

The Correlation Between Logistics Performance, Financial Performance, and Stock Price in the Borsa Istanbul Transportation and Storage Sector

Bist Ulaştırma ve Depolama Sektörü Lojistik Performans, Finansal Performans ve Hisse Senedi Fiyatı İlişkisi

Ahmet KARACA 

Department of International Trade and Logistics, Pamukkale University, Faculty of Applied Sciences, Denizli, Turkey



Received/Geliş Tarihi: 08.02.2023

Accepted/Kabul Tarihi: 21.07.2023

Publication Date/Yayın Tarihi: 23.08.2023

Corresponding Author/Sorumlu Yazar:
Ahmet KARACA
E-mail: akaraca@pau.edu.tr

Cite this article as: Karaca, A. (2023). The correlation between logistics performance, financial performance, and stock price in the Borsa Istanbul Transportation and Storage Sector. *Trends in Business and Economics*, 37(4), 292-299.

ABSTRACT

This study aimed to investigate the correlation between the logistics performances, financial performances, and stock prices of the companies listed in the Borsa Istanbul Transportation and Storage Sector. Therefore, the logistic performances and financial performances of the companies included in the study were calculated using the performance measurement methods based on the ratios using the financial statement data between 2012 and 2021. The Financial Statement data of the companies were obtained from the Public Disclosure Platform. In the study, the correlation between the logistics performances, financial performances, and stock prices of the companies and the measure of the correlation between the variables were examined using the panel data regression analysis. The results of the analysis revealed that the logistics performance of the companies positively affected their financial performance, and the predicted correlation coefficient was statistically significant. Similarly, the financial performance of the companies was found to positively affect their stock prices and the predicted correlation coefficient was found to be statistically significant.

JEL Codes: R40, L91, L25, G17, C53, C31, C33

Keywords: Financial performance, logistic performance, panel data, stock price

ÖZ

Bu çalışmanın amacı, BİST Ulaştırma ve Depolama Sektöründe yer alan işletmelerin lojistik performansları, finansal performansları ve hisse senedi fiyatları arasındaki ilişkinin araştırılmasıdır. Bu amaçla araştırmaya dahil edilen işletmelerin lojistik performansları ile finansal performansları 2012-2021 yılları arası mali tablo verileri kullanılarak oranlara dayalı performans ölçüm yöntemleriyle hesaplanmıştır. İşletmelerin Mali Tablo verileri Kamu Aydınlatma Platformu'ndan elde edilmiştir. Çalışmada işletmelerin lojistik performansları, finansal performansları ve hisse senedi fiyatları arasındaki ilişki ve değişkenler arasındaki ilişkinin ölçüsü panel veri regresyon analizi ile incelenmiştir. Analiz sonucunda işletmelerin lojistik performanslarının finansal performanslarını pozitif yönde etkilediği ve tahmin edilen katsayının istatistiki açıdan anlamlı olduğu, işletmelerin finansal performanslarının hisse senedi fiyatlarını pozitif yönde etkilediği ve tahmin edilen katsayının istatistiki açıdan anlamlı olduğu tespit edilmiştir.

JEL Kodları: R40, L91, L25, G17, C53, C31, C33

Anahtar Kelimeler: Finansal performans, lojistik performans, panel veri, hisse senedi fiyatı



Content of this journal is licensed under a Creative Commons Attribution 4.0 International License

Introduction

It is known that 90% of success depends on getting the right information in the right place and at the right time before the competitors. At this point, the significance of the logistics function comes

to the fore. The logistics function creates a strategic impact on several aspects of the supply chain by directly affecting them. It has an impact on the design of the supply chain as well as the relationships with suppliers by directly affecting the supplier and facility location selection. It affects the distribution operations and therefore customer satisfaction of the company by ensuring that the right products are delivered to the right customer at the right time, under the right conditions, and at the right cost. It also affects the costs of the enterprise by performing route and load optimization while affecting production functions by conducting stock management. On the other hand, the enterprises that provide logistics services follow familiar business strategies as their own business strategies while they have a direct impact on the member enterprises of the chain to achieve their strategic goals by ensuring that the supply chain, which consists of several companies, is operated effectively and efficiently. In this context, it is a must for all managers related to the logistics function, whether they are the managers of the logistics department of a company or the managers of a logistics service provider, to have a good level of knowledge about strategy, strategic management, and logistics strategies and to align the strategic practices within the logistics framework with business strategies.

Although logistics is referred to as a function in enterprises, logistics has several direct and indirect effects on business strategies and competitiveness. Therefore, every strategic decision regarding the management of logistics activities in the enterprise will affect the performance of the business strategies. This study aims to investigate the correlation between the logistics performances, financial performances, and stock prices of the companies listed in the Borsa Istanbul (BIST) Transportation and Storage Sector. Therefore, the logistic performances and financial performances of the companies included in the study were calculated using the performance measurement methods based on the ratios using the financial statement data between 2012 and 2021. The Financial Statement data of the companies were obtained from the Public Disclosure Platform.

In the study, the correlation between the logistics performances, financial performances, and stock prices of the companies and the measure of the correlation between the variables were examined using the panel data regression analysis. The results of the analysis revealed that the logistics performance of the companies positively affected their financial performance and the predicted correlation coefficient was statistically significant. Similarly, the financial performance of the companies was found to positively affect their stock prices and the predicted correlation coefficient was found statistically significant.

Logistics Concept

Logistics refers to all processes such as transportation, storage, customs clearance, packaging, and distribution of a product from the first manufacturer to the end consumer. In other words, providing the right product, at the right place, at the right time, in the right quantity, method, and quality, and at a competitive price defines the concept of logistics. The logistics function is a strategic function that ensures the connection between the elements in the supply chain from the raw material to the end customer and the flow of products (Bayraktutan & Özbilgin, 2015. p. 96).

The competence of ensuring the effective and efficient provision of a certain product flow through logistics function in line with business strategies has strategic importance for enterprises. Logistics management is the process of planning, implementation,

and control procedures to ensure the effective and efficient flow and storage of all kinds of products, services, and related information flow from the starting point in the supply chain to the end point where the product is consumed in order to meet the requirements of the customers (Acar, 2020. p. 3; CSCMP, 2013). Supply chain management is a broader concept that includes logistics and essentially is a process that coordinates the relationship of logistics with other processes of the company. It can be considered as a two-way flow of goods, services, and information between production and consumption points to meet customer requirements (Izmir University of Economics [İÜ], 2009).

As can be seen, the logistics function has been moved beyond the scope of planning a distribution channel for transportation and/or marketing in line with various developments affecting world trade life. Actually, as a result of this view, which is parallel to the changes in the attitude to the enterprise, we can summarize the factors affecting the emergence of modern logistics as follows (Acar, 2020. p. 14):

- Companies compromising on their aim to conduct all activities within their own structure and choosing to collaborate with other enterprises instead, as a result of their desires to specialize by focusing on the core competency of the enterprises, an outcome of the concerns about reducing the investment requirement,
- Enterprises that want to create a price advantage by enlarging the scales refrain from unproductive activities,
- The desire of responding quickly to the customers of enterprises that want to increase customer satisfaction,
- The efforts of enterprises to grow their business by focusing their investments on certain areas of enterprises that want to implement new technology while trying to outsource other activities from those who do those jobs the best,
- Enterprises that want to reduce their labor problems go downsizing and outsource some of their activities.

The main purpose of logistics management in enterprises is to effectively achieve the predetermined production or marketing goal in accordance with business strategies at the lowest possible total cost. In order to achieve this goal, it should be ensured that the physical distribution function (shipping, packaging, and storage of goods) and the material management function (material flow planning, procurement, storage, and control) should be aligned with each other. According to another definition, the purpose of logistics is to provide the goods in the production stage to the customer at a low cost by using high-quality standards (Kaya, 2003. p. 137).

Logistics Performance

Logistics also has a significant impact on the financial performance of enterprises. The most significant indicator of this effect is the return on assets (ROA). The ROA refers to the ratio of profit to total assets. This metric is an indicator of how effectively the existing resources are used, and a high value indicates that business performance is good. Assets are all tangible or intangible elements used in the business and activities of the enterprise or in the production of goods and services. Assets are generally defined in the following two categories: current assets (cash, stock, etc.) and fixed assets (plant, equipment, etc.) (Lazol, 2004). Due to the acceleration of material flow with effective logistics and working with lower stock levels, the need of the enterprises for the current assets will decrease. The decrease in investment in stock results in an increase in the amount of cash to be allocated

to other activities; thus, the need for getting loans decreases. Moreover, effective logistics network planning causes a decrease in fixed assets, which increases the profit (Acar, 2020. p. 16).

Efforts to improve efficiency and reduce costs in logistics have brought the issue of logistics performance to the agenda. Defining and choosing the most appropriate performance metrics while monitoring the performance of the logistics process is of great importance in terms of achieving certain goals. Choosing the right metrics contributes greatly to the development of measurement and evaluation skills. Performance metrics basically measure the level of meeting customer needs. However, most of the metrics reflect the effectiveness of input and output in the supply chain (Bayraktutan & Özbilgin, 2015. p. 99).

Efficiently planned and managed logistics activities contribute greatly to the financial performance of enterprises (Yücenurşen, 2013. p.13). On the other hand, there is a need for resources of fixed capital and working capital to carry out logistics activities. Considering all these, the impact of logistics activities, which are considered quite costly, on the performance of the enterprise becomes indisputable. In general, the logistics performance of enterprises is measured for the following three reasons (Aydın & Bacak, 2018. p. 199):

- Reducing operating costs,
- Managing revenue growth,
- Protecting shareholder value.

The impact of effective management of logistics activities or outsourcing logistics activities on financial performance is explained by the ROA. Return on assets is defined as the ratio of profit to total assets. This ratio shows the efficiency of the use of existing resources. Higher values of this ratio indicate that the enterprise uses its assets effectively (Aydın & Bacak, 2018. p. 199; Tokay et al., 2011. p. 230).

Literature Review

Indicators that measure logistics performance are not only related to costs. There are several types of indicators calculated at both company and sector levels (Kumar, 2013). According to the literature, the selected indicators are given in categories and the set of these indicators is defined as a performance measurement system.

Krauth et al. (2005) conducted a literature review to investigate which metrics affected the performance of companies providing logistics services. They gathered these metrics, which they called key performance indicators, under four main groups: effectiveness, efficiency, customer satisfaction, and information technologies utilization skills. These main categories have 29, 38, 8, and 13 metrics, respectively. Besides these, a total of 37 metrics related to the company providing logistics services and customers receiving logistics services, including internal and external factors, were included.

Hausman et al. (2005) analyzed the logistics performance of export and import operations based on the criteria under the following four main groups: uncertainties and difficulties encountered in foreign trade and the cost and duration of these operations.

Kumar (2013) examined logistics performance under four categories. These categories are the cost, efficiency, quality, and completion time of logistics activities. Çatı et al. (2015) studied the effect of outsourcing on financial performance by examining the

managers of the SMEs in the manufacturing industry in Düzce (Türkiye). The attitudes of the managers of SMEs to outsourcing were evaluated and changes were examined depending on the managers' education level and experience. The results of the study revealed that their attitudes to outsourcing did not differ depending on the education level of the managers. Considering their experience in management, it was determined that the managers' attitudes to outsourcing differed in terms of cost and service quality factors. It was found that the transportation/shipping and logistics area, which is one of the outsourcing areas, has an effect on the market share, which is one of the metrics related to the financial performance of the enterprise.

In her study, Kıymetli Şen (2014) discussed the management and costing approaches to logistics activities. According to research on logistics activities, physical distribution costs of enterprises can reach up to 30% of sales. The increase in costs has negatively affected the financial performance, cash flows, profitability, and therefore the value of the shares of the enterprises. This study describes the logistics costs and their structure and discusses the methods used to cost logistics activities.

Gökalp (2014) conducted a study to determine the performance metrics affecting the financial performance of the enterprises providing logistics services. In this research, 28 metrics were determined. These metrics were grouped into the following three main categories: efficiency metrics, financial metrics, and customer satisfaction metrics. Participants stated that they attached the highest importance to the following metrics: order cycle time within the efficiency metrics, sales and operating profit within the financial metrics, and timely delivery within the customer satisfaction metrics.

Methods

The Financial Statements published on the Public Disclosure Platform between 2012 and 2021 of the enterprises in the transportation and storage sector were used as the data set of the research. The return on equity in the DuPont Model was used as the logistics performance indicator of the enterprises. The financial performance of the enterprises was calculated using the Altman Z-score model in Equation 1 (Altman, 1968. p. 594) Tables 1–3:

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 0.999X_5 \tag{1}$$

X_1 = Working capital/total assets;

X_2 = Undistributed profits/total assets;

Table 1.
Financial Performance Values (Z) of Enterprises in the BIST Storage and Transportation Sector

Company/ Year	BEYAZ	CLEBI	GSDDE	PGSUS	RYSAŞ	THYAO
2012	0.20	1.89	7.77	1.43	0.87	1.14
2013	0.14	1.35	0.17	1.97	0.98	1.03
2014	0.97	2.35	0.22	2.19	0.67	1.39
2015	3.08	2.58	0.06	1.78	0.28	1.14
2016	3.90	1.70	-0.54	1.00	0.25	0.65
2017	8.51	2.49	-0.11	1.51	0.21	1.00
2018	6.69	2.32	0.53	1.04	-0.09	0.97
2019	4.47	2.11	0.14	1.21	0.25	0.79
2020	6.49	1.64	0.13	0.20	0.46	0.23
2021	6.56	1.63	2.30	0.19	0.35	0.39

Table 2.

Logistics Performance Values (LP) of Enterprises in the BIST Transportation and Storage Sector

Company/ Year	BEYAZ	CLEBI	GSDDE	PGSUS	RYSAŞ	THYAO
2012	0.0015	0.0537	0.0213	0.0703	0.0168	0.0004
2013	0.0150	0.0038	-0.0469	0.0442	0.0659	0.0015
2014	-0.0198	0.1200	-0.0335	0.0386	0.0333	0.0709
2015	0.3313	0.1500	-0.0557	0.0445	-0.0455	0.0821
2016	0.1506	0.0557	-0.0855	-0.0256	-0.0490	0.0000
2017	0.0648	0.1284	-0.0457	0.0746	-0.0194	0.0118
2018	0.0061	0.1410	0.1256	0.0397	-0.0775	0.0480
2019	0.0639	0.0968	-0.0231	0.0662	0.0065	0.0344
2020	0.1177	-0.0482	-0.0561	-0.0697	-0.0157	-0.0326
2021	0.1172	0.1153	0.1704	-0.0389	-0.0264	0.0260

Table 3.

Stock Price Values (F) of Enterprises in the BIST Storage and Transportation Sector

Company/ Year	BEYAZ	CLEBI	GSDDE	PGSUS	RYSAŞ	THYAO
2012	1.23	20.20	0.39	17.80	0.66	5.39
2013	0.59	10.80	0.29	34.60	0.59	5.80
2014	0.69	28.50	0.67	33.40	0.74	9.36
2015	1.23	35.80	0.53	17.56	0.65	7.39
2016	2.97	21.50	0.53	14.15	0.79	4.94
2017	33.61	36.98	0.65	32.48	1.28	15.69
2018	2.74	62.60	0.56	22.86	0.74	16.01
2019	3.14	106.40	1.19	84.75	4.18	13.95
2020	10.18	184.90	2.44	74.60	9.24	12.91
2021	9.15	183.90	3.60	84.95	4.56	21.12

X_3 = Earnings before interest and tax (EBIT)/total assets;

X_4 = Market value of total equity/book value of total liabilities;

X_5 = Sales/total assets.

Panel Data Analysis and Results

In the study, the data of the enterprises for 10 years were included in the analyses as a whole, and panel data analysis was applied because both the horizontal and vertical dimensions of the data progressed. The correlation between the variables was calculated using panel data analysis as the research method. Panel data analysis is used when it comes to horizontal and vertical cross-sectional data. The panel data regression model is given in Equation 2 (Altunışık et al., 2010. p. 237):

$$Y_{it} = \alpha_{it} + \beta_{kit} X_{kit} + \mu_{it} \quad (2)$$

In the panel data model,

Y stands for the dependent variable,

X_k stands for the independent variables,

α stands for the constant term,

β_k stands for the slope coefficients, and

μ_{it} stands for the error term.

i denotes the index of the units,

t denotes the index of time,

The research hypotheses are stated as follows:

H_1 : There is a correlation between the logistics performances and financial performances of the enterprises listed in the BIST Transportation and Storage Sector.

H_2 : There is a correlation between the logistics performances, financial performances, and stock prices of the enterprises listed in the BIST Transportation and Storage Sector.

The research model can be expressed using Equations (3) and (4).

Research models:

$$F = 4.5395 + 1.49Z - 1.69LP + \varepsilon_{it} \quad (3)$$

where F is the Stock price value,

Z is the financial performance value, and

LP is logistics performance value.

While stock price value (F) is included as a dependent variable in the model, financial performance value (Z) and logistics performance value (LP) are included as independent variables.

$$Z = 1.3691 + 5.60LP + \varepsilon_{it} \quad (4)$$

where Z is the financial performance value and

LP is the logistics performance value

While Z is included as a dependent variable in the model, LP is included as the independent variable.

Some basic descriptive statistics of dependent and independent variables used in the panel data analysis are given in Table 4.

As can be seen in Table 4, the mean F of six enterprises for the 2012–2021 period is 22.01833, the mean LP is 0.0335216, and the Z is 1.620136. Moreover, the standard deviation and other statistical values of the variables are presented in detail in the relevant table.

Horizontal Cross-Sectional Dependence Test

Testing the sectional dependency, which is one of the panel data analysis assumptions, is important to produce consistent parameters both based on the variable and the model.

In the study, the Pesaran CD (2004) test results in Table 5 were taken into account in terms of cross-sectional dependence since the cross-sectional dimension is greater than the time dimension. According to the result of the analysis, the null hypothesis is rejected because the probability of F on the basis of variables is less than .05. Since the probability values of LP and Z are greater than .05, the null hypothesis is accepted. The null hypothesis is rejected because the probability values based on the model are less than the critical value (.05). This indicates that the variables in our model have a cross-sectional dependence. Therefore, both the second-generation panel unit root tests and the first-generation panel unit root tests, which take into account cross-sectional dependence, were used while testing the stationarity of the variables.

Panel Unit Root Test

While the basic hypothesis in the CADF test states the existence of the unit root, the alternative hypothesis is established with the

Table 4.
Descriptive Statistics of the Variables

Variables	Average	Standard Deviation	Minimum	Maximum	Number of Observations
F	22.01833	38.25061	0.29	184.9	60
LP	0.0335216	0.0752634	0.0855282	0.3312652	60
Z	1.620136	1.974501	-0.54	8.51	60

Note: F = Stock price value; LP = Logistics performance value; Z = Financial performance value.

Table 5.
Horizontal CD Test

Method	CD (Pesaran 2004)		
	Variables	Statistics	p
F		7.1670*	.0000
Z		0.2480	.8040
LP		0.7750	.4380
Pesaran CD test statistics		4.277*	.0000

Note: H₀: There is no CD. H₁: There is a CD.
CD = Cross-sectional dependence; F = Stock price value; LP = Logistics performance value; Z = Financial performance value.
*, **, and *** refer to the significance levels of 1%, 5%, and 10%, respectively.

assumption that there is no unit root. The unit root test results for the variables used in the analysis are given in Tables 6 and 7 below.

The probability values less than .05 refers to the stationarity of the variables.

The equality of variance and autocorrelation, which were among the assumptions of the model, were examined. Levene’s test and Brown–Forsythe’s test were performed to test the equality of variances, and the results revealed that there was a variance problem. It was concluded that there was no ALM autocorrelation.

As can be seen in Table 8, according to the results of Levene’s test and Brown–Forsythe’s test of equality of variance, H₀, which is stated as the variances of the units are equal, is rejected; that is, the variance changes according to the units. According to the

ALM test results, the probability value reveals that there is an autocorrelation problem.

Prediction of the Panel Data Models

Tests for the selection of the prediction model revealed that the random effects model would reveal more consistent parameters than other predictors. Moreover, the presence of horizontal cross-sectional dependence, varying variance, and autocorrelation problems in the model indicates the requirement of using resistant predictors in the panel data analysis.

As can be seen in Table 9, the probability value of Wald χ^2 statistic is .000, indicating that the model is significant. The significance levels of the variables reveal that the coefficients of the variables CONSTANT and LP are statistically significant.

Considering the significance level of the model in the results, it is seen that there is a significant positive correlation between LP and Z. One unit increase in LP is found to cause an increase of 5.60 units in Z.

As can be seen in Table 10, the probability value of the Wald χ^2 statistic is .0389, indicating that the model is significant. Significance levels of the variables revealed that the coefficient of variable Z is statistically significant, and the coefficients of the constant term and the LP variables are not significant.

Considering the results by taking into account the significance level of the model as well, it is seen that there is a positive correlation between Z of the enterprises and their F. The results reveal that one unit increase in financial performance will cause an increase of 1.49 units in the stock price and the predicted

Table 6.
Pesaran Panel Unit Root Test Results

Variables	Model	Pesaran CADF (CIPS) Statistic	Lag Length	Critical Table Value			
				10%	5%	1%	p
F	Stationary	-2.783**	1	-2.280	-2.470	-2.850	.0280
	Stationary—with trends	-3.099***	1	-2.870	-3.100	-3.510	.0900

Note: CADF = Cross-sectional augmented Dickey–Fuller; CIPS = Cross-sectional Im–Pesaran–Shin; F = Stock price value.
*, **, and *** refer to the significance levels of 1%, 5%, and 10%, respectively.

Table 7.
First-Generation Panel Unit Root Test Results

Variables	Model	LLC Test Statistic	Probability	IPS Test Statistic	p	Stationary
Z	Stationary	-6,7575*	0.0000	-2,7420*	.0031	I(0)
	Stationary—with trends	-8,4570*	0.0000	-2,7458*	.0030	I(0)
LP	Stationary	-5,3367*	0.0000	-3,0511*	.0011	I(0)
	Stationary with trends	-6,9708*	0.0000	-2,3273*	.0100	I(0)

Note: IPS = Im–Pesaran–Shin panel unit root test; LLC, Levin–Lin–Chu test; LP = Logistics performance value; Z = Financial performance value.
*, **, and *** refer to the significance levels of 1%, 5%, and 10%, respectively.

Table 8.

Results of the Levene's Test and Brown's Test of the Equality of Variances and ALM (Breusch and Pagan Lagrangian Multiplier) Autocorrelation Test

Df	LBF Test Statistic	Pr > F
WO	16.706	0.0000
W50	4.948	0.0008
W10	12.001	0.0000
ALM (lambda=0)	20.66	0.0000
LM (Var(u)=0; lambda=0)	0.99	0.0000

Note: ALM = Assets and liability management; LBF = Levene-Brown-Forsythe.

Table 9.

Analysis Results Regarding the Correlation Between Logistics Performance and Financial Performance

Variables	Coefficient	Driscoll-Kraay Standard Error	z-Statistics	p
CONSTANT	1.369185	0.1065714	12.85*	.0000
LP	5.603014	0.8386888	6.68*	.0000
Wald χ^2 (1)	.44.63*	Number of observations	60	
Probe > χ^2	0.000	Groups Count	6	
		Method	FGLS regression	

Note: FGLS = Feasible generalized least squares; LP = Logistics performance value.

*, **, and *** refer to the significance levels of 1%, 5%, and 10%, respectively.

Table 10.

Analysis Results on the Effect of Logistics Performance and Financial Performance on the Stock Prices

Variables	Coefficient	Driscoll-Kraay Standard Error	z-Statistics	p
CONSTANT	4.5395	7.0352	0.65	.5190
LP	-1.6925	9.9058	-0.17	.8640
Z	1.4932	0.6458	2.31*	.0210
Wald χ^2 (1)	6.49*	Number of observations	60	
Probe > χ^2	0.0389	Groups count	6	
		Method	FGLS regression	

Note: FGLS = Feasible generalized least squares; LP = Logistics performance value.

*, **, and *** refer to the significance levels of 1%, 5%, and 10%, respectively.

coefficients are statistically significant. On the other hand, LP has a negative correlation with F, which is not statistically significant. According to the results, one unit increase in LP will cause a decrease of 1.69 units in F; however, the coefficient is not statistically significant.

Discussion

The study concludes that the logistics performances of enterprises affect their financial performance positively; on the other hand, the analysis results reveal that the logistics performances of the enterprises do not have a significant correlation with the stock prices. In the study, it was also found that there was a positive and significant correlation between financial performance and stock price.

$$F = 4.5395 + 1.49Z - 1.69LP + \varepsilon_{it}$$

Considering the results, it is seen that there is a positive correlation between the Z of the enterprises and their F. The results reveal that one unit increase in financial performance will cause an increase of 1.49 units in the stock price and the predicted coefficients are statistically significant. On the other hand, LP has a negative correlation with F, which is not statistically significant. According to the results, one unit increase in LP will cause a decrease of 1.69 units in F; however, the coefficient is not statistically significant.

$$Z = 1.3691 + 5.60LP + \varepsilon_{it}$$

Considering the coefficients in the model, it is seen that there is a significant positive correlation between LP Z. One unit increase in the value of the LP is found to cause an increase of 5.60 units in the financial performance. According to the prediction results, the constant term and the slope coefficient in the model are statistically significant.

In the study, the correlation between the logistics performances, financial performances, and stock prices of the companies and the measure of the correlation between the variables were examined using the panel data regression analysis. The results of the analysis revealed that the logistics performance of the companies positively affected their financial performance and the predicted correlation coefficient was statistically significant. Similarly, the financial performance of the companies was found to positively affect their stock prices and the predicted correlation coefficient was found statistically significant.

Conclusion and Recommendations

As a result, it is seen that logistics performances increase their financial performance, while the increase in financial performance positively affects the stock price. Logistics performance, which expresses the quality and competence of logistics services and the timely delivery of products to the customer, is the measure of the success and effectiveness of logistics activities. Cost leadership strategies, product and service differentiation strategies, focusing strategies, and market positioning strategies covering all of these activities related to the activities that businesses will implement in the field of logistics will turn into competitive advantage and create a momentum that will strengthen financial performance and positively affect the stock prices of businesses. Since the financial performances of the enterprises are based on a multicriteria model that includes profitability ratios, liquidity ratios, leverage ratios, efficiency ratios, and market values, it is seen that the performance scores obtained affect the stock prices linearly.

Peer-review: Externally peer-reviewed.

Declaration of Interests: The author declare that they have no competing interest.

Funding: The author declared that this study has received no financial support.

Hakem Değerlendirmesi: Dış bağımsız.

Çıkar Çatışması: Yazar çıkar çatışması bildirmemiştir.

Finansal Destek: Yazar bu çalışma için finansal destek almadığını beyan etmiştir.

References

- Acar, Z. (2020). *Lojistik yönetimi [logistics management]*. Anadolu Üniversitesi AÖF Yayınları.
- Altman, E. I. (1968). Financial ratios, discriminant analysis and prediction of corporate bankruptcy. *Journal of Finance*, 23(4), 589–609. [\[CrossRef\]](#)
- Altunışık, R., Coşkun, R., Bayraktaroğlu, S., & Yıldırım, E. (2010). *Sosyal bilimlerde araştırma yöntemleri SPSS uygulamalı [Research methods in social sciences using SPSS]* (6th ed). Sakarya Yayıncılık.
- Aydın, Y., & Bacak, S. (2018). Üretim işletmelerindeki lojistik faaliyetlerin finansal performansa etkisinin işletme yetkilileri algısı: Sivas ilinde bir araştırma [Perception of business officials on the effect of logistics activities on financial performance in manufacturing enterprises: A research in Sivas]. *Kahramanmaraş Sütçü İmam University Journal of Social Sciences*, 15(1), 195–226.
- Bayraktutan, Y., & Özbilgin, M. (2015). Lojistik maliyetler ve lojistik performans ölçütleri [Logistics costs and logistics performance measurements]. *Maliye Araştırmaları Dergisi*, 1(2), 95–112.
- CSCMP (2013). *Council of Supply Chain Management Professionals*. <http://cscmp.org/about-us/supply-chain-management-definitions>
- Çatı, K., Potter, İ., & Zengin, E. (2015). Dış kaynak kullanımının işletme finansal performansına etkisi: Düzce ili imdat sanayisinde kobi yöneticileri üzerinde bir araştırma [Impact of outsourcing on firm financial performance: a research on SME managers in manufacture industry of Düzce city]. *Karamanoglu Mehmetbey University Journal of Social and Economic Research*, 17(28), 56–67
- Gökalp, F. (2014). Lojistik hizmeti sağlayan işletmelerde mali performansı etkileyen performans ölçütlerinin belirlenmesi: Bir uygulama [Determining the performance measures that affect the financial performance of logistic service providing firms: An application]. *Journal of Entrepreneurship and Development*, 9(1), 211–231
- Hausman, W. H., Hau, L. L., & Uma, S. (2005). *Global logistics indicators, supply chain metrics, and bilateral trade patterns*, Policy Research Working Paper, No.: 3773. World Bank.
- Izmir University of Economics (2009). *İzmir'de lojistik sektörünün mevcut durumu ve gelişme potansiyelinin analizi [Analysis of the current situation and development potential of the logistics sector in Izmir]*. Izmir University of Economics, Department of Logistics Management. Izmir Development Agency.
- Kaya, A. Ş. (2003). *Lojistik Şirketlerinin organizasyon Yapıları: Türkiye ve dünyada Yeni Lojistik Eğilimler [organization structure of logistics companies: new logistics trends in Türkiye and world]* (Master Of Science Thesis,133086). Istanbul University, Institute of Marine Sciences and Management.
- Kıymetli Şen, İ. (2014). Lojistik faaliyetlerin yönetimi ve maliyetleme yaklaşımları [Management of logistics activities and costing approaches]. *Çankırı Karatekin University, Faculty of Economics and Administrative Sciences Journal*, 4(1), 83–106.
- Krauth, E., Moonen, H., Popova, V., & Schut, M. (2005). Performance Measurement and Control in Logistics Service Providing (Vol. 2, pp.239–247). International Conference on Enterprise Information Systems ICEIS. INSTICC
- Kumar, S. S. (2013). Are you measuring the right metrics to optimize logistics processes. <https://www.scribd.com/document/350054026/Are-You-Measuring-the-Right-Metrics-to-Optimize-Logistic-Processes>. Retrieved from January 14th, 2023, 1–5
- Lazol, İ. (2004). *Mali analiz ve enflasyon muhasebesi uygulamaları [Financial analysis and inflation accounting applications]*. Ekin Kitabevi.
- Pesaran, M. H. 2004. General diagnostic tests for cross section dependence in pan-els. University of Cambridge, Faculty of Economics, Cambridge Working Papers in Economics No. 0435.
- Tokay, S. H., Deran, A., & Arslan, S. (2011). Lojistik maliyet yönetiminde izlenebilecek stratejiler ve muhasebe eğitiminden beklentiler [Logistic cost management strategies and expectations from accounting education]. *Dumlupınar University Journal of Social Sciences* (29). 225–244. Retrieved from <https://dergipark.org.tr/tr/pub/dpusbe/issue/4771/65666>
- Yücenurşen, M. (2013). *Maliyet yönetimi açısından lojistik köy faaliyetlerinin TMS/TFRS'ye göre muhasebeleştirilmesi [Cost management and accounting transactions of the freight villages' operations within TMS/TFRS]*. Aksaray University Institute of Social Sciences.

Genişletilmiş Özet

Başarının on da dokuzu doğru bilginin doğru yerde ve doğru zamanda rakiplerden önce elde edilmesine bağlı olduğu bilinmektedir. Tam da bu noktada lojistik fonksiyonunun önemi karşımıza çıkmaktadır. Lojistik fonksiyonu tedarikçi ve tesis yeri seçimiyle tedarik zincirinin tasarımına ve tedarikçilerle olan ilişkilere, doğru ürünlerin, doğru zamanda, doğru müşteriye, doğru şartlarda ve doğru maliyetlerde ulaşmasını sağlayarak dağıtım operasyonlarına ve dolayısıyla işletmenin müşteri memnuniyetine, rota ve yük optimizasyonu ile işletmenin maliyetlerine ve stok yönetimiyle üretim fonksiyonuna çoğunlukla doğrudan etki ederek stratejik bir etki yaratmaktadır. Diğer taraftan lojistik hizmet sağlayan işletmeler ise kendi işletme stratejileri olarak yine bilindik işletme stratejilerini uygularken aslında farklı işletmelerden oluşan tedarik zincirinin etkin ve verimli olarak işletilmesini sağlayarak zincir üyesi her işletmenin stratejik hedeflerinin gerçekleşmesi üzerinde doğrudan etki yaparlar. Bu bağlamda gerek bir işletmenin lojistik departmanının yöneticisi olsun gerekse bir lojistik hizmet sağlayıcı firmanın yöneticisi olsun lojistik kavramıyla ilgili tüm yöneticiler strateji, stratejik yönetim ve lojistik stratejileri hakkında iyi düzeyde bilgi sahibi olmak ve lojistik çerçevesindeki stratejik uygulamaları işletme stratejileriyle uyumlu hale getirmek zorundadırlar.

Görülebileceği üzere işletmelerde lojistik bir fonksiyon olarak temsil edilmekle birlikte lojistiğin işletme stratejilerine ve rekabetçiliğine doğrudan ve dolaylı birçok açıdan etkileri bulunmaktadır. Bu nedenle işletmedeki lojistik faaliyetlerin yönetimine dair stratejik açıdan alınacak her karar işletme stratejilerinin performansını etkileyecektir. Bu çalışmanın amacı, BİST Ulaştırma ve Depolama Sektöründe yer alan işletmelerin lojistik performansları, finansal performansları ve hisse senedi fiyatları arasındaki ilişkinin araştırılmasıdır. Bu amaçla araştırmaya dahil edilen işletmelerin lojistik performansları ile finansal performansları 2012-2021 yılları arası mali tablo verileri kullanılarak oranlara dayalı performans ölçüm yöntemleriyle hesaplanmıştır. İşletmelerin Mali Tablo verileri Kamu Aydınlatma Platformu'ndan (KAP) elde edilmiştir.

Çalışmada işletmelerin lojistik performansları, finansal performansları ve hisse senedi fiyatları arasındaki ilişki ve değişkenler arasındaki ilişkinin ölçüsü panel veri regresyon analizi ile incelenmiştir. Analiz sonucunda işletmelerin lojistik performanslarının finansal performanslarını pozitif yönde etkilediği ve tahmin edilen katsayının istatistiksel açıdan anlamlı olduğu, işletmelerin finansal performanslarının hisse senedi fiyatlarını pozitif yönde etkilediği ve tahmin edilen katsayının istatistiksel açıdan anlamlı olduğu tespit edilmiştir.