ij}}{\max_i\{ROE_{ij}\}_i} + \beta_6 \frac{TAT_{ij}}{\max_i\{TAT_{ij}\}_{ii}} + \beta_7 \frac{\min_i\{OC_{ij}\}}{OC_{ij}}_i + \beta_8 \frac{\min_i\{DR_{ij}\}}{DR_{ij}}_{ii} + \beta_9 \frac{\min_i\{LD/E_{ij}\}}{LD/E_{ij}}_i \varepsilon_i \quad (4)$$

Then, we examine the strength and direction of a linear relationship between the SD and NS (financial standing). To do this, we use Pearson's R, Spearman-s Rho, Gamma Coefficient (Goodman and Kruskal's Gamma), Tau Kendall's Coefficient. We adopt the ranges of correlation strength that were suggested by Evans (2006): |rxy| = 0—no correlation; 0 <|rxy| ≤ 0.19—very weak; 0.20 ≤ |rxy| ≤ 0.39—weak; 0.40 ≤ |rxy| ≤ 0.59—moderate; 0.60 ≤ |rxy| ≤ 0.79—strong; 0.80 ≤ |rxy| ≤ 1.00—very strong.

In the next step, we apply a regression analysis to assess the links between SD and FS and its subindices. The simple linear regression is determined according to the formula (5):

$$SD_i = \beta_0 + \beta_1 FS_i + \beta_1 FS_{i-1} + \varepsilon_i \quad (5)$$

where:

β_0 – the intercept,

β_1 – the slope,

ε_i – denotes the *i*-th residual,

I – an observation index.

The estimated models are given by the equations:

$$SD = \hat{\beta}_0 + \hat{\beta}_1 FS_i + \hat{\beta}_2 FS_{i-1} + e_i = \widehat{SD}_i + e_i \quad (6)$$

so the residual for each observation is as follows:

$$e_i = SD_i - \widehat{SD}_i = SD - (\hat{\beta}_0 + \hat{\beta}_1 FS_i + \hat{\beta}_1 FS_{i-1}) \quad (7)$$

For regression analysis, we use the most common estimation method for linear models called the ordinary least squares (OLS) regression. The OLS procedure minimizes the sum of squared residuals:

$$s(\hat{\beta}_0, \hat{\beta}_1) = \sum_{i=1}^{n} e_i^2 = \sum_{i=1}^{n} (SD_i - \widehat{SD}_i)^2 = \sum_{i=1}^{n} (SD_i - \hat{\beta}_0 - \hat{\beta}_1 FS_i - \hat{\beta}_2 FS_{i-1})^2 \to min \quad 8)$$

To assess the impact of FS on E, S, Env we build three equations based on the following formulas:

$$\begin{aligned} \mathrm{E_i} &= \propto_0 + \propto_1 FS_\mathrm{i} + \propto_2 FS_{\mathrm{i}-1} + \propto_3 \mathrm{S_i} + \propto_4 \mathrm{Env_i} + \varepsilon_\mathrm{i} \\ \mathrm{S_i} &= \propto_0 + \propto_1 FS_\mathrm{i}, + \propto_2 FS_{\mathrm{i}-1} + \propto_3 \mathrm{E_i} + \propto_4 \mathrm{Env_i} + \varepsilon_\mathrm{i} \\ \mathrm{Env_i} &= \propto_0 + \propto_1 FS_\mathrm{i} + \propto_2 FS_{\mathrm{i}-1} + \propto_3 \mathrm{E_i} + \propto_4 \mathrm{S_i} + \varepsilon_\mathrm{i} \end{aligned} \tag{9}$$

We use feasible generalized least squares (FGLS) to estimate the SUR model. The residuals from our regression are used to estimate the elements of matrix:

$$\hat{\sigma}_{ij} = \frac{1}{R} \hat{\mathcal{E}}_i^T \hat{\mathcal{E}}_j \tag{10}$$

Then, we run generalized least squares regression for using the variance matrix:

$$\begin{aligned} \Omega &\equiv E[(\varepsilon\varepsilon^T|X)] = \sum \Omega \otimes I_R \\ \hat{\beta} &= (X^T(\hat{\sum}^{-1} \otimes I_R)X)^{-1} X^T(\hat{\sum}^{-1} \otimes I_R)y \end{aligned} \tag{11}$$

The formula for the SUR estimator is as follows:

$$\sqrt{R}(\hat{\beta} - \beta) \xrightarrow{d} \mathrm{N}\,(0, (\tfrac{1}{R} X^T (\sum^{-1} \otimes I_R)X)^{-1}) \tag{12}$$

where:

R – the number of observations,

IR – the R-dimensional identity matrix,

⊗ – denotes the matrix Kronecker product,

∑ˆ – the matrix.

4. Results of the research

Figure 1 shows the number of manufacturing enterprises from 2008 to 2021. As the trend line shows, there was a quite sharp decline in the number of enterprises during the period under examination.

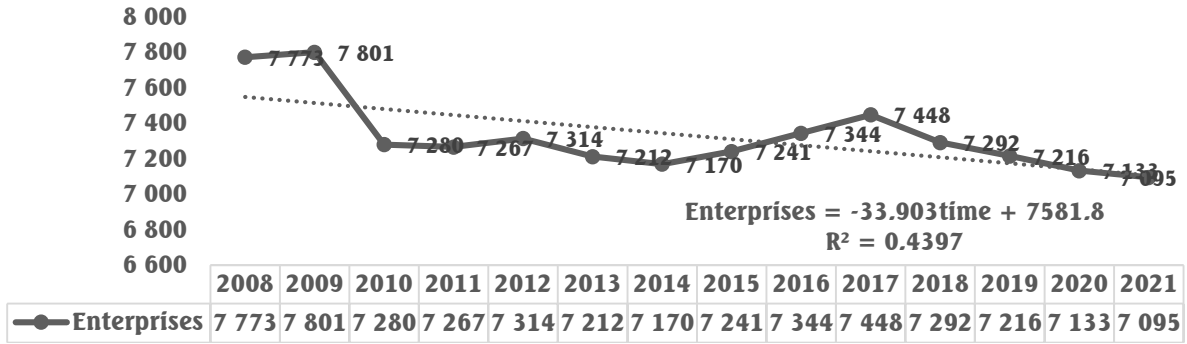
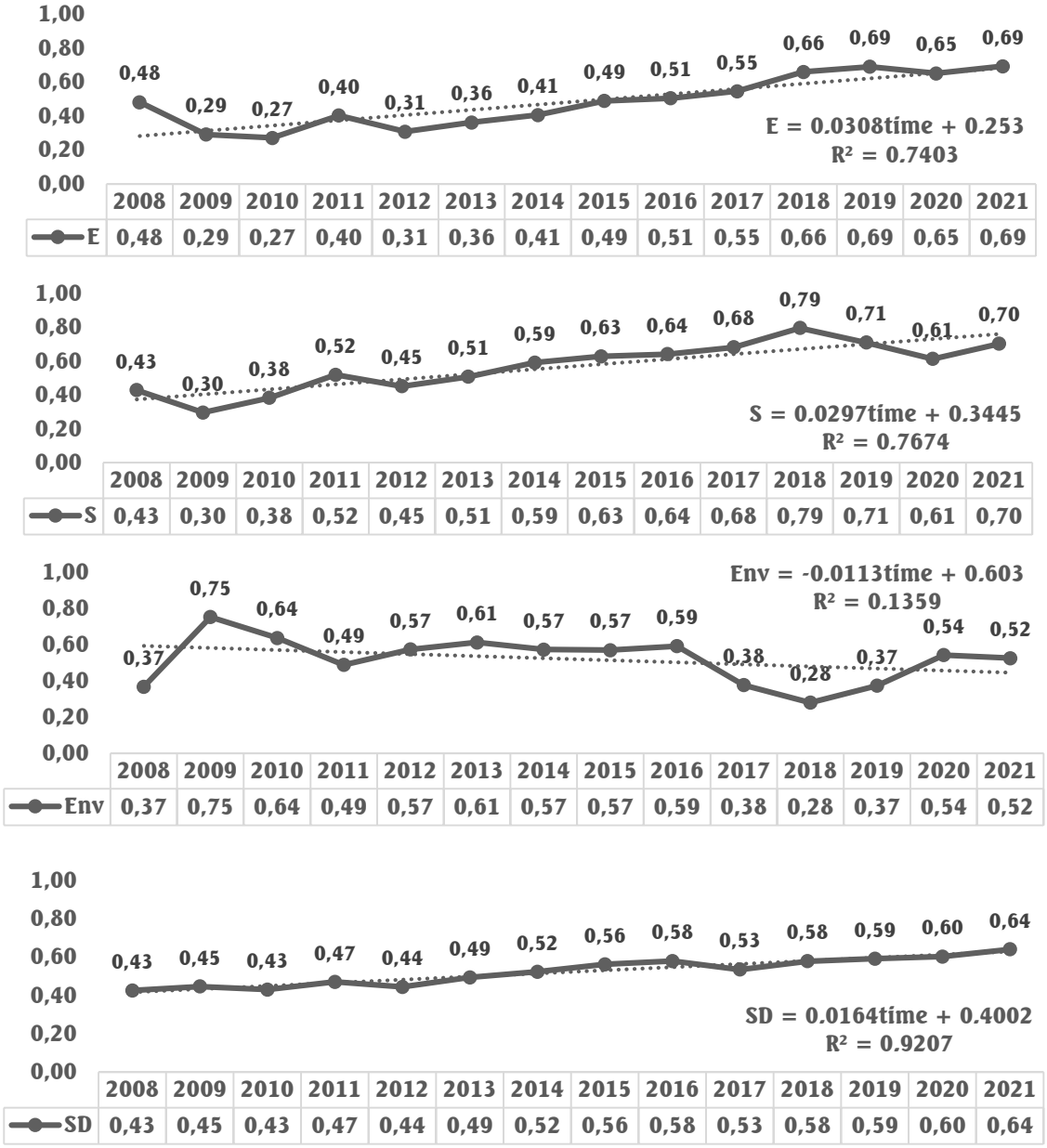


Figure 1. The number of manufacturing enterprises in Poland (2008-2021).

Source: own study on the basis of GUS [https://stat.gov.pl/], 17.07.2024.

The economic and social development of the sector has a positive trend, and the environmental trend is negative (Figure 2). In turn, environmental development has a negative trend (a particularly low indicator level occurred from 2016 to 2019 due to the great emphasis placed on financial results). The sustainable development index has a slight positive trend, which results from the level of economic and social development of the sector.



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
E	0,48	0,29	0,27	0,40	0,31	0,36	0,41	0,49	0,51	0,55	0,66	0,69	0,65	0,69
S	0,43	0,30	0,38	0,52	0,45	0,51	0,59	0,63	0,64	0,68	0,79	0,71	0,61	0,70
Env	0,37	0,75	0,64	0,49	0,57	0,61	0,57	0,57	0,59	0,38	0,28	0,37	0,54	0,52
SD	0,43	0,45	0,43	0,47	0,44	0,49	0,52	0,56	0,58	0,53	0,58	0,59	0,60	0,64

Figure 2. The indicator of sustainable development of manufacturing enterprises in Poland and its pillars (2008-2021).

Source: own study on the basis of Eurostat [https ://ec.europ a.eu/Eurostat], 17.07.2024.

Figure 3 shows the financial standing indicator, which has a positive trend in the years 2008 to 2017, then declines and increases during the Covid-19 pandemic, where the demand for products offered by the sector increased significantly.

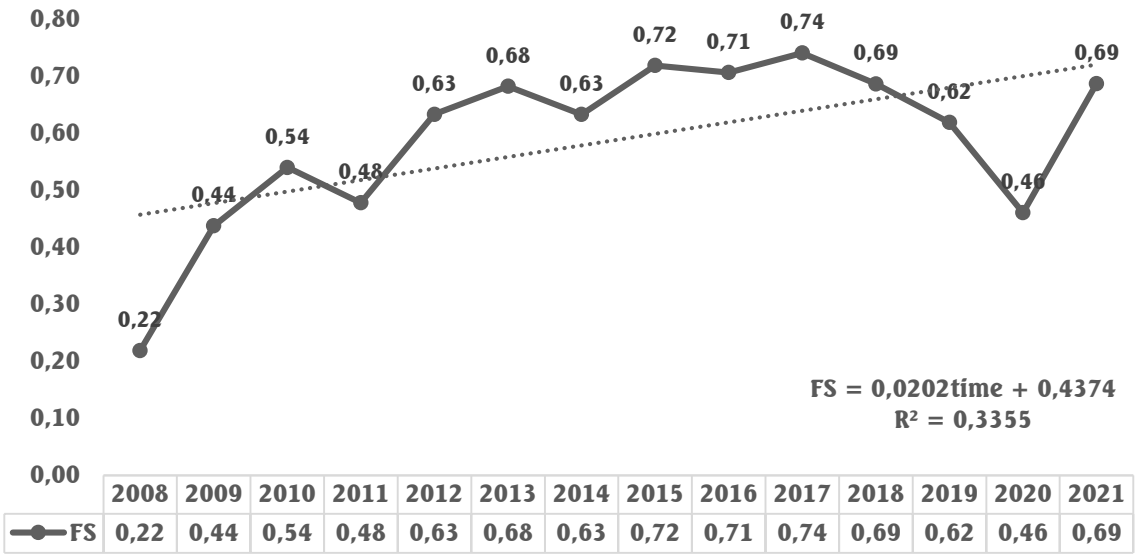


Figure 3. The indicator of financial standing of manufacturing enterprises in Poland (2008-2021).

Source: own study on the basis of Industry indicators [https://wskaznikibranzowe.pl/], 17.07.2024.

The linear correlation indicators between sustainable development and financial standing are at an average level, indicating a relatively low dependency level between the examined indicators. Moreover, it should be noted that this is a positive relationship, so an increase in one indicator leads to an increase in the other.

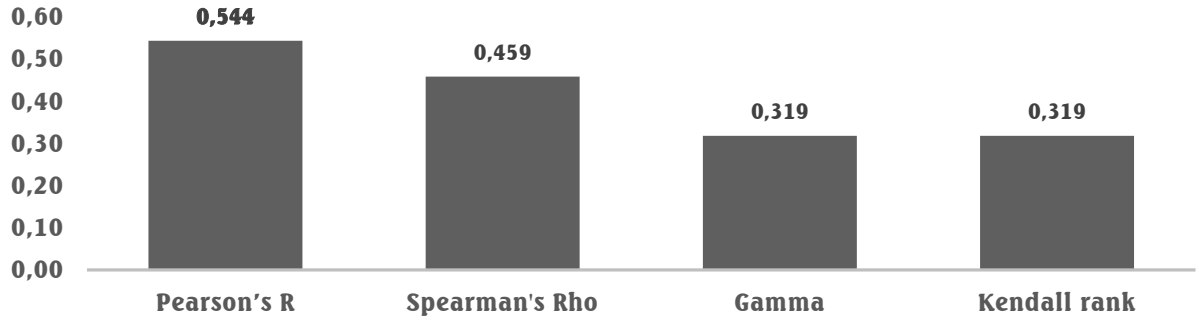


Figure 4. The Pearson's R, Spearman-s Rho, Gamma and Kendall rank correlation coefficients; correlation between SD and FS (2008-2021, $p < 0.05$).

Source: own study on the basis of Eurostat and Industry indicators [https://ec.europa.eu/Eurostat; https://wskaznikibranzowe.pl/], 17.07.2024.

The OLS estimation results indicate a strong impact of the financial standing on sustainable development from the previous period, which shows that financial decisions made earlier are important for development based on three economic, social and environmental pillars (Table 2).

Table 2.
The Results of the OLS regressions (2008-2021, $p < 0.05$)

Country	Dependent variable	Independent variable	Coefficient	Std. error	P-value	R-squared
Poland	E	Const	0.044	0.123	0.729	0.594
		$FS_{(t-2)}$	0.772	0.202	0.003	
	S	Const	0.205	0.078	0.025	0.732
		$FS_{(t-2)}$	0.670	0.128	0.000	
	Env	Const	0.865	0.111	<0.0001	0.470
		$FS_{(t-1)}$	−0.577	0.185	0.010	
	SD	Const	0.338	0.054	<0.0001	0.589
		$FS_{(t-1)}$	0.338	0.089	0.004	

Source: own study on the basis of Eurostat and Industry indicators [https://ec.europa.eu/Eurostat; https://wskaznikibranzowe.pl/], 17.07.2024.

The results of the estimations show that good financial standing is important for the implementation of socially and ecologically responsible investments. It should be emphasized that managers and their owners still focus on economic and social development in industrial enterprises. It is necessary to take action to implement environmentally friendly technologies.

5. Discussion

Prior research on sustainable development and a company's financial situation has focused primarily on the relationship between the extent of sustainable development and single dimensions of a firm's economic performance, such as profitability (Nollet et al., 2016; Chouaibi et al., 2022), leverage (Zhao et al., 2018) and intellectual capital (Mikołajek-Gocejna, 2024; Giannopoulos et al., 2022). This paper contributes to the existing literature by evaluating the financial standing using the synthetic indicator and then assessing its impact on the magnitude of sustainable development of manufacturing enterprises in Poland.

In this study, we confirmed the central hypothesis that financial standing has a statistically significant and positive impact on the firm's sustainable development in the tested sample. In particular, we demonstrated that financial decisions from earlier periods (t-2 and t-1) are important for firm's development based on three ESG pillars in the current period (t). However, the directions of the effect of financial standing on the three pillars of sustainable development were diversified. Moreover, evaluating the relationships between the abovementioned variables could depend on the adopted calculation methods (OLS regression vs SUR regression).

We also found several interesting findings concerning the research questions. The distribution of the synthetic financial standing indicator for 2008-2021 indicates that the outbreak of the COVID-19 pandemic may have contributed to a sharp decline in its value in 2020 to an increase in 2021. It should be emphasized that the state of COVID-19 epidemic threat in Poland occurred in March 2020, and therefore, the entire year 2020 cannot be considered a pandemic year (Comporek, 2024). However, the research results confirm the

negative implications of economic downturns for manufacturing companies (Notta, Vlachvei, 2014; Khudyakova, Schmidt, 2019). Moreover, we gathered evidence that in the examined period, the greatest growth dynamics characterized the economic and social levels of sustainable development of the manufacturing sector in Poland. In turn, environmental development has a negative trend from 2008 to 2021, although paradoxically, the outbreak of the COVID-19 pandemic contributed positively to the formation of the environmental sustainable development indicator value.

This study must be viewed with consideration of several limitations. They are related to the selection of analytical variables for the synthetic indicators created, the range of the research period and the choice of model estimation methods. This research leads to several future studies in the area of determinants of sustainable development in the emerging market. Future analysis can identify the impact of financial standing on the extent of sustainable development in other sectors of the economy. Similarly, assessing the effect of the company's financial situation on its sustainable development in other CEE countries is worth further exploring.

6. Conclusions

The financial standing of manufacturing enterprises shows their competitive position in the market, credibility and economic strength and affects the level of trust of contractors and their loyalty. It is a measure that shows holistically the economic efficiency of an organization's functioning on the capital market and its ability to achieve its economic, social and individual goals.

The concept of shared value promoted by Porter and Kramer (2011) emphasizes that economic profit linked to the implementation of social and environmental goals is a higher form of capitalism. Thus, business success should go hand in hand with benefits created for society. The empirical studies show the impact of financial standing on the sustainable development of manufacturing enterprises in a positive light. We demonstrated that Polish companies with an established financial position can afford to implement socially and ecologically responsible investments to a greater extent than others. This observation mainly concerns two of the three pillars of sustainable development: economic and social.

Conclusions derived from the study could be of interest to the company's stakeholders, who pay attention to the choices made by managers regarding actions contributing to the protection and multiplication of social well-being. Practical implications resulting from the research focus on the presentation of diverse econometric tools that can be used to evaluate the impact of financial standing on sustainable development. Theoretical implications include a review of the existing literature. They also allow for further theoretical and empirical inferencing based on the analyses presented in the paper.

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