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DERGİ HAKKINDA

Journal of Life Economics

(E-ISSN: 2148-4139), 2014'de yayın hayatına başlayan uluslararası hakemli ve süreli bir dergidir. Dergi, yaşamın ekonomik temellerinin tartışıldığı bir forum oluşturmayı amaçlamaktadır. Bu çerçevede, ekonomi temelinde çalışmalarını şekillendiren akademisyenler, araştırmacılar ve profesyonellerin görüş ve çalışmalarını bir araya getirmektedir. Yüksek kalitede teorik ve uygulamalı makalelere yer verilmektedir. Journal of Life Economics, Ekonomi, İşletme ve Pazarlama, Finans, Muhasebe, Bankacılık, Ekonometri, Çalışma Ekonomisi gibi alanlarda yapılmış çalışmaları yayınlamaktadır.

Dergi; KIŞ (Ocak), BAHAR (Nisan), YAZ (Temmuz) ve GÜZ (Ekim) dönemleri olmak üzere yılda 4 sayı olarak yayımlanmaktadır.

Journal of Life Economics, açık erişimli elektronik bir dergidir. Dergide yayımlanan tüm makalelere DOI numarası atanmaktadır. Dergi, başta Index Copernicus, CEEOL, EBSCOHost, Google Scholar, Ulrichsweb, DOAJ olmak üzere çeşitli uluslararası indeks tarafından taranmakta olup birçok indeks tarafından da değerlendirmeye alınmıştır.

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CONTENTS / İÇİNDEKİLER

"This page is left blank for typesetting"

Bu sayfa dizgiden dolayı boş bırakılmıştır

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

A study on the comparison of technical indicators used in stock price prediction with the FAHP method

Bilal Akkaynak

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Abstract

Savers want to direct their savings to investment areas where they can get maximum efficiency. This is the most basic feature that a rational investor should have. Stock investors also want to manage their investments with this thought. In this respect, investors conduct detailed research on the sector and stock they plan to invest in. Predictions regarding the possible price formation of the stock in the future is one of these studies. In the finance literature, there are many indicators, ratios, analyzes, indicators and oscillators developed for the future price prediction of the stock. In this study, technical indicators used by licensed professional stock investors were obtained by taking expert opinion. These indicators were conveyed to the experts again to get their opinions with the help of the fuzzy comparison matrix and the experts were asked to compare the variables. The data obtained were analyzed with the Fuzzy Analytical Hierarchy Process (FAHP) method and the technical indicators and ratios used by the experts were listed according to a certain hierarchy. As a result of the analysis, it has been determined that the most important ratio in the stock price estimation process is the MV/BV ratio. While EBIT is the second most important ratio in stock price prediction, P/E is the third most important indicator.

Keywords: Stock, Technical Analysis, Indicators, FAHP

JEL codes: G12, G17, G32, C15

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1. INTRODUCTION

The financial system is built on five basic elements, which can be expressed as savers supplying funds, investors demanding funds, securities, intermediary institutions, and legal structure. The fact that all elements work in harmony and feed each other, undoubtedly, is one of the basic principles of the healthy functioning of the financial system in a country. In this way, savings will be brought to the economy, savers will be able to value their savings in more valuable investment areas, and business owners demanding funds will have the opportunity to finance their investments. Accordingly, it will be possible to pave the way for production and employment in the country (Afşar, 2007: 189).

Although all elements of the financial system are important, especially the savers, who supply funds, have the most important role in the system because an individual's savings are the savings s/he has acquired as a result of her labor. In this respect, savers always have the instinct to make the right choice among the alternatives while entrusting their savings to the financial system. This is a fundamental drive of rational human behavior predicted by the science of economics and finance (Gökten et al. 2008: 120).

The stock investors direct their savings to the optimum stock in the perspective of their own internal risk and return perception, such as risk-loving or prudent. Regardless of the risk or return profile, the stock investor, like every investor, makes a price prediction for the security s/he wants to invest in (Saraç and Kahyaoğlu, 2011: 137). There are many variable indicators, ratios, oscillators and indicators in the literature that are believed to give an idea to the investor about stock price prediction. These methods are based on the assumption that the past price activity of the technical analysis method will continue in the future. The fact that the methods are based on a hypothetical basis explains the inability to obtain the expected results regarding the indicators as a statistical situation. In this case, although expectations are built with scientific approaches, the fact that assumptions are the basis of these scientific approaches should not be ignored. In other words, it should not be forgotten that exceptions can occur under any circumstance (Çetinyokuş and Gökçen, 2002:57).

In this study, it is aimed to compare the variables such as technical indicators, oscillators, indicators and ratios, which are frequently used in stock price estimation, with the Fuzzy Analytical Hierarchy Process (FAHP) method by taking the opinion of professional investment advisors licensed by the Capital Markets Board (CMB) and to determine the most important variable. The FAHP method is a blurred version of the Analytical Hierarchy Process (AHP) method, which is one of the multi-criteria decision-making methods. It is a method in which results can be obtained with scientific-based approaches in the process of choosing among alternative criteria. In the following parts of the study, firstly, the basic and technical analysis methods will be briefly explained, and then the literature review will be included. Then, the data set of the study will be introduced, and then the method used will be explained. Afterwards, the findings of the study will be conveyed, and the findings will be evaluated in the conclusion part. Comparing the methods with fuzzy multi-criteria decision-making methods by taking expert opinion reveals the original aspect of the study.

2. FUNDAMENTAL AND TECHNICAL ANALYSIS METHODS

There are many analysis methods that stock investors can use regarding stock price estimation. However, these analyzes can be considered in two main groups. These are fundamental analysis and technical analysis methods.

2.1. Fundamental analysis methods

Economic analysis is grouped as sector analysis and firm analysis. In the economic analysis, the global economic conjuncture should be evaluated, then, the existence of a suitable environment for investment is evaluated by taking into account the country's economy. At the same time, the countries that can be invested are also evaluated. In economic analysis, the investor interprets the main basic indicators such as gross national product, inflation, and per capita income. In sector analysis, on the other hand, investors examine the dynamics of the sector to which the

investment planning companies are affiliated. At this stage, investors evaluate the main issues such as the existence of a government incentive to the sector, the business volume of the sector, and the profitability of the sector. In the firm analysis stage, some internal variables related to the companies evaluated for making investment decisions are examined and investigated. Major indicators such as production capacity, market share in the sector, profitability over the years and dividend policy are examined. In these examinations, the liquidity ratios, leverage ratios, activity ratios, profitability ratios, growth rates and market performance ratios of the firm should be evaluated by the investors (Gacar, 2009: 70; Karabıyık and Anbar, 2010: 203).

2.2. Technical Analysis Methods

They are methods based on the assumption that the movements of stock prices in the past time period will be repeated in the future. The main methods that can be used in technical analysis can be grouped as charts, trend lines, support and resistance levels, price formations and technical indicators.

2.2.1. Charts

Charts are a method often used in technical analysis. In the chart method, past price movements are observed on a two-axis plane, and it is tried to predict the formats that the chart can take in the future. There are chart types such as line, bar, dot and candlestick. In line charts, closing prices in certain periods are reflected and interpreted on the chart. In bar charts, the highest and lowest prices that occur in certain periods are reflected on the chart as a line, and a small horizontal line representing the closing price is added to the left side of the line. In this way, while observing the intraday floor and ceiling prices, it is possible to interpret the closing price and the price performance of the day. Dot charts are a type of chart where significant price changes are tracked. Price increases are represented by X and decreases by 0. In periods when the closing prices rise one after the other, the X sign is placed on the end of the day price level, and if the rise continues, the same sign is placed on each price level similarly. If there is a decrease compared to the previous day at the end of the day, then the symbol 0 is placed on the realized price level. In this type of chart, significant changes in price levels can be observed as a whole. In candlestick charts, more than one information is displayed on the chart, including the opening price, the closing price, the lowest price during the day, the highest prices realized during the day, and the increase or decrease information compared to the previous day. If the closing price is above the opening price, the candle-shaped graph is left empty, while the opposite is the case, the inside of the graph is painted black and thus the direction of the change for the previous period is transferred to the investor (Korkmaz and Ceylan 2012: 312; Akarsu et al. 2022: 54).

2.2.2.Trend Lines

It is a technique based on the assumption that stock prices move with a certain trend impulse. This trend can be up, down or horizontal. A downward trend indicates that the stock price is in a decrease, an upward trend indicates that the prices are in an upward trend, while a horizontal movement is interpreted as the prices do not change and gather energy before an upward or downward movement. The markets in which the prices are in an upward trend can be expressed as a bull market, and the markets in which they are in a downward trend can be expressed as a bear market (Çetinyokuş and Gökçen: 2002: 48).

2.2.3. Support and Resistance Levels

It is a method frequently used in estimating the buying and selling times of stocks and making inferences about the future course of prices. Support points are expressed as a change in direction as a result of a demand (buying) pressure that occurs when stock prices are in a downward trend, and resistance points are expressed as a change in direction as a result of a supply (sell) pressure that occurs when stock prices are in an upward trend. Price formations are expressed as the appearances of trend lines realized by stock prices over time. Price formations provide information about the behavior patterns of stocks. Although there are many types of formations, the main ones can be listed as shoulder-head-shoulder formation, triangle formation and consolidation for-

mations. Shoulder-head-shoulder formation can be observed frequently. After a certain amount of transaction volume increases, prices decrease due to low demand. Afterwards, an increase occurs far beyond the previous price increase, and then the price level decreases again due to low demand. The oscillation with this second drop has a wider wavelength compared to the first. Then, with the revival of demand, the first swing is repeated, and the shoulder-head-shoulder formation becomes observable on the chart. Triangle formations are the observable occurrence of a triangle form when looking at stock price trends. While price movements realize the up and down oscillation frequencies, each price transformation takes place in a shorter time compared to the previous one and the triangle form is realized. Consolidation formations refer to the formation that occurs when the prices show up and down movements with short fluctuations and follow a horizontal course on the average after a long period of rising or falling. In this formation, the stock is gathering strength for the continuation of the previous activity with a sideways movement (Foan, 2006: 78; Başoğlu, 2009: 474).

2.2.4. Technical Indicators

These are the indicators that investors use to support their buying and selling decisions while forming price changes related to stock prices. There are a lot of types. The main ones are moving averages (MA), Bolinger bands (BB), relative strength index (RSI), momentum, price change rate (ROC), moving average fit-mismatch indicator (MACD), price oscillator, equilibrium trading volume and price change rate. In this study, only the main indicators are briefly mentioned (Tek at al. 2022: 15).

Moving averages provide an average information about the course of the trend by removing the daily effect of price movements. The average expression means taking the arithmetic average of the closing prices on a given day, and the mobility expression means adding dynamism to the average by subtracting the oldest day's price against the addition of each new day's closing price. With the moving averages indicator, instant volume changes are prevented from creating a misleading effect on the investor (Daniswara et al. 2022: 18).

Bolinger bands are drawn on the assumption that the upper and lower prices are considered as the limit on the chart created by the stock prices. In case the stock price chart goes outside the determined bandwidth area, it is recommended to dispose of the stock (Day et al. 2022: 2).

The relative strength index (RSI) is often used in the stock market and gives an idea to the investor about the buying and selling of the stock. The RSI indicator is an index created based on the principle of taking the arithmetic average of the closing prices, which increase and decrease in stock prices in a certain time period. This index is examined in a separate chart. 30 being the lower limit and 70 the upper limit; if the index falling below the lower limit rises again, according to the RSI indicator, the stock offers a buying opportunity, and if the index above the upper limit enters a decreasing trend by breaking, it is interpreted as the stock is overvalued according to the RSI indicator and should be disposed of (Pabuççu 2019: 248).

Momentum is obtained by multiplying the closing price of the stock by 100 to the closing price of a certain time ago. The obtained value is interpreted as how quickly the stock has changed from the determined day to this time. Between 80 and 120 are generally accepted lower and upper limits. If the obtained momentum value is above the critical value of 100, the stock is disposed of, and if the momentum value is below the critical value, the stock is considered as a buying opportunity (Çetinyokuş and Gökçen 2002: 50).

Rate of change (ROC) is an indicator that gives an idea of how the closing price of a stock changes compared to the closing price of a specified time, similar to the momentum indicator. The difference from the momentum is that it expresses the percentage change and the critical value indicator, which gives the idea of buying or selling, is accepted as zero instead of a hundred.

MACD is an indicator obtained by subtracting the long-term calculated average from the short-term calculated average from the short-term and long-term exponential moving averages formed by the closing values of the stock prices. It is cal-

culated to predict the possible direction of the price movement of the stock and to give an idea to the buying and selling decisions (Çetinyokuş and Gökçen 2002: 50).

The price oscillator is the difference between two moving averages of stock prices. If the short-term average is higher than the long-term average, it is considered a buy, if the short-term average is lower than the long-term average, it is considered a sell (Karabıyık ve Anbar, 2010: 208).

The equilibrium trading volume indicator gives an idea about the relationship between stock prices and trading volumes in the market. It is an indicator obtained by adding the trading volumes when the price of the stock increases and deducting the realized trading volumes from the total when it decreases. The indicator can give an idea about the course of the stock in the future (Korkmaz and Ceylan 2012: 312).

3. LITERATURE

The main examples from the national and international literature scanned regarding machine learning-based technical indicators, oscillators, financial ratio and analysis methods in stock valuation and stock price estimation methods are listed chronologically as follows.

Çetinyokuş and Gökçen (2002) analyzed financial indicators with the help of profit support systems in order to contribute to the portfolio diversification process of the stock investor. As a result of the analysis, they stated that decision support systems are an auxiliary method in decision processes with high levels of uncertainty and although the formations are indicators with long-term knowledge, exceptional situations such as not realizing expectations may be encountered. Chong and Ng (2008) examined the effectiveness of moving averages and relative strength index (RSI) indicators in the FT30 index in the UK sample. As a result of the research, they found that the MACD and RSI indicators offer more return opportunities compared to many alternative options, especially the buy and hold strategy. Mitra (2011) aimed to examine the effectiveness and usability of the moving average indicator in stock investment in the Indian sample. As a result of the research, they found that technical indicators offer profitable buying opportunities, but transaction costs significantly reduce profit opportunities. Chong et al. (2014) aimed to examine the effectiveness of the RSI and MACD indicators in the stock price prediction process in a sample of five OECD countries. As a result of the research, MACD and RSI indicators indicated that abnormal returns can be obtained in Milan Comit General and S&P/TSX Composit index. In addition, the RSI indicator indicates that the Dow Jones industrial index is profitable. Ilaslan (2014) investigated the analysis of estimating stock prices using the Markov chains method in a sample of listed banks. As a result of the research, stock price predictions for the next day were successfully realized in 9 of 10 banks listed on the stock exchange. At this point, it is concluded that Markov chains can be used as an alternative method in stock price estimation. Öztürk (2016) aimed to determine trading limits by using technical indicators in stock trading transactions. Öztürk developed a new indicator in the context of exponential moving averages in his study. As a result of the analysis, he stated that the indicator he developed performed better than the buy and hold strategy. Astuty (2017) examined the effects of basic factors and systematic risk on stock prices in the Indonesian stock market sample. As a result of the research, it was confirmed that price earnings ratio, earnings per share, net profit margin, market value/book value variables have a significant impact on stock prices. Park and Irvin (2017) aimed to measure the effectiveness of technical analysis methods used in stock valuation. As a result of the research, he stated that 56 of the 95 enterprises gave positive results regarding the profitability of technical indicators, 20 of them gave negative results and 19 of them gave mixed results. Akşehir and Kılıç (2019) investigated the applicability of machine learning methods in stock price estimation in the sample of banks operating in the BIST banking sector. As a result of the examination, they found that the random forest, decision trees and regression models gave successful results in stock price estimation. Oguz et al. (2019) aimed to examine the effectiveness of technical analysis indicators in predicting the future prices of stocks. In their research, they compared the performance of simple, weighted, exponential

moving averages, MACD, RSI and stochastic oscillator indicators. As a result of the analysis, they concluded that the exponential moving average method is the best indicator compared to other indicators. Pabuççu (2019) aimed to test the movements of BIST index data with the help of technical indicators. As a result of the analysis, it was concluded that the support vector machine algorithms were the most successful algorithms, then the artificial neural networks algorithm and then the Naive Bayes algorithm were successful. Özkan (2021) aimed to measure and compare the effectiveness of 52-week bottom-peak analysis and gross profitability indicators. As a result of the analysis, although the portfolio created based on the 52-week bottom-peak analysis indicator was found to be statistically insignificant, it was determined that the return of the portfolio created was positive. The portfolio created based on the gross profitability indicator was found to have statistically positive and positive returns. Alaca and Güran (2022) aimed to predict stock index with the help of technical indicators and emotion scores during the covid-19 pandemic process. As a result of the analysis, they concluded that emotion scores have an effect on the index at certain periods. Day et al. (2022) examined the profitability of investment strategy in bitcoin markets with the help of Bolinger band indicators. As a result of the analysis, they stated that those following the investment strategy by using the Bolinger bands indicators in the Bitcoin markets can reach 20% profitability, and when they base the moving averages indicator as 60 days instead of 20 days, their profitability can reach 50%. Daniswara et al. (2022) aimed to compare the performances of Bolinger bands, moving averages and RSI index indicators by examining them in the Indonesian stock market sample. As a result of the analysis, they concluded that the price predictions for stocks in the strategies developed using all three indicators do not differ from the actual prices of the stocks and they follow a similar trend. In addition, they stated that the RSI indicator has a relatively more optimally accurate performance among the three indicators. Naranchimeg and Bolor (2022) examined the effect of financial indicators on stock price in the Mongolian stock market sample. As a result of the research, some indicators such as return on assets, return on equity, earnings per share were found to be directly correlated with stock prices. Seshu et al. (2022) aimed to perform the performance analysis of stocks with the help of Bolinger bands and indicators based on short-long-term memory models in the sample of the top 50 most traded companies in the Indian stock market. As a result of the analysis, it was observed that the portfolios created within the scope of short indicators were successful in one third of the time periods tested retrospectively. In this respect, investing in the strategies suggested by the indicators offered the possibility of return above the index.

In this study, the technical indicators that are frequently used in the stock price estimation process, expert opinions obtained from professional stock investment advisors licensed by the Capital Markets Board will be examined with FAHP, a fuzzy multi-criteria decision-making method, and the most important indicator in the stock price estimation process will be tried to be determined. Obtaining expert opinion from professional investors and using fuzzy multi criteria decision making method is the original aspect of the study.

4. DATA SET and METHOD

This study aims to determine the technical analysis methods used by professional stock investors with CMB license in Turkey while creating their stock portfolio, and then to determine which is the most important indicator by ordering these techniques in a certain hierarchy with the FAHP method.

The data set of the study was obtained in 2 rounds. In the first round, the technical indicators they used were obtained by taking expert opinion from six CMB licensed professional stock investors. In the second round, these indicators obtained from the experts were sent to the experts to get their opinions with the help of the fuzzy comparison matrix and the experts were asked to compare the variables.

In the first round, the basic indicators used by the investment experts in creating a stock portfolio were determined as in Table 1, thanks to the expert opinion.

Earnings Before Interest and Tax: It is abbreviated as EBIT in finance literature. It can also be expressed as the sum of depreciation expenses with operating profit. In other words, the EBIT value is obtained by adding the depreciation before interest and tax. EBIT is an indicator of operating performance in a business. Tax and interest policies may differ in different countries, in different regions of the same country, and in different sectors. Adding depreciation again, which does not actually have a cash outflow in the EBIT value, and the fact that interest and tax payments have not yet been made will minimize the comparison problems arising from sectoral and regional application differences. In summary, comparisons with EBIT can be made much more objectively. While other alternative variables are constant, it is considered that the enterprise with more EBIT value is more valuable than the alternative.

Market Value /Book Value: It is one of the most commonly used ratios in stock valuation. It expresses the market value of the enterprise against a certain unit of equity. In other words, it gives an idea about whether the company's stock is cheap or expensive when compared to its own capital. A high Mv/Bv ratio is interpreted as being expensive in relation to the stock price, while a low Mv/Bv ratio is interpreted as being cheap in relation to the stock price.

Price Earnings Ratio: Another ratio frequently used in stock valuation is the price-earnings ratio. It refers to the price that must be paid for one unit of earnings related to stocks. It refers to the price that must be paid for one unit of earnings related to stocks. A high ratio means that the stock price is expensive. A low P/E ratio is interpreted as a cheap stock price. In another interpretation, a high P/E ratio can be expressed as investors foresee a potential for the relevant stock in the future and pricing this situation in the current period. Similarly, a low P/E ratio can be considered by stock investors as a prediction of a contraction in the future for the business and pricing it now. Better evaluations can be reached when the stock demand information about the P/E ratio is interpreted together.

Dividend Yield: Stock investors expect two main gains from a stock, the first of which is capital gains. Capital gains mostly meet the expectations of investors who make portfolio investments within the scope of short-term investment strategy. The second basic gain that stock investors expect from stock investments is dividend, in other words, share of profit. The concept of dividend yield is an indicator that includes the stability information regarding the dividend distributions of the companies that have been offered to the public over the years. It shows the amount of dividend that can be obtained for each TL invested in the stock. Dividend yield is frequently used by investors when comparing stocks with stable dividend distribution policy (Camgöz: 2022: 1422).

Company's Debt Burden: Debt is short-term and long-term foreign resources provided by enterprises to meet their financing needs in addition to their own capital. Foreign resources, together with the equity capital, constitute a resource richness in terms of the growth and diversification of the activities of the enterprise. At the same

Table 1. Technical Indicators and Ratios used in the analysis

Ratio	**Abbreviation**
Earnings Before Interest and Tax	EBIT
Market Value /Book Value	Mv/Bv
Price Earnings Ratio	P/E
Dividend Yield	Dividend Y.
Company's Debt Burden	Company's D. B.
Net Profit	Net Profit
52-Week Bottom-Top Analysis	52-Week High/Low
Moving Average Convergence/ Divergence	MACD
Ichimoku Kinko Hyo Indicator	Ichimoku

time, the tax-reducing effect of the interest paid as a cost of foreign funding is another positive aspect of borrowing. However, excessive borrowing is a dangerous process that may result in the company not being able to meet its obligations and then facing the risk of bankruptcy. In this respect, stock investors care about the debt burden of the businesses they plan to invest in.

Net Profit: The profits obtained by the enterprises as a result of their activities are an indicator of the efficiency of the enterprises in question. The fact that the net profit amount obtained by a business, which has intensive activities such as inventory turnover, asset turnover or receivables turnover, is low, is interpreted as ineffective activities. In this respect, stock investors meticulously follow the news about the disclosure of quarterly net profit information. If the profit obtained by the business as a result of its activities is distributed to the shareholders, it will have an increasing effect on the dividend yield of the company. If the profit obtained is not distributed to the partners but directed to auto-financing, in this case, it will have a reducing effect on the costs of the enterprise and increase the net profit for the next period. In any case, the company's ability to achieve greater net profit is a desirable expectation in both cases.

52-Week Bottom-Top Analysis: It is a method frequently used by investors in stock price prediction. It contains the bottom and top price information of the closing prices of the stock in the last year. The highest price in the process is interpreted as resistance and the lowest price as support. The stock investor interprets the current market price according to the support and resistance points of the past 52 weeks. Some investors interpret the situation that the stock price is close to the resistance point as an insurmountable point in the context of the 52-week bottom-top analysis and interpret the stock price to enter a downward trend after this point. In some cases, if the resistance point, which is the 52-week top price indicator, is exceeded, a performance above the market can be expected (Özkan, 2021: 708).

MACD: Two exponential moving averages are calculated as short-term and long-term and this indicator is obtained by subtracting the long-term (usually 26 days) exponential moving averages from the exponential moving average series calculated as short-term (usually 12 days). A 9-day exponential moving average chart is added on top of the 12-day and 26-day exponential moving averages difference chart, which can also be expressed as a signal line. Stock investors interpret the 9-day exponential moving averages chart as a buy message when it goes above the signal line, and if the stock goes below the signal line as a sell message. Instead of intraday price information of stock prices, the closing price of the day is taken as data (Wang and Kim 2018: 2).

Ichimoku Kinko Hyo Indicator: The indicator helps to identify support, resistance and a trend on the chart so that stock prices can be predicted. In the indicator, there are moving averages series with 9 time period expressed as Tenkan Sen and moving averages series with 26 time period expressed as Kijun Sen. These two series are important for identifying resistance and support series. Senkou Span A and Senkou Span B points are obtained from Tenkan Sen and Kijun Sen values. Senkou Span A is the point obtained by shifting the arithmetic mean of the 9 and 26 time period averages by 26 time periods. Senkou Span B is the point obtained by adding 26 time periods to the value obtained by taking the arithmetic average of the highest and lowest prices in 52 time periods. The region referred to as the Ichimoku cloud is the part between Senkou Span A and B. If the stock price chart exceeds the border between points A and B, it is interpreted that the stock price will enter an upward trend. If the stock price follows a downward trend between points A and B, it is interpreted that the stock price will enter a downward trend (Keskin, 2019: 34).

In this study, the extended Fuzzy Analytical Hierarchy Process (FAHP) method developed by Chang (1996) was used as the application method.

The FAHP method is reached as a result of the criticism of the missing aspects of the Analytical Hierarchy Process method, uncertainty and indecision in the human thinking, pairwise comparison processes, and adding these criticized

aspects to the model by developing them.

Chang (1996)'s FAHP method follows the following workflow (Paksoy et al. 2013: 123):

$X = \{x_1 x_2 x_3 \ldots . x_n\} \rightarrow set\ of\ objects$ and $U = \{u_1 u_2 u_3 \ldots . u_n\}$ set of purposes and $U = \{u_1 u_2 u_3 \ldots . u_n\}$ size analysis value;

$M_{gi}^1, M_{gi}^2, \ldots M_{gi}^m, i = 1, 2 \ldots n \rightarrow M_{gi}^j, mj = 1, 2, \ldots m\ M_{gi} = (l_i, m_i, u_i)$

Step 1: Fuzzy synthetic expansion value by purpose:

$$S_i = \sum_{j=1}^{m} M_{gi}^j \cdot \left[\sum_{i=1}^{n} \sum_{j=1}^{m} M_{gi}^j\right]^{-1} \quad (1)$$

equation is obtained. Fuzzy addition operation of m extension analysis for the pairwise comparison matrix considered to reach the $\sum_{j=1}^{m} M_{gi}^j$ value.

is applied as such:

$\sum_{j=1}^{m} M_{gi}^j = \left(\sum_{j=1}^{m} l_j, \sum_{j=1}^{m} m_j, \sum_{j=1}^{m} u_j\right)$.

In order to obtain $\left[\sum_{i=1}^{n} \sum_{j=1}^{m} M_{gi}^j\right]^{-1}$ fuzzy sum operation of $M_{gi}^j, j = 1,2, \ldots m$ values:

Is written as such:

$\sum_{i=1}^{n} \sum_{j=1}^{m} M_{gi}^j = \left(\sum_{j=1}^{m} l_j, \sum_{j=1}^{m} m_j, \sum_{j=1}^{m} u_j\right)$

and its reverse is calculated as such.

$$\left[\sum_{i=1}^{n} \sum_{j=1}^{m} M_{gi}^j\right]^{-1} = \left(\frac{1}{\sum_{i=1}^{n} u_i}, \frac{1}{\sum_{i=1}^{n} m_i}, \frac{1}{\sum_{i=1}^{n} l_i}\right). \quad (2)$$

Step 2: Calculated synthesis values are compared and weight values are obtained by using these values. $M_1 = (l_1, m_1, u_1)$ ve $M_2 = (l_2, m_2, u_2)$ve for comparison of triangular fuzzy numbers:

Likelihood degree of $M_2 \geq M_1$ is calculated with the help of the equation:

$$V(M_2 \geq M_1) = \sup_{y \geq x} \left[min\left(\mu_{M_{1(x)}}, \mu_{M_{2(y)}}\right)\right] =$$

$$hgt(M_1 \cap M_2) = \mu_{M_{1(d)}} = \begin{cases} 1, M_2 \geq M_1 \\ 0,, l_1 \geq u_2 \\ \frac{(l_1 - u_2)}{(m_2 - u_2) - (m_1 - l_1)}, d.d. \end{cases} \quad (3)$$

Step 3: The degree of probability of a convex fuzzy number greater than k fuzzy numbers $M_i, (i = 1,2, \ldots k)$,

is as such:

$$V(M \geq M_1, M_2, \ldots M_k) = minV(M \geq M_i), i = 1,2, \ldots k \quad (4)$$

In such a case, the following assumption can be made:

$S_i, k = 1,2, \ldots n; i \neq k$ for $d^{\iota}(A_i) = minV(S_i \geq S_k), k = 1,2, \ldots, n; k \neq i.$

It is expressed as such: $W^{\iota} = \left(d^{\iota}(A_1), d^{\iota}(A_2), \ldots, d^{\iota}(A_n)\right)^T$. It has $A_i, (i = 1,2, \ldots n)\ n$ elements. (5)

Step 4: Weight vector normalized with normalization of W value

It is expressed as follows: $W = \left(d(A_1), d(A_2), \ldots, s(A_n)\right)^T . W$, is not a fuzzy number and it is calculated as such:

$$d(A_i) = \frac{d^{\iota}(A_i)}{\sum_{i=1}^{n} d^{\iota}(A_i)}. \quad (6)$$

The fuzzy linguistic comparison scale information used in the FAHP method is as in Table 2.

Table 2. The fuzzy linguistic comparison

Linguistic Variable	Fuzzy Scale	Counter Scale
Equal Importance	(1,1,1)	(1/1,1/1,1/1)
Moderate Importance	(1,3,5)	(1/5, 1/3, 1/1)
Strong Importance	(3,5,7)	(1/7, 1/5, 1/3)
Very Strong Importance	(5,7,9)	(1/9, 1/7, 1/5)
Absolute Importance	(7,9,9)	(1/9, 1/9, 1/7)
Intermediate Values	(1,2,3)	(1/3,1/2,1/1)
	(3,4,5)	(1/5, 1/4, 1/3)
	(5,6,7)	(1/7, 1/6, 1/5)
	(7,8,9)	(1/9, 1/8, 1/7)

Source: Karabulut and Erbaşı, 2016: 21

5.FINDINGS

In this article, in which the extended Fuzzy Analytical Hierarchy Process (FAHP) method developed by Chang (1996) is used, it is aimed to determine the order of importance of the indicators and ratios used by stock investors in technical analysis. The matrix created with the help of fuzzy linguistic comparison scales in Table 2 is summarized in Appendix-1.

The way in which each Si values are obtained according to Chang's FAHP algorithm as a result of applying the processes listed in step 1 in the matrix in Annex-1 is as in Appendix-2.

Using the obtained "*l, m and u*" values, the results of the comparison of the synthesis values and the determination of the weight values, with the help of the processes of which stages are explained in detail in step 2, are given in Appendix-3.

The likelihood degrees of the criteria, which were explained in detail in step 3 of the implementation processes, were calculated and obtained as in Appendix-4.

Based on the likelihood degrees of the critical values in Appendix-4, the normalized weight vector was obtained as in Table 3 by normalizing the W value, the stages of which were transferred in step 4.

Table 3. Normalized Weight Vector

MV/BV	0.28
EBIT	0.27
P/E	0.25
52-Week Bottom-Top Analysis	0.15
Dividend Yield	0.05
Company's Debt Budget	0
Net Profit	0
MACD	0
Ichimoku Knko Hyo Analysis	0

According to the normalized weight vector information in Table 3, the market value/book value indicator was determined as the most important indicator with a weight of 0.28 among the indicators and ratios used.

The indicator with secondary importance in stock price estimation was found as the earnings before interest and tax with a weight of 0.27.

The price-earnings ratio of stocks was the third most important indicator with a weight ratio of 0.25.

The 52-week Bottom-Top Analysis was identified as the fourth important level indicator with a weight ratio of 0.15.

It was also determined that the dividend yield was an indicator with a fifth significance level with a weight ratio of 0.05 according to the calculated normalized weight vector data.

The company's debt burden, net profit, MACD and Ichimoku Knko Hyo Analysis indicators were not included in the order of importance according to the normalized weight vector data.

6. CONCLUSION

Stock investors in the financial system are important elements of the system that supply their financial savings to the system. Increasing the number of savers in a financial market is a development that can bring multiple benefits. The increase in savers, especially individual investors, not only provides them with a return in the process, but also meets the financing needs of those who demand funds and allows investments to be financed indirectly. These indirect effects may lead to a chain increase in the production of goods and services in the country in the long run and, accordingly, an increase in employment, welfare, and per capita national income. In this respect, minimizing the adverse selection costs of savers will indirectly maximize many benefits.

Stock investors, who can be expressed as a saver, also want to predict the market prices of stocks before investing in stocks. In these predictions, they want to know whether the price is high or low. They want to sell stocks that are overpriced according to market value and buy stocks that are underpriced according to market values. They make their predictions about the future price formations of stocks with the help of many types of technical indicators, ratios, oscillators and indicators. In this study, it was aimed to compare the technical indicators, ratios, oscillators and indicators used by stock investors in the stock price prediction processes with the FAHP method and to determine the most important indicator.

As a result of the analysis, it was found that the best technique according to the FAHP method is the market value/book value approach in the process of making stock buying and selling decisions. This ratio gives important information about whether the company's stock is priced cheaply or expensively in the market. It proposes

a buying strategy for stocks with a market value close to book value. EBIT was determined as a ratio of secondary importance in stock purchase decisions according to the FAHP method. The high EBIT value means that the operating performance of the enterprise is also high. With high EBIT, financial expenses and tax liabilities can be met, the possible high net profit that can be achieved and this makes the shareholders happy. The 52-week Bottom-Top Analysis and dividend yield are other important indicators for the development of an effective and efficient stock buying strategy.

When the results are evaluated in general, it is predicted that the inclusion of stocks with low MV/BV value, high EBIT value and low P/E value in the portfolio prior to stock investment will increase the value of the portfolio.

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Appex 1. Matrix Created with the Help of Fuzzy Linguistic Comparison Scales

	EBIT			MV/BV			P/E			Dividend Yield			Company's Debt Burden			Net Profit			52-week Bottom-Top Analysis			MACD			Ichimoku			Total		
EBIT	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	5.00	3.00	4.00	5.00	3.00	4.00	5.00	3.00	4.00	5.00	1.00	3.00	5.00	1.00	3.00	5.00	15.00	24.00	33.00
MV/BV	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	3.00	3.00	4.00	5.00	3.00	4.00	5.00	3.00	5.00	7.00	1.00	3.00	5.00	1.00	2.00	3.00	1.00	2.00	3.00	15.00	24.00	33.00
P/E	1.00	1.00	1.00	0.33	0.50	1.00	1.00	1.00	1.00	1.00	3.00	5.00	1.00	3.00	5.00	5.00	6.00	7.00	1.00	3.00	5.00	3.00	5.00	7.00	3.00	4.00	5.00	16.33	26.50	37.00
Dividend Y.	0.20	0.33	1.00	0.20	0.25	0.33	0.20	0.33	1.00	1.00	1.00	1.00	1.00	3.00	5.00	1.00	3.00	5.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	6.60	13.92	22.33
Company's D.B.	0.20	0.25	0.33	0.20	0.25	0.33	0.20	0.33	1.00	0.20	0.33	1.00	1.00	1.00	1.00	1.00	2.00	3.00	1.00	1.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	5.80	9.17	13.67
Net Profit	0.20	0.25	0.33	0.14	0.20	0.33	0.14	0.17	0.20	0.20	0.33	1.00	0.33	0.50	1.00	1.00	1.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	5.02	8.45	12.87
52-Week High/Low	0.20	0.25	0.33	0.20	0.33	1.00	0.20	0.33	1.00	0.33	0.50	1.00	1.00	1.00	1.00	0.33	0.50	1.00	1.00	1.00	1.00	1.00	3.00	5.00	0.20	0.33	1.00	4.47	7.25	12.33
MACD	0.20	0.33	1.00	0.33	0.50	1.00	0.14	0.20	0.33	0.33	0.50	1.00	0.33	0.50	1.00	0.33	0.50	1.00	0.20	0.33	1.00	1.00	1.00	1.00	0.14	0.17	0.20	3.02	4.03	7.53
Ichimoku	0.20	0.33	1.00	0.33	0.50	1.00	0.20	0.25	0.33	0.33	0.50	1.00	0.33	0.50	1.00	0.33	0.50	1.00	1.00	3.00	5.00	5.00	6.00	7.00	1.00	1.00	1.00	8.73	12.58	18.33
Total	4.20	4.75	7.00	3.74	4.53	7.00	4.09	5.62	8.87	7.40	13.17	21.00	11.00	17.50	25.00	15.00	22.50	31.00	10.20	19.33	29.00	15.00	26.00	37.00	9.34	16.50	24.20			

Appex 2. Obtaining Si Values

								L	m	u
S(EBIT)	15.0000	24.0000	33.000	⊗	0.1429	0.2105	0.2381	2.1429	5.0526	7.8571
S(MV/BC)	15.0000	24.0000	33.000	⊗	0.1429	0.2206	0.2672	2.1429	5.2941	8.8168
S(P/E)	16.3333	26.5000	37.000	⊗	0.1128	0.1780	0.2448	1.8421	4.7181	9.0559
S(Dividend Y.)	6.6000	13.9167	22.333	⊗	0.0476	0.0759	0.1351	0.3143	1.0570	3.0180
S(Company's D.B.)	5.8000	9.1667	13.667	⊗	0.0400	0.0571	0.0909	0.2320	0.5238	1.2424
S(Net Profit)	5.0190	8.4500	12.867	⊗	0.0323	0.0444	0.0667	0.1619	0.3756	0.8578
S(52-Week High/Low)	4.4667	7.2500	12.333	⊗	0.0345	0.0517	0.0980	0.1540	0.3750	1.2092
S(MACD)	3.0190	4.0333	7.533	⊗	0.0270	0.0385	0.0667	0.0816	0.1551	0.5022
S(Ichimoku)	8.7333	12.5833	18.333	⊗	0.0413	0.0606	0.1070	0.3609	0.7626	1.9623

Appex 3. Determining Weight Values by Comparing Synthesis Values

S(EBIT)≥MV/BV	0.96	S(MV/BV)≥ EBIT	1.00	S(Dividend Y.)≥ EBIT	0.18
S(EBIT)≥P/E	1.00	S(MV/BV)≥ P/E	1.00	S(Dividend Y.)≥ MV/BV	0.17
S(EBIT)≥ Dividend Y.	1.00	S(MV/BV)≥ Dividend Y.	1.00	S(Dividend Y.)≥ P/E	0.24
S(EBIT)≥ Company's D.B.	1.00	S(PD/DD)≥ Company's D.B.	1.00	S(Dividend Y.)≥Company's D.B.	1.00
S(EBIT)≥Net Profit	1.00	S(MV/BV)≥Net Profit	1.00	S(Dividend Y.)≥Net Profit	1.00
S(EBIT)≥ 52-Week High/Low)	1.00	S(MV/BV)≥ 52-Week High/Low)	1.00	S(Dividend Y.)≥ 52-Week High/Low)	1.00
S(EBIT)≥MACD	1.00	S(MV/BV)≥MACD	1.00	S(Dividend Y.)≥MACD	1.00
S(EBIT)≥Ichimoku	1.00	S(MV/BV)≥ Ichimoku	1.00	S(Dividend Y.)≥ Ichimoku	1.00
S(P/E)≥ EBIT	0.95	S(Net Profit)≥ EBIT	0.00	S(Şirketin B.Y.)≥ EBIT	0.00
S(P/E)≥ MV/BV	0.92	S(Net Profit)≥ MV/BV	0.00	S(Company's D.B.)≥ MV/BV	0.00
S(P/E)≥ Dividend Y.	1.00	S(Net Profit)≥ P/E	0.00	S(Company's D.B.)≥ P/E	0.00
S(P/E)≥ Company's D.B.	1.00	S(Net Profit)≥ Dividend Y.	0.44	S(Company's D.B.)≥ Dividend Y.	0.64
S(P/E)≥Net Profit	1.00	S(Net Profit)≥ Company's D.B.	0.81	S(Company's D.B.)≥Net Profit	1.00
S(P/E)≥ 52-Week High/Low)	1.00	S(Net Profit)≥ 52-Week High/Low)	1.00	S(Company's D.B.)≥ 52-Week High/Low)	1.00
S(P/E)≥MACD	1.00	S(Net Profit)≥MACD	1.00	S(Company's D.B.)≥MACD	1.00
S(P/E)≥ Ichimoku	1.00	S(Net Profit)≥ Ichimoku	0.56	S(Company's D.B.)≥ Ichimoku	0.79
S(52-Week High/Low)≥ EBIT	1.00	S(MACD)≥ EBIT	0.00	S(Ichimoku)≥ EBIT	0.00
S(52-Week High/Low)≥ MV/BV	1.00	S(MACD)≥ MV/BV	0.00	S(Ichimoku)≥ MV/BV	0.00
S(52-Week High/Low)≥ P/E	1.00	S(MACD)≥ P/E	0.00	S(Ichimoku)≥ P/E	0.03
S(52-Week High/Low)≥ Dividend Y.	0.57	S(MACD)≥ Dividend Y.	0.17	S(Ichimoku)≥ Dividend Y.	0.85
S(52-Week High/Low)≥ Company's D.B.	0.87	S(MACD)≥ Company's D.B.	0.42	S(Ichimoku)≥ Company's D.B.	1.00
S(52-Week High/Low)≥Net Profit	1.00	S(MACD)≥Net Profit	0.61	S(Ichimoku)≥Net Profit	1.00
S(52-Week High/Low))≥MACD	1.00	S(MACD)≥ 52-Week High/Low)	0.61	S(Ichimoku)≥ 52-Week High/Low)	1.00
S(52-Week High/Low)≥ Ichimoku	0.69	S(MACD)≥ Ichimoku	0.19	S(Ichimoku)≥MACD	1.00

Appex 4. Likelihood Degrees of Critical Values

$d^{\iota}(F_1) = min\left[V\left(S_{EBIT} \geq S_J\right)\right] =$	0,96	$=> {}^{0,96}/_{3,62} = 0,27$
$d^{\iota}(F_1) = min\left[V\left(S_{MV/BV} \geq S_J\right)\right] =$	1,00	$=> {}^{1,00}/_{3,62} = 0,28$
$d^{\iota}(F_1) = min\left[V\left(S_{P/E} \geq S_J\right)\right] =$	0,92	$=> {}^{0,92}/_{3,62} = 0,25$
$d^{\iota}(F_1) = min\left[V\left(S_{Dividend\ Y.} \geq S_J\right)\right] =$	0,17	$=> {}^{0,96}/_{3,62} = 0,05$
$d^{\iota}(F_1) = min\left[V\left(S_{Company's\ D.B.} \geq S_J\right)\right] =$	0,00	$=> {}^{0,00}/_{3,62} = 0,00$
$d^{\iota}(F_1) = min\left[V\left(S_{Net\ Profit} \geq S_J\right)\right] =$	0,00	$=> {}^{0,00}/_{3,62} = 0,00$
$d^{\iota}(F_1) = min\left[V\left(S_{2-Week\ High/Low} \geq S_J\right)\right] =$	0,57	$=> {}^{0,57}/_{3,62} = 0,15$
$d^{\iota}(F_1) = min\left[V\left(S_{MACD} \geq S_J\right)\right] =$	0,00	$=> {}^{0,00}/_{3,62} = 0,00$
$d^{\iota}(F_1) = min\left[V\left(S_{Ichimoku} \geq S_J\right)\right] =$	0,00	$=> {}^{0,00}/_{3,62} = 0,00$
Total	3,62	Total 1,00

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

Cross-border commercial activity strategies of businesses in the border province Edirne

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Abstract

The aim of this study is to reveal the strategies to enter the international markets applied by the enterprises that entered the international markets in Edirne, which is an important border province, and to provide basic information to researchers as well as different organizations and managers, since there is no previous study on this subject in the literature.

For this purpose, exploratory research design, one of the qualitative research designs, and semi-structured interview method as data collection method were used. In the research, interview requests were made for all of the businesses, except the closed ones, which could not be reached from the list of 56 companies operating internationally and obtained from the Edirne Chamber of Commerce and Industry (ECCI), but 20 companies accepted the interview request.

In the research, it has been seen that the enterprises that opened to international markets in Edirne generally apply export strategy directly or indirectly, as well as make a little direct investment. It has been understood that partnership strategies (strategic partnership, joint venture, assembly operations, etc.) are not preferred to avoid risk. It has been stated that businesses that have started their international operations have increased their profitability and transaction volumes, they have been recognized in international markets, and they have been able to catch up with developments and opportunities in the international arena. In addition, it has been observed that international businesses in Edirne have expectations from managers such as legal guarantees, financial stability arrangements to be less affected by the exchange rate difference, informing ETSO and other public institutions about international opportunities, and deciding for Edirne's geographical proximity to Europe to provide more benefits to the region and the country.

Keywords: International Businesses, Strategic Management, Strategies of International Trade, Turkey, Edirne

JEL codes: F23, M10, M16, M20.

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1. INTRODUCTION

The changes taking place and affecting all sectors in today's world, have reached a dizzying speed. One of the results of these changes is that, it has become almost impossible for businesses to carry out their activities only within national borders. It is possible to see the international activities or their impacts even in the operating activities of regional businesses having national character in the globalized world (Wild and Wild, 2017: 4).

International trade came into the scene in general with the exchange of goods between the businesses of neighboring countries and with the development of transportation facilities it started to be carried out among the businesses of distant countries as well. In this regard, it is understood that international trade dates back thousands of years and its importance increasing day by day (Mirze, 2018: 7).

Due to its aspects separated from national business, international business has become a subject need to be studied more. Together with the developments in technology, competition, standardization, business environment, political effects of international business administration, economic integration and globalization emerged in recent years, it has gained much more importance (Özalp, 2004: 5-6).

The objective of this study is to propound the strategies implemented by the enterprises that entered to the international markets in Edirne Province together with their reasons and results and therefore to fill a gap in the literature and set light to the future studies on this subject.

2. INTERNATIONAL ENTERPRISES

In general, enterprises start up their activities in the markets within national borders. But, after a certain time, the competitive environment in which business' are, forces them to go beyond these national borders. International trade activities, defined as the sum of commercial transactions across the border, started with the exchange of goods between neighboring countries in historical process, it has expanded also carrying out at more distant countries with the increase of transportation facilities and the mutual exchanges led to increase in the welfare levels of countries (Ülgen and Mirze, 2020: 286).

According to Fayerweather (Özalp, 1995: 61), the businesses directly carrying out activities in two or more countries are expressed as international businesses (Kabar, 2011: 18; Wild and Wild, 2017: 4). According to Koparal et al., international businesses is all of the activities carried out by the businesses outside national borders and it is divided into two as international trade and investment (Koparal, Tonus, Ersoy, Aydın, Güllüpınar and Önce 2004: 3). As for Mutlu (1999: 9), businesses that continue their activities within one or more countries outside their home country are expressed as international businesses.

The historical development of international businesses is discussed in five principal sections as pre-trade period, trade period, colonialism period, concessions period and international period. The pre-trade period (before 1500 AD) is the period covering the trade of silk and spices in geography from Europe to China and India. The trade period (1500-1850) is the period until the Industry Revolution. It is the period when rich raw materials, slaves and other products were marketed in a wider geography together with the development of naval transportation and geographical discoveries. The colonialism period (1850-1914) is the period between Industrial Revolution and the 1st World War. In this period, the geographical discoveries completed, and the trade volume expanded. After the Industrial Revolution large enterprises were established. The United States of America (USA) was passive due to the lack of infrastructure. The concessions period (1914-1945) is the period from the beginning of 1st World War to the end of 2nd World War. In this period, the investments made into automobile sector draw attention. Contemporarily the first international enterprise is Lever Brothers initiative in England. There has been an expansion in trade volume. International breakthroughs of the companies of US such as Coca-Cola and Woolworth. The economic depression in 1929 was seen to cause serious damage to economy. Germany's occupation of the international enterprises besides countries has negative-

ly affected international trade. The international period (after 1945) is the period from the end of 2nd World War today. The period between 1945-1970 is described as "global expansion" period due to the search for market and resources by the international enterprises. In this period, US became the leader in internationalization with the developments in globalization and communication technologies. In this period, because of the intense competition the leadership of the US has got into risk (Koparal et al., 2004: 8; Can, 2012: 14; Aktaş, 2015: 7; Mirze, 2017: 14-15).

1.1. International Strategic Management

Strategic management is a whole set of activities that will enable businesses to maintain their assets in the long run, provide a competitive advantage and besides this bring them a profit above the average (Ülgen and Mirze, 2020: 7). Enterprises create their strategies that will form the strategic management process through managers having strategic background and they start to their work on the internal and external factors of the enterprise in a way that will serve the mission, vision and objectives of the enterprise. The steps to be taken in strategic management are, strategic analysis, strategic orientation, strategy formulation, strategy implementation and strategic control (Rugman and Collinson, 2009: 458-459). International strategic management, on the other hand, is defined as the manifestation and application of these denoted strategic management functions and processes within the concepts, institutions and developments in the foreign country and international environment in which the enterprise operates, beside the home country where the enterprise carries on business activities (Mirze, 2018: 25).

International enterprises are generally focusing on adapting their local products to the countries where they will carry on their activities internationally. Even though these enterprises affiliated with the parent company in terms of coordination and management, they exemplify the behaviors of the companies in the local and act like them. The competition strategies of the enterprises focused on local markets are also the basis for the strongest competitive advantage in the international business strategy. Key capabilities and resources, often within the home country, guide the enterprise's international strategy (Çalışkan, 2011: 25; Hitt, Ireland and Hoskisson 2009: 331). However, research shows that as they grow in the international arena, the importance they attach to competitive advantage in the home country decreases. For this reason, countries exhibit their own unique behaviors. For instance, some Asian countries such as South Korea lack of large natural resources, but since these countries are seen as very strong in terms of business ethics, many companies with the possibility of producing on a global scale are emerging (Hitt et al., 2009: 213).

The very first reason for businesses to enter international markets is the contraction in local demand. The decrease in the demand of the product or service they supply in the local or the downward evolution of the demand of produced product due to the maturation in the product's life cycle can lead the enterprises to international markets. Businesses are entering international markets where there is less competition and more buyers in their field, as expressed in the blue ocean strategy. Blue ocean markets are sought from their immediate surroundings towards a distance (Kim and Mauborgne, 2005: 77-78). Companies make their decision to enter international markets using PEST (on Political, Economic, Social and Technological elements) and CAGE (distance in terms of Culture, Administrative, Geographical and Economic dimensions) before entering international markets (Ülgen and Mirze, 2020: 307-308).

1.2. The Methods of Businesses to Enter International Markets

International businesses adopt one or more of the methods shown in Figure 1 to enter international markets. While they are making this choice, analysis of the external environment they are in, have importance. (McCarthy and Perreault,1987; cited by: Can, 2012: 13).

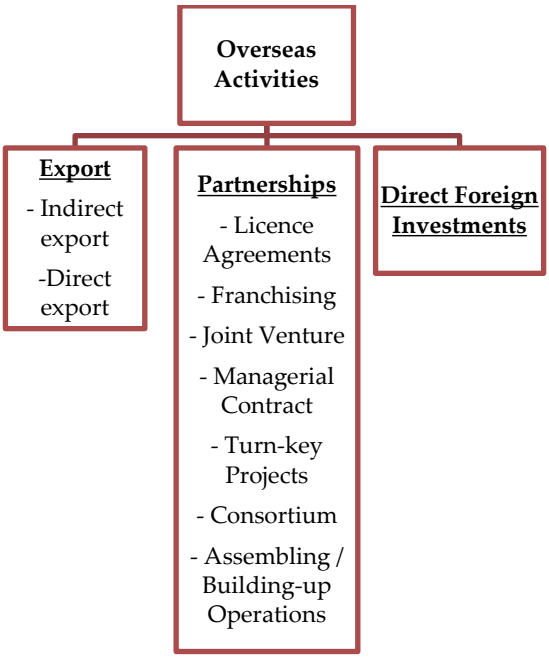
Enterprises form their international strategies by analyzing their internal and external environments and choose one or several methods of entering international markets by these strategies. The point to be considered here is, the selection

and implementation of the most accurate method that will provide the balance between the risks in the market to be entered and the situation of the enterprise and that will benefit the business (Koparal et al., 2004: 89).

1.3. Risks Encountered in International Business Administration

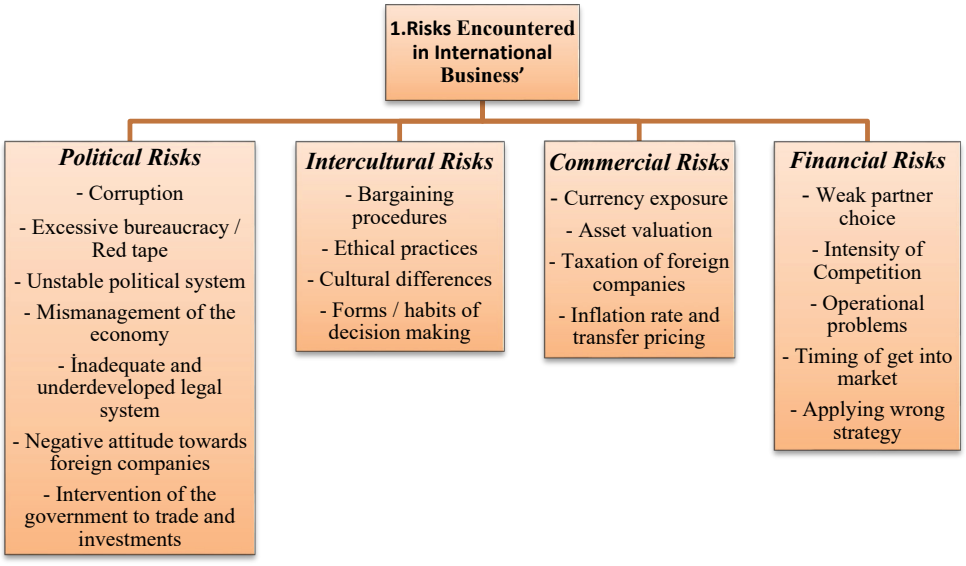
It is known that all business activities involve risks. Further, international business activities involve much more political, economic, and financial risks than the local business activities (Musonera, 2008: 2). There are four substantial risks (Figure 2) for internationalized businesses. These are intercultural risk, political risk, financial risk, and commercial risk. Enterprises must manage these risks well in order not to make a financial loss or not to fail on product basis (Çavuşgil, Knight, Riesenberger, Rammal & Rose, 2014: 11).

Figure 1. International Market Entry Methods



Source: McCarthy and Perreault,1987; cited by: Can, 2012: 13.

Figure 2. The Substantial Risks in International Business



Source: Çavuşgil et al., 2014: 45.

It is inevitable for the businesses to encounter failure in case of they do not form and implement their strategies considering these stated risks (Çavuşgil et al., 2014: 14).

1.4. Factors to be Considered in İnternational Market Selection

Enterprises should perform a good market analysis to increase their possibilities of success in the international arena. Firstly, the factors to be considered in international market selection should be determined. Then the specified countries are analyzed based on these factors. In the third stage, a cost – benefit analysis of the internationalization process is carried out for the business. In the last stage, the country that best meets the determined criteria is selected (Ülgen and Mirze, 2018: 306). Some of these consideration factors are as follows (Griffin and Pustay, 2010: 356-358):

- Foreign market and product,
- Product and market characteristics in foreign markets and their differences from local markets,
- The possibility of competitors in the local market entering the target market,
- Analysis of the competitors in foreign market,
- Structural characteristics of the target market,
- Trends in foreign (target) market,
- Success factors in foreign market,
- Strategic expansions in foreign market.

The first of the reasons for businesses to enter international markets is contraction in demand in local. The decrease in the demand of the product or service they supply in the local or the downward evolution of the demand of produced product due to the maturation in the product's life cycle can lead the enterprises to international markets. The second of the reasons for businesses to enter international markets is the fact that globalization, which is increasing importance day by day. Enterprises, with globalization, where the world is seen as a single market and borders are almost eliminated, gravitate towards continue their activities in the international arena, and seek markets with less competition or no competition if possible. (Ülgen and Mirze, 2020: 307-308).

1.5. Theoretical Background for Entering International Markets

Within the scope of the research, entering international markets, theoretically will be ground upon the condition dependence and organizational ecology theories.

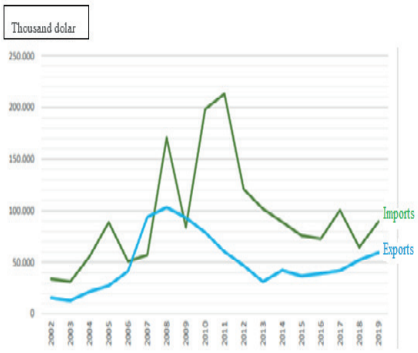
Enterprises, make the appropriate decision in accordance with the conditions in which they are and in which the market they want to enter is, by performing the above mentioned analyzes. This situation can be explained by the theory of condition dependence (Pfeffer and Salancik, 1978: 373-388). For example; while the enterprise may enter an international market due to its geographical proximity and the demand for its product group, they may also want to enter international markets in more distant locations and where they have good relations with their own country in terms of politics and where they can trade more easily. That is, enterprises make their decisions according to internal and external environmental conditions and according to the returns that the options will provide to them.

After entering international markets, the international businesses want to maintain their presence in that market and sustain their profitability. It is not possible for businesses that do not act in compliance with the market conditions to maintain their existence in the said markets. This situation can be explained by the theory of organizational ecology (Hannan and Freemann, 1977: 929-964). For businesses, to continue their operations by well analyzing the cultural, political, economic and legal factors in the markets they already entered or will enter, is extremely important for maintaining their presence in international markets. For instance, paying regard to the factors such as belief and language which are involved by cultural values and the susceptibility they bring, in the international market in which the enterprise operates is highly important for maintaining their presence in this international market.

1.6. Foreign Trade in Border Province Edirne

Edirne is the border city of Turkey that opens to Europe and the Balkans. It was the capital of the Ottoman Empire for 96 years during its strongest period. Mainly, Meriç and Tunca Bridges, Karaağaç District, Selimiye Mosque, its architectural structures as well as Kırkpınar Festivals, the city hosts many national and international touristic visits. Edirne is known as an agriculture city for centuries. The wars that took place and the migration movements led to significant changes of population. After the migration of the Bulgarian and Greek peoples to the West, with the people who settled in the region, the occupations such as winemaking, viticulture and silkworm breeding decreased significantly and the production of sunflower and paddy in the region accelerated. As a result of the widespread use of tractors in the 1950s, livestock and dairy activities in the region decreased as well. While enlisted in "Development Priority Cities" in 1969, Edirne has been excluded from this scope in 1976. The economic structure of the province is mainly based on agriculture sector. It is seen that other activities have also developed as it is located at the transition point from Europe to Istanbul and the Middle East. (ETSO-1, https://etso.org.tr/site/edirne/edirnenin-tarihi, Accessed: 19.06.2022). The foreign trade chart of Edirne Province between 2002-2019 is shown below.

Chart 1. Edirne Province Foreign Trade (2002-2019)



Source: TÜİK (Turkish Statistical Institute), Foreign Trade Statistics (Special Trade System).

Considering Chart 1, the foreign trade in Edirne appears to show fluctuations. When focusing on export data as a requirement of the research subject, while an increase is seen in Edirne from 2002 to 2008 which is the year of crisis, after 2008 until 2013 a decrease is seen. It is observed that, after 2013, again an increase started and still proceeds. Based on Turkish Statistical Institute 2019 data, while Edirne Province ranks 56th in exports with a share of 0.035%; It ranks 41st in imports with a share of 0.044%. Being on the borders of Bulgaria and Greece leads the Province of Edirne to be active economically; Bulgaria is at the top of the export countries with 10,503,019 dollars (17,68%). The manufacturing industry activities in Edirne developed based on the agricultural activities; for instance, developed in food & foodstuff, textiles, metal industry and mining areas. Based on Turkish Statistical Institute data during 2014-2019 period, the share of the manufacturing industry in the export data in the province increased from 83% to 96% (TÜİK - *Turkish Statistical Institute*, https://data.tuik.gov.tr/Search/Search?text= d%C4%B1%C5%9F%20ticaret, Accessed: 12.09.2022.).

With the connection of D-100 Highway to the Middle East countries, the trade in the city has also increased. On March 19, 1997, a decision was taken to carry out border trade between Bulgaria and Turkey at the Kapıkule Border Gate and was published in the Official Gazette. In this scope, 158 natural and legal persons received border trade certificates. This practice was terminated with the decision of the Council of Ministers dated 28.04.2000 and numbered 2000/364. In this process, 22,927,924 US Dollars' worth of imports were made. The products produced in the factories in the city are sold both domestically and abroad. In addition, agricultural products such as sunflower, wheat flour and rice are sold, and durable consumer goods are purchased. The most important known mines are lignite coal and bentonite. The lignite reserves of important enterprises are around 106 million tons. (ETSO-2 – Edirne Chamber of Commerce and Industry), https://etso.org.tr/site/edirne/edirnede-sanayi-ve-ticaret, Accessed: 19.06.2022).

2. RESEARCHING THE STRATEGIES OF ENTERING INTERNATIONAL MARKETS OF ENTERPRISES IN EDİRNE

2.1. Method

Due to the exploratory nature of the research, qualitative research method was used in the research. Because, due to the nature of qualitative research, it has been tried to find answers to questions such as "why, how" by establishing cause-effect relationships between questions and answers. The objective of the research to reveal an existing situation, necessitated that the research should be considered as an exploratory case study design (Davey, 1991: 1-3; Mills, Durepos and Wiebe, 2010: 582-583). The interview method was used as the data collection method. In order to benefit more from the knowledge and opinions of the participants, the interviews were conducted in the form of semi-structured interviews and apart from the prepared questions, the participants' information and opinions were also included.

The research started with the information received from Edirne Chamber of Commerce and Industry (ETSO), and in the course of meeting with ECCI (*ETSO*) official, it was stated that there were 56 enterprises carry on business activities in Edirne that opened to international markets and the list of these companies available on the official website of ECCI (*ETSO*) (ETSO-3, https://etso.org.tr/site/uyelerimiz/ETSO_ihracatci_uyeler, Accessed: 03.06.2022). The 56 enterprises in the above-mentioned list constitute the universe of the research. 20 companies that were reached among these 56 companies and agreed to participate in the research constitutes the sample of the research. Interviews were held with senior officials of companies or company owners. The interview form used in the research was prepared by the researchers before starting the research. Interviews were mostly conducted face to face. The company officials who are busy with their workload or want to get permission from their senior officials asked to fill in the interview form and then returned via e-mail or WhatsApp application. At the beginning of the interview, the company managers participating in the research were informed that, information about themselves and the company (such as participant name, company name) absolutely would not be used. Within the context of the research, the participating companies will be mentioned as k-01, k-02, k-12 etc. The data obtained from the research, have been subjected to content analysis, and the MAXQDA program was used in this analysis.

2.2. Research Questions

Within the scope of the research, eight questions were asked to the participants based on the literature and in order to reach the desired results.

The aforementioned research questions have been reviewed by taking expert opinions and conducting focus group work before starting the research, and when the final version was given, the Approval Report from the Ethics Committee of Trakya University was obtained and used in the research. The research questions are listed as follows:

1. Could you provide a brief information about your company?

2. What are those factors and reasons that affected your decision for entering international markets?

3. Could you provide information about the analyzes you performed before entering international markets?

4. What are the strategies you have implemented in entering international markets?

5. What were your reasons to implement these strategies?

6. How these strategies you have implemented have yielded results?

7. What are the new strategies you have developed for the new international markets you intend to enter in the analysis you have made as a result of the strategies you have implemented, and what are the reasons?

8. What are those competition strategies you have implemented in order to maintain your presence in the international arena and the reasons of these strategies?

Because of the interviews were conducted in the form of semi-structured interviews, apart from the above questions, the participants' information and opinions were also asked. By this means, it is aimed to benefit more from the knowledge and opinions of the participants

2.3. Findings

It was observed that the 20 companies interviewed within the scope of the research operate in different sectors. The relevant sectoral distribution is shown in Table 1.

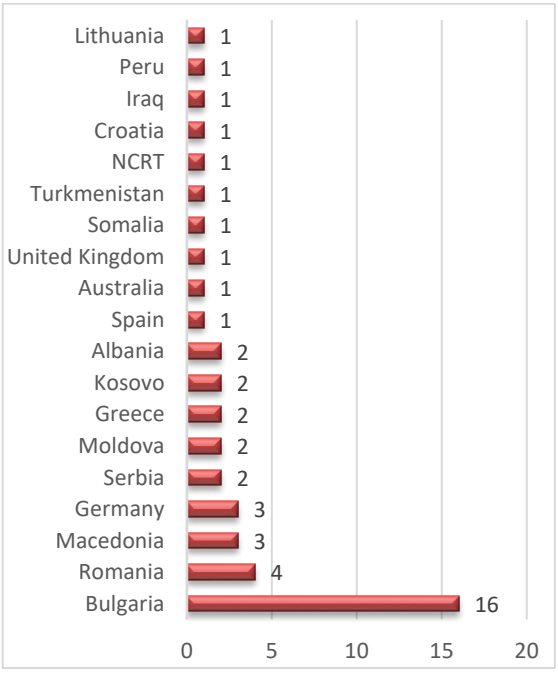
When the Table 1 is reviewed, it is seen that the companies participating in the interview, mostly operate in the building and construction materials (four companies) and PVC-furniture-glass industry (three companies). They are followed by metal industry, textile industry and food, foodstuff, and supplies (two companies each). Interviews were made with one company each in the Marble industry, Steel industry construction contracting services, traditional sweeper handcraft manufacturing, furniture decoration, oil industry, machinery industry and tractor and spare parts sales sectors. It has been observed that, particularly two companies carrying on business internationally in the field of textile are among the leading textile companies in Turkey and they reflect the situation that our country is among the leading countries in the field of textile industry. It has been determined that, both of these interviewed companies manufacture for the world's leading brands, and they constantly expand their markets because of their quality and expertise. One of these companies was granted the "*Finest Quality Manufacturer Award*" by a world-renowned company in 2021. Similarly, it has been seen that the oil industry company interviewed is one of the important oil supplier companies of our country and operates in the Far East, Europe, the Balkans, and the Turkic Republics by following the international developments. Another remarkable point is that the traditional sweeper production, which is one of the traditional professions of Edirne, has been moved to international markets and still continues. It has been observed that there is also a company that opens to international markets as a traditional sweeper manufacturer, and by seeing other business opportunities in the markets and exports food and supplies. It has been denoted that, the company interviewed in the field of machinery industry was established by a graduate student at Trakya University Mechanical Engineering Department with KOSGEB R&D Innovation supports to produce medical waste disposal devices and has become an internationally preferred company. In the light of these findings, it has been observed that, there are important international enterprises in different fields of activity in Edirne and these enterprises maintain their activities and that the research and projects to be put forward in this region are important.

It has been found that 20 Edirne companies interviewed in the research operate in a total of 19 international markets. The names of these markets and the number of companies operating in these markets are shown in Chart 2.

Table 1. Sectoral Distribution of The Interviewed Companies

Sector	Number
Building and Construction Materials	4
PVC-Furniture-Glass Industry	3
Metal Industry	2
Textile Industry	2
Food, Foodstuff and Supplies	2
Furniture Decoration	1
Vegetable Oil Industry	1
Traditional Sweeper Handcraft	1
Steel Industry, Construction and Contracting Services	1
Marble Industry	1
Machinery Industry	1
Tractor and Spare Part Sales	1
Total	***20***

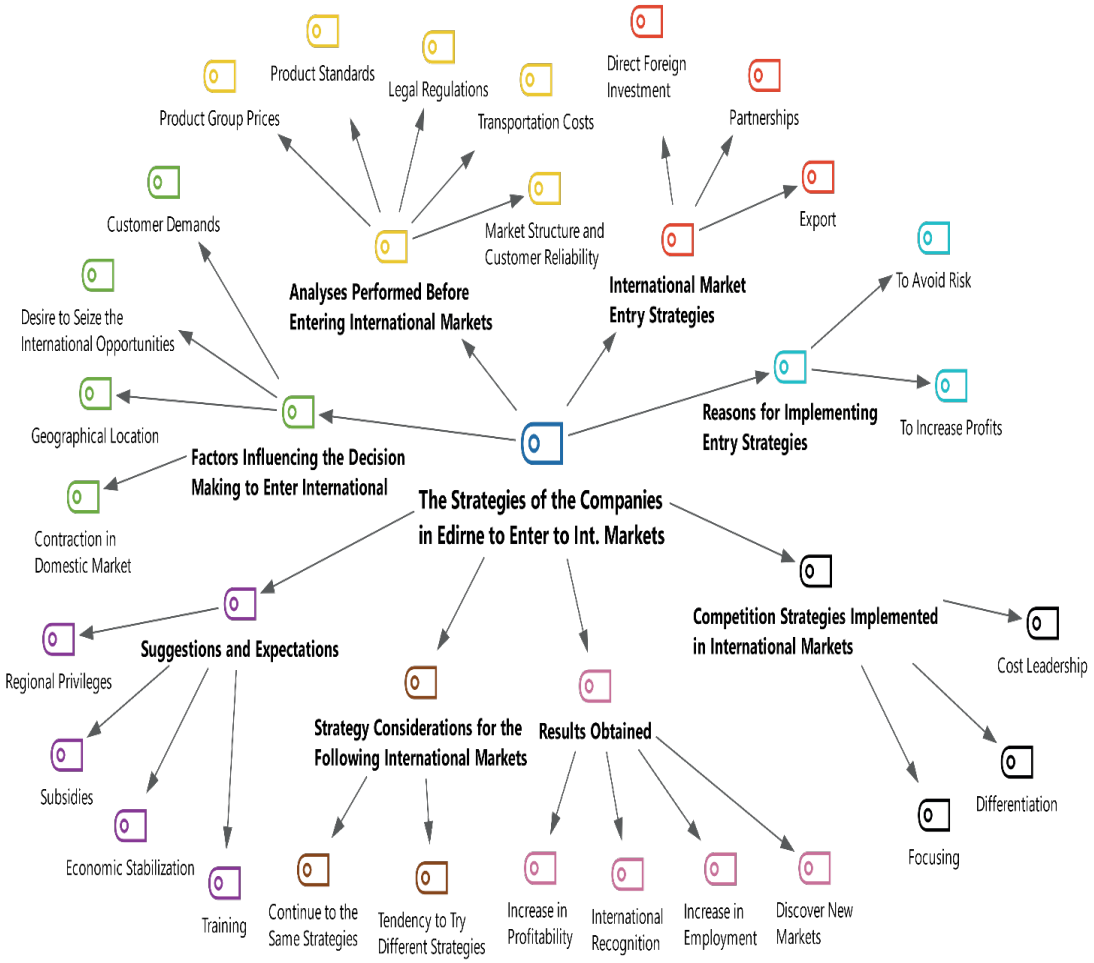
Chart 2. International Markets in which Edirne Companies are Carrying on Business



It has been found out that, these 20 interviewed companies carry on their activities internationally in the markets of 19 different countries (Chart 2). Of these, with 16 companies the most intensively operated market is the Bulgarian market, where Edirne is the border city. It has been determined that, the situation is not the same in Greek market, which is another market bordering Edirne. Only two of the interviewed companies expressed that they have carry on activities in Greece. Besides these, it is understood that, while 4 companies operate in Romania, three each in Macedonia and Germany, two each of Serbia, Moldova, Albania and Kosovo, one each of Australia, England, Somalia, Turkmenistan, NCTR, Croatia, Iraq, Peru and Lithuania, carry on business.

MAXQDA program is used in the analysis of the interviews conducted within the scope of the survey. In the MAXQDA program, the main

Figure 3. The Code System For The Research

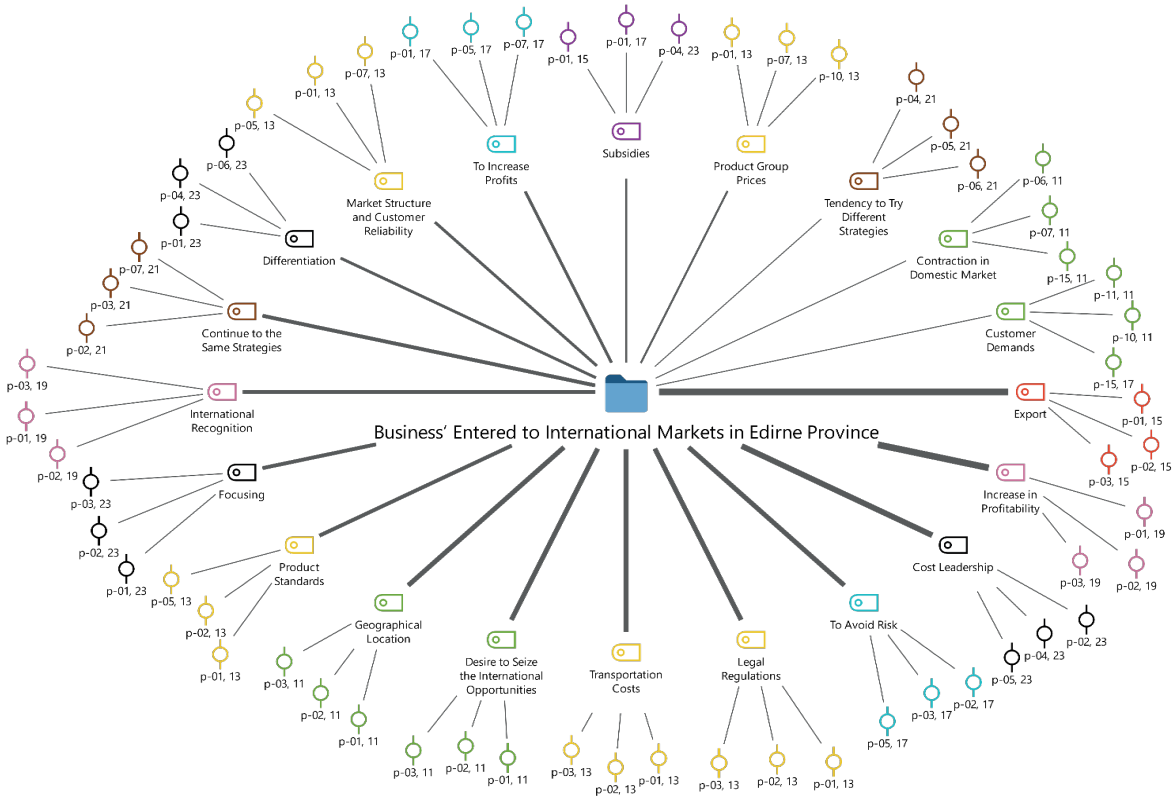


theme, code and sub-codes of the research have been created and coded, then based on this codification, the analyzes such as code matrix scanner, single case model and relations between codes have been performed. The code system for the research is shown in Figure 3.

The main theme of the research is "*Strategies of the Enterprises in Edirne Province for Entering to the International Markets*". Under this theme, eight principal codes were determined that are listed as, *the factors affecting the decision to enter international markets, strategies for entering international markets, the reasons for choosing entry strategies, the analyzes made before entering international markets, the results obtained, the strategic thoughts on the next international markets, the competitive strategies applied in international markets, the suggestions and expectations*. And, coding was made by creating a total of 27 subcodes under these eight main codes. The frequency of the codes shown in Figure 3 in the interviews was analyzed with the Single Case Model in the MAXQDA program. In order to see the frequency of code in the research in one image and more understandable, the single case model in Figure 4 was created.

In the model in Figure 4, the thicknesses of the lines show the frequency of the codes. Expressions such as k-01, 13 after the codes refer to the example of addressing the coded part in the interview. For instance, samplings were made that the profitability increase code is included in the 19th lines of the 1st, 2nd and 3rd interviews (k-01,19; k-02,19 and k-03,19). Based on this information, it is seen that the most frequently expressed codes are export and profitability increase codes. In addition to these, it is seen that cost leadership, risk avoidance, geographical location, desire to seize the international opportunities, transportation costs, legal regulations, product standards, international recognition and continuation with the same strategies codes are frequently expressed. It is seen that the frequencies of the codes of focusing, differentiation, increasing profit, market structure and customer reliability, subsidies, product group prices, tendency to try different strategies, discovering new markets and customer demands are less frequent. Since a maximum of 20 codes could be involved in the single case model, the codes having the least frequencies were not included in this model. The frequencies

Figure 4. Code Distribution in Interviews (Single Case Model)



of the codes determined in the interviews are also shown in the code matrix browser in Figure 5.

The size of the circular regions shown in Figure 5 indicates the frequency of the code in interview. Starting from this, it is seen that the sub-codes of *"geographical proximity"* and *"the desire to seize international opportunities"* under the main code of *"the factors affecting the decision to enter international markets"* are mentioned more frequently than the sub-codes of *"shrinkage in the domestic market"* and *"customer demands"*. Frequencies of aforesaid codes are shown in Table 2.

Table 2. Frequencies of Sub-Codes Relatif to the Main Code of The Factors Affecting the Decision to Enter International Markets

Code	Frequency
Geographical Proximity	17
The Desire to Seize International Opportunities	16
Contraction In the Domestic Market	6
Customer Demands	6
Total	***45***

It has been observed that, enterprises getting into international markets from Edirne, mostly express their desire to catch international opportunities and geographical location as the reasons for entering international markets. One of the interviews, this situation was stated by the company official as:

"Our purpose of establishment is to make foreign trade. We have considered to invest in Germany in international area. But afterwards we have given up on this and established this factory in Edirne. The reasons such as Edirne's being a border city, its proximity to Europe and the costs were effective in this situation (k-05, Position 11)."

Apart from the geographical location and the reasons for seizing international opportunities, it was spelled that the contraction in the domestic market was also one of the reasons that were effective in the decision to get into international markets. In one of the interviews, this situation verbalized as:

Figure 5. Code Matrix Browser

"We have started activities in domestic market. However, we could not meet our expectations in terms of customers in the domestic market. Thus, we wanted to seize the opportunities in foreign countries with the advantage of Edirne's being a border city (k-01, Position 11)."

One of the companies interviewed, operating in the oil industry, expressed their purpose of establishment and how they utilized the opportunities in this field together with the developments in the international arena as follows:

"It was established in 1972 as a family company. Our field of activity is the oil industry. The presence of sunflower, which is one of the most planted products in Edirne region, has been effective in our establishment. We are carrying on business both in domestic and international markets. During the period between the years 1990 – 2000, we have traded with countries such as Far East (Japan, Taiwan, South Korea), Turkic Republics, Russia, Ukraine, and Balkan countries. In this period, we have turned the demands, that emerged in these regions because of the disintegration of the Soviet Union and Yugoslavia, into opportunities and increased our market share. After the 2000s, we lost some markets here, especially because of the trade agreements between the USA and the countries of this region. After 2000, we have been operating in the markets of Balkan countries such as Macedonia, Albania, Romania, Serbia, Kosovo and Bulgaria, European countries such as Germany and Australia, and country markets such as the NCTR. As of today, we have approximately 200 employees. Our priority is always the domestic market. Because our domestic market customer is continuous (k-09, Position 9)."

The owner of the company, who saw the opportunities in the international field during his academic education and established his business with KOSGEB R&D and innovation support in order to start the production of medical waste disposal devices in the field of machinery industry, expressed the purpose of its establishment and its entry into international markets as follows:

"In 2011, I established the company receiving the support of TUBITAK (Scientific and Technological Research Council of Turkey) R&D Innovation Project during my graduate education. Right now, I am doing my doctorate at Trakya University Mechanical Engineering Department. We are producing medical waste sterilization and disposal devices. We are selling these devices both in domestic markets and to the countries such as Romania, Croatia, Bulgaria, Moldova, Iraq and Peru. Our devices are approved by the German Accreditation Board. Therefore, international companies prefer us (k-17, Position 9)."

Because of the fact that Edirne is a border city, it has been observed that the demands from customers in foreign companies are one of the reasons for Edirne companies to get into international markets as well. This situation was expressed by a company representative interviewed as follows:

"With the incidence of being a border city, we started to export in line with the demands of foreign companies (k-20, Position 11)."

It is seen that; the most spelled sub-codes under the main code of "*the factors affecting the decision to enter international markets"* are "*legal regulations"* and *"transportation costs"*, and these are followed by "*product standards*", "*product group prices*" and "*market structure and customer reliability*" sub-codes, respectively. Frequencies of aforesaid codes are shown in Table 3.

Table 3. Frequency of Codes Related to the Analyses Performed Before Entering International Markets

Code	Frequency
Legal Regulations	16
Transportation Costs	16
Product Standards	15
Product Group Prices	6
Market Structure and Customer Reliability	12
Total	***50***

Considering these, it has been seen that; analyzes such as legal regulations and transportation costs are at the forefront of the analyzes made by the Edirne companies before they get into international markets. In the interviews, this situation was expressed as follows:

"... We also evaluate political developments, legal structure and economic conditions before entering international markets (k-05, Position 13)."

"The overseas prices, transportation / shipping costs and quality standards of the products we are doing business have already been researched (k-19, Position 13)."

It was also seen that, the other analysis made before getting into international markets, is the product group standards in the relevant country market. This situation was expressed in the interviews as follows:

"We have examined the oil standards in buyer countries. We are producing in European standards. This is also one of the motives we are preferred *(k-09, Position 13)…"*

It was propounded that companies perform analysis not only the product standards but besides product prices in those relevant countries as well:

"*The overseas prices, transportation / shipping costs and quality standards of the products we are doing business have already been researched (k-19, Position 13)."*

The other analysis performed by the companies is the structure of the market considered to get into and the reliability analysis of the customers in the market. This situation was expressed as follows:

"We are a company having a considerable trade volume. The companies we work together should be like that and the trade between us should be on an ongoing basis. We are working with the world's leading brands. Besides this, our international competitors in textile sector are the Far Eastern Companies. European companies prefer us because of the location advantage. We also evaluate political developments, legal structure and economic conditions before entering international markets (k-05, Position 13)."

It is seen that; the most spelled sub-code under the main code of "*the factors affecting the decision to enter international markets"* is "*export*" and this is followed by the sub-codes of "*direct foreign investments*" and "*partnerships*". This situation is shown in Table 4.

Table 4. The Frequencies of the Codes Related to Strategies of the Companies to Get into International Markets

Code	Frequency
Export	20
Direct Foreign Investment (+ Export)	4
Partnerships (+ Export)	1
Total	***25***

It has been found that, all of the companies got into international markets have preferred exports in the form of either direct or indirect export. 4 of the companies expressed that, besides export, they have made direct investments as well in those relevant markets. They spelled out that, they were exporting to regional markets by using their establishments abroad as a bridge. It was also seen that; these aforementioned bridge companies have been established in Bulgaria due to the geographical proximity. This situation was expressed as follows:

"We are selling to an intermediary company in Bulgaria. That company dominates the market (k-03, Position 15)."

"We are selling from this company of ours to our establishment in Bulgaria (k-07, Position 15)."

"We sell our products by wholesale to the companies we do business in Bulgaria. And, that companies sell to the market in there (k-20, Position 15)."

It has been expressed that, only one of those interviewed companies has got a company which they have established a strategic partnership in Bulgaria. The company official expressed the situation as follows:

"We are exporting. We have sales offices in three different cities in Bulgaria. And, we have strategic partnership with one of these companies (k-14, Position 15)."

It is seen that; the most spelled sub-code of "*risk avoidance*" under the main code of "*the reasons to prefer for entering international markets"* is mentioned more frequently than the sub-code of "*improving the profits*". This situation is shown in Table 5.

Table 5. The Frequencies of the Codes Related to the Reasons the Companies to Prefer Their Strategies for Entering International Markets

Code	Frequency
Risk Avoidance	17
Improving the Profits	12
Total	***29***

It has been stated that, companies turn towards export because of they tend to avoid risks and do not want to set off a resource dependence. This situation was expressed in the interviews as follows:

"The most important concern is not to take risks. No need for investment (k-11, Position 17)."

"We wanted to reduce the risks. We have learned this, and we do so (k-14, Position 17)."

"We do not want to be affiliated with a company. We have more profitability, and we reduce risks (k-17, Position 17)."

Among these exporting companies, the ones investing in foreign markets by means of direct investments expressed that, they have applied this strategy to increase their profitability, not to be affiliated with companies in foreign markets, and to be able to access the other markets by using these companies as a bridge. They have verbalized this situation in the interviews as follows:

"Disintermediation. Bring quality together with consumers with cheaper prices and not to be dependent to the companies in foreign markets. Furthermore, to open up Balkans and Europe by using our establishment as bridge (k-07, Position 17)."

"We have a company established in Bulgaria. We are exporting from our company located here into our company located in there. We do these practices for reducing the risks and increasing our profitability (k-04, Position 15-17)."

"In international arena, we are exporting through foreign trade companies affiliated to our holding company. This is related to our customer group. We only export due to our customer portfolio. We already have our own foreign trade companies. We do not lean towards partnerships as management and neither we feel the need for them (k-05, Position 15-17)."

"We have a company in the form of direct investment. Besides this we are exporting as well. To increase our profitability and disintermediate without taking risk (k-12, Position 15-17)."

It is seen that; the most mentioned sub-code under the main code of "*Results Obtained*" is the "*increase in profitability*" and it is followed by the sub-codes of "*International Recognition*", "*Discovering New Markets*" and "*Employment Increase*", respectively. The frequencies of the relevant codes are shown in Table 6.

Table 6. The Frequencies of the Codes Related to the Reasons Obtained

Code	Frequency
Increase in Profitability	20
International Recognition	14
Discovering New Markets	6
Employment Increase	1
Total	***41***

It has been signified that, as the result of the strategies of the companies to open up the international markets, they have increased their profitability and international recognition, they have discovered new markets, and in consequence of these they obtain an increase in the employment they provide. This situation has been expressed by the company executives participated to the interview as follows:

"First of all, our earnings have increased. Then we became recognized in Bulgarian market. Now, we are getting higher quality works both in domestic and foreign markets (k-01, Position 19)."

"Thanks to these practices, our factory, which was established with a capacity of 1000 employees, employs 2500 people today. Our international recognition has been heightened. Our profitability improved significantly. Our trade volume is scaling up. We do not have any problem related to sales. We are able to sell what we produce, therefore the more we produce the more we sell (k-05, Position 19)."

"Thanks to the strategies we apply, the period between 2007-2010 was stable. After 2010, our recognition has been heightened and together with retail sales, our

market share increased (k-07, Position 19)."

It is seen that; sub-code "*Continue with same strategies*" under the main code of "*Strategic considerations related to the next international markets"* mentioned much more comparing to the sub-code of "*Tendency to try different strategies*". (Table 7).

Table 7. The Frequencies of the Codes Related to Strategic Considerations Related to New International Markets

Code	Frequency
Continue with same strategies	13
Tendency to try different strategies	7
Total	***20***

It has been observed that, based on the strategies they applied and the results they obtained, companies would mostly tend to continue with the same strategies for the international markets they are considering to enter. While 13 of the interviewed companies expressed that they tend to continue their same strategies, 7 of the companies stated that they tend to try different strategies. This situation has been verbalized in the interviews as follows:

"No matter how much the conditions change with globalization, we still use exports to enter new markets. We do not want to take the risks of partnership and direct investments. The developments in international area create uncertainties (k-09, Position 21)."

"We are considering partnerships in new markets. We want to benefit the know-how and experiences of the companies there (k-01, Position 21)."

In the interviews it has been seen that, some companies apply the same strategies to enter new markets, but they tend to invest in different buyer groups and different markets. This situation has been stated in the interviews as follows:

"We receive demands from the markets that are smaller but where the sales would be made with higher profit margins. Yet, as things stand, our structuring is not suitable for this situation. A suitable action may be taken in the future (k-05, Position 21)."

"I would apply the strategies I have applied in past again. But, for longer and higher yielding investments, I would invest in European countries like Germany (k-07, Position 21)."

It is seen that; sub-code "*Cost leadership*" under the main code of "*Competitive strategies implemented in international markets*" mentioned much more comparing to the sub-codes of "*Focusing*" and "*Differentiation*". The frequencies of the relevant codes are shown in Table 8.

Table 8. The Frequencies of the Codes Related to Competitive Strategies Implemented by the Companies in International Markets

Code	Frequency
Cost Leadership	18
Focusing	14
Differentiation	13
Total	***45***

It has been spelled out that companies generally compete with cost leadership strategy in international markets they have entered. Companies attribute this to the exchange rates. This situation has been stated in the interviews as follows:

"In the first place we have a speed dispatch advantage. We can deliver the products within a short period of time. Then, we have another advantage due to the labor costs. Our workmanship outcome is Turkish Lira, but our input is foreign currency. This situation provides an advantage to us in pricing. Besides this, the feedstock purchases from foreign countries in foreign currency have just the contrary effect (k-05, Position 23) …"

Alongside the cost leadership, differentiation and focusing strategies are also applied in international competition by the companies from Edirne in international markets. This situation has been stated in the interviews as follows:

"As the strategies we applied after entering the new markets, we can speak of the differentiation strategy. We have carried into effect the new practices that were not applied in the countries we have started to trade, but that the new practices we have already been implementing in Turkey. Thus, we tried to gain competitive advantage by differentiating from our competitors (k-13, Position 17)."

"We sell certain product groups; it is known that we have them. Some of our products are not available in Bulgaria or are of poor quality (k-10, Position 23)."

On the other hand, it has been seen that, some companies compete in international markets by applying all competitive strategies. This situation has been stated as follows:

"Price is of first priority. We aim produce cheap prices and sell cheap prices. While we are doing this we do not compromise on the standards. We are a defense-industry based company. This ensures that companies prefer us with regard to robustness (k-17, Position 23)."

The most frequently mentioned sub-code under the main code of "*Suggestions and Expectations*" have become the "*subsidies*" and it is followed by the sub-codes of "*economic stability*", "*Training*" and "*Regional Privileges*", respectively (Table 9).

Table 9. The Frequencies of the Codes Related to Suggestions and Expectations

Code	Frequency
Subsidies	8
Economic Stability	4
Training	2
Regional Privileges	2
Total	***16***

Subsidies were the most emphasized by the companies in terms of suggestions and expectations. International companies have stated that, as of today, they benefit from the Value Added Tax (VAT) refund support, and that they expect guarantees or supports from the local and central government in the country. This situation has been stated in the interviews as follows:

"Right now, we are exporting. We do not have any partnership, but we are thinking ahead, and we are even considering to establish a company there. We have some concerns about this. If there are some supports and assurances from our statesmen, we can take initiatives more comfortably" (k-01, Position 15).

"We are carrying on these practices in order to seize all the opportunities and to increase our earnings. Since there are no assurances, we have some concerns for entering investment and partnerships." (k-01, Position 17)."

"… the feedstock purchases from foreign countries in foreign currency have just the contrary effect. Therefore, it is necessary to decrease the dependence on foreign sources by supporting the textile raw materials as much as possible in domestic market. Agriculture should support industry (k-05, Position 23) …"

Another important matter what companies are in expectation is economic stability. Companies have verbalized that their discomforts related to the uncertainties in the context of economics, and ever-changing exchange rates internationally, and their expectations for solution. This situation has been stated in the interviews as follows:

"There are problems due to the exchange rate difference. Stability is needed (k-12, Position 19) …" We are trying to sell affordable products to the market by reducing the cost. The products here are imported products that are not in our country. That's why we have difficulties (k-12, Position 23)."

"Our country has succumbed to the inflationary economy. From the end of 2020 until today, domestic prices have exceeded international prices (k-19, Position 19). The search for new markets will always continue. But due to the costs in our country, we stay above the international prices (k-19, Position 21). As today's economic conditions continue in this way, we have difficulties in developing a strategy and we cannot compete abroad (k-19, Position 23)."

Another important topic what companies are dwelling on is training. Companies have verbalized their expectations for training and auditing both in terms of international trade and in order for international companies to better represent themselves and our country in the markets in which they do business. This situation has been stated in the interviews as follows:

"Our trade volume expanded. However, in recent times, due to the wrong and bad practices of local tradesmen companies from Edirne have started to be known with a bad image. Because of this situation, especially Bulgarian customers started to turn to regions such as Çorlu, Çerkezköy and Tekirdağ. Unfortunately, all Edirne companies are billed for the bad practices put forward by a few companies. In this sense, we are expecting that ECCI, Municipality and Governorate to carry out audits (k-11, Position 19)."

"…it is necessary to speed up the transactions by training the bank personnel in our country on export transactions. Speed is very important in export transactions (k-12, Position 19)."

Another expectation of the companies in Edirne is the implementation of regulations that will enable them to benefit more from the advantages of being a border city. This situation has been stated in the interviews as follows:

"…I think it would be beneficial to give priority to the Edirne tradesmen in the operations at the Kapıkule border gate in order for these efforts to yield better results. We are waiting for the authorities to work on this issue. (k-08, Position 24)."

3. CONCLUSION AND RECOMMENDATIONS

As a result of the research, it has been understood that the businesses established in Edirne have opened up to international markets for reasons such as geographical location advantage, their desire to seize international opportunities, contraction in domestic markets and customer demands. It has been observed that, in this sense, the most active market is the Bulgarian market, which borders Edirne, as well as these companies carry on business activities in Greece, Romania, Macedonia, Germany, Serbia, Moldova, Albania, Kosovo, Albania, Australia, England, Somalia, Turkmenistan, TRNC, Croatia, Iraq and also in Peru and Lithuania. It is determined that, the aforementioned companies are carrying on business in the sectors of building and construction materials, PVC-furniture-glass industry, metal industry, textile industry, food, foodstuff and supplies, marble industry, steel industry, construction and contracting services, traditional sweeper handcraft, furniture decoration, vegetable oil industry, machinery industry, agricultural tractor and spare part sales.

It has been seen that, before entering into international markets, companies are performing analysis on the subjects such as legal regulations, transportation costs, product standards, product group prices, market structure and customer reliability; and they are deciding on entering into the relevant country market based on the results of the analyses.

It has been stated that, all of the companies enter the international markets directly or indirectly with export management for reasons such as avoiding risk and increasing profits, in addition to exports, a small number of companies (20% of the interviewed companies) established companies in the foreign country market by using foreign direct investment and they used these companies as a bridge in order to reach more markets. It has been determined that, the partnerships are seen as risky by the companies and only one of the companies interviewed has a strategic partnership in the Bulgarian market.

It has been signified that, as the result of the strategies implemented by the companies, the outcomes such as increase in profitability, international recognition, discovering new markets, employment increase have been accomplished. It has been observed that, based on the experiences they gained the companies would mostly (65%) tend to continue with the same strategies for the international markets they are considering to enter; on the other hand, minority of them (35%) tend to try different strategies.

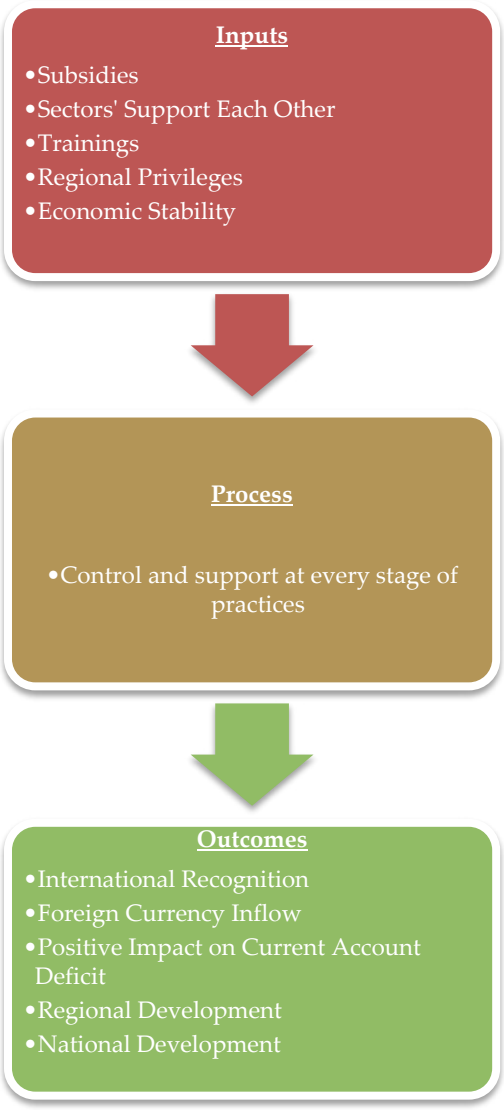
It has been seen that, the interviewed companies were using all the strategies of cost leadership of M. Porter, focusing and differentiation in international markets. It has been reached the results that, while the most intensely used competitive strategy is cost leadership, it is followed by focusing and differentiation, respectively.

The suggestions and expectations of the interviewed companies were also included within the scope of the research. The companies spelled out that, the most important matter that they are expecting is to receive subsidies. Companies also expect some supports and assurances are provided to exports in order to feel secure themselves in the international arena. Also, another important expectation is economic stability. Companies verbalized their economic stability expectations due to the costs and rate difference, in unison. Training and auditing requests, related to export procedures, which will cover all stakeholders are among the expectations of the companies as well.

Due to the nature of qualitative research, a generalization cannot be made in this research,

which was carried out with the aim of determining the strategies of international enterprises in Edirne to open up to international markets (Patton, 2014: 3-37). However, all of the 56 enterprises registered to ECCI, which is the main body of the research have been addressed and by interviewing all of the 20 businesses that accepted to be interviewed, the given information have been included in the research. For this reason, it is thought that with the findings obtained from the research, a limited international trade model proposal with Edirne Province can be put forward and this model proposal will benefit regionally and therefore nationally.

Figure 6. A Model Suggestion Specific to Edirne Province Regarding International Trading



In the model proposed in Figure 6, for the Edirne enterprises to open up to international markets, providing the necessary government supports and assurances in addition to the VAT refund support currently provided, particularly the agricultural sector being in the first place, sectors' support each other are extremely important. For example, Turkey is an important country in textile industry area. Yet, it is possible to reduce foreign dependency and foreign exchange output by becoming self-sufficient in raw materials as much as possible. Further, carrying the practices forward by providing information on both sectoral, technical and new practices with trainings that will include all stakeholders, delivering regional practices similar to the border trade practice implemented between Bulgaria and Edirne in the past, ensuring an environment of economic stability in the sense of policy, in order to ensure the sustainability of all these practices listed constitute the inputs of the model. With these inputs presented, each stage of implementation process should be followed up by ECCI, local municipality & Governorate and general administration, and the necessary supports should be provided. In consequence of these implementations, in regional and national terms the international recognition may increase, an increase of the inflow of foreign currency may be ensured, and this situation may have a positive impact on current account deficit of our country. In consequence of paying attention to this model in the projects which will be manifested by the local administration, general administration and NGOs who are responsible with the implementation of this model internationally, it is thought that a regional and hence a national development can be obtained.

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

Türkiye'deki turizm gelirleri ile ekonomik büyüme arasındaki nedensellik ilişkisi

The causality relation between tourism income and economic growth in Turkey

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Öz

Turizm sektörü gelişmiş ülkeler için ekonomiyi dengeleyici bir unsur olması, gelişmekte olan ülkeler için ise ekonomik büyüme ve kalkınmayı sağlamak açısından önem arz eder. Türkiye'de turizm aktif olarak 1980 yılından itibaren hız kazanmaya başlamış olup gerek makro ekonomik değişkenlere etkisi gerekse büyüme ve kalkınmanın sağlanmasına ilişkin önemi nedeniyle öne çıkan bir sektör olmuştur. Bu çalışmada turizm gelirlerinin Türkiye ekonomisine etkilerine ilişkin literatür taraması gerçekleştirilmiştir. Ardından, 1980-2022 yıllarına ilişkin veriler kullanılarak ekonomik büyüme ve turizm gelirleri arasındaki ilişki nedensellik analizi aracılığıyla test edilmiştir. Turizm gelirlerinin, ekonomik büyüme üzerinde etkili olduğu sonucu bulunmuştur.

Anahtar kelimeler: Turizm Gelirleri, Ekonomik Büyüme, Nedensellik

JEL kodları: O40, O11, L83

Abstract

Tourism sector plays an important role both for developed countries by balancing the economy and for developing countries by fostering economic growth and development. Gaining momentum actively since 1980, tourism in Turkey has been a significant sector thanks to its positive effects not only on macro-economic variables, but also on growth and development. This study carries out a literature review as to the effects of tourism income on Turkish economy. After that, it tests the relation between economic growth and tourism income through causality analysis, based on the data from 1980 to 2022. As a result, the study finds that tourism has significant effects on economic growth.

Keywords: Tourism Income, Economic Growth, Causality

JEL codes: O40, O11, L83

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1. GİRİŞ

Türkiye mevcut coğrafi konumu ile ayrıcalıklı bir ülkedir. Bu durum Türkiye'nin turizm açısından çekici hale gelmesine neden olmaktadır. Türkiye gerek tarih ve kültür turizmi gerek deniz turizmi gerekse sağlık turizmine ilişkin popüler bir merkez konumdadır. Gelişmiş ülkeler için turizm sektörü; sürdürülebilirliği sağlayan bir faktör iken gelişmekte olan ülkeler için ise büyümenin itici gücünü oluşturur.

Turizm gelirleri ülkelerin makro ekonomik değişkenleri üzerinde de önemli etkiler yaratmaktadır. Döviz kazancını arttırmada ve ödemeler dengesi bilançosundaki dış ticaret kalemlerini temsil eden cari açığın kapatılmasında turizm gelirleri önemli rol oynar. Bunun yanı sıra yeni istihdam alanlarının yaratılmasına olanak sağladığından işsizliği azaltır. Üretimi arttırarak büyümeyi destekler (Kara, Çömlekçi ve Kaya, 2012: 79).

Küreselleşmenin ve dışa açılmanın da etkisi ile 1980 yılı sonrasında turizm sektörü Türkiye ekonomisinin büyümesi için bir güç kabul edilmektedir. Türkiye'de turizmin ivme kazanmasında 1982 tarihinde yürürlüğe giren 2634 sayılı "Turizmi Teşvik Kanunu" ve turizme verilen yatırım teşvikleri ile mali desteğin de önemi büyüktür. (Kara, Çömlekçi ve Kaya, 2012:77).

Covid-19 pandemisi nedeniyle yaşanan kapanma süreci nedeniyle etkilenen turizm sektöründe 2019 yılı sonrasında özellikle turistlere pandemi şartlarında sağladığı ayrıcalıklar nedeniyle en çok turist gelen ilk beş ülke arasında olan Türkiye 2020 yılında 15,9 milyon turisti ağırlamıştır. Türkiye'deki bu sayı 2021 yılında 29,9'a çıkmış olup Türkiye en çok turist gelen ülkeler arasında dördüncü sırayı almıştır (UNWTO,2023).

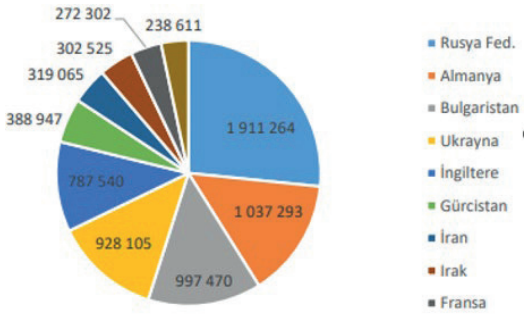
Tüm dünyadaki turizmin pandemi **sürecinden** olumsuz etkiler aldığı görülmektedir. Türkiye'ye de toplam gelen turist sayısı düşerek 2020 yılında 15,9 milyon olmuştur. 2021 yılında pandeminin etkilerinin yavaşlayıp, açılmaların başlaması ve pandemiye ilişkin uygulanan politika değişiklikleriyle Türkiye; 29,9 milyon ile en çok turist gelen dördüncü ülke olmuştur. Dünya genelinde pandeminin başlangıç yılı olan 2019 **yılı ve** sonrasında 2020, 2021 yıllarında en çok turiste ev sahipliği yapan ülke sırasıyla 41,7, 48,4 milyon ile Fransa olmuştur (UNWTO,2023).

Şekil 1'de göründüğü üzere, Türkiye'nin, 2020 yılının ilk 10 ayında en çok ziyaretçi aldığı ülkelerin başında Rusya ve Almanya gelmektedir. Ardından Bulgaristan, Ukrayna, İngiltere, Gürcistan, İran, Irak ve Fransa Türkiye'ye en çok turist olarak gelen ülkeler arasındadır. 2019 yılındaki pandemi sonrasında gelen ziyaretçi sayılarında düşüş yaşamasına rağmen ana pazarlarındaki sıralamada bir değişiklik olmamıştır (TÜRSAB,2020).

2. TURİZM GELİRLERİ ve TÜRKİYE EKONOMİSİ

Turizm sektörünün ekonomiye en önemli etkileri döviz girdisi sağlaması ve ticareti arttırmasıdır. Ekonomiye ilişkin bu pozitif etkileri nedeniyle turizme olan yatırım her geçen gün artmaktadır (Henderson, 2007:33-34). Özellikle gelişmek-

Şekil 1. Ocak- Ekim 2020 Döneminde Türkiye'ye En Çok Ziyaretçi Gönderen İlk 10 Ülke



Kaynak: TÜRSAB, 2020 https://www.tursab.org.tr/istatistikler/diger-istatistikler, [Erişim Tarihi: 03.01.2023].

te olan ekonomilerin önemli gelir kaynağı olan turizm faaliyetine duyulan ihtiyacın nedeni turizmin ülkeye dövizi girişi sağlayan, istihdam olanaklarını artıran ve refah düzeyi yüksek bir yaşam tarzına ulaştıran bir sektör olmasıdır. Turizm faaliyetlerinin gerçekleşmesi sonucunda turizm bölgesindeki mal ve hizmet alışverişi bölgenin gelir kaynaklarını da genişletmektedir (Bozgeyik ve Yoloğlu, 2015:625).

Turizmin ekonomik büyümede pozitif etkisi olduğunu gösteren beş önemli gösterge mevcuttur. Bunlardan birincisi; üretimde kullanılan malların girdilerine ilişkin önemli bir döviz geliri sağlar. İkinci unsur; yerli firmaların turistik bölgelerdeki değişimi, takip eden firmalar arasında yeni altyapı ve yatırımlardan esinlenip rekabet ortamı oluşturmasında önemli bir kaynaktır. Üçüncü etkisi; farklı endüstrilerin gelişimini doğrudan ya da dolaylı olarak etkileyip destekler. Dördüncü etkisi; turizm istihdam sağlayarak geliri arttırır. Beşincisi ise; Ar-Ge faaliyetlerini teşvik eder, teknik bilgi artar ve beşerî sermaye birikimi açısından önemli bir faktör olarak kabul edilir (Bingöl, Pehlivan ve Ayşegül, 2020:248).

Türkiye'ye gelen turistlerin ülkeye geliş nedenlerinin çoğunluğunu Türkiye'nin coğrafi konum, iklim, tarih ve doğal güzellikleri oluşturmaktadır. Ancak bunun yanı sıra Türkiye'nin dünyada popüler bir mutfağa sahip olması turistleri çeken önemli bir unsurdur. Türkiye'ye gelen turistlerin yapmış oldukları harcama kalemleri incelendiğinde turistler için yeme içme önemli bir harcama kalemidir. Bunun yanı sıra sağlık turizminin özellikle 2018 yılından sonra artan ivmesi dikkat çekmektedir (Tablo2).

20.06.1980 günü 8/1133 sayılı "Turizm Teşvik Çerçeve Kararı" yasal çerçeve kapsamında turizm sektörüne ilişkin yeni hedefler belirlenmiş-

Tablo 1. Ülkelere Gelen Turist Sayıları (Milyon)

	Türkiye	**Fransa**	**İtalya**	**Meksika**	**İspanya**	**Amerika**
2020	15,9	41,7	25,2	24,3	İlk 5'te yok	19,2
2021	29,9	48,4	26,9	31,9	31,2	İlk 5'te yok

Kaynak: UNWTO, https://www.unwto.org/tourism-data/global-and-regional-tourism-performance, [Erişim Tarihi: 09.01.2023].

Tablo 2. Türkiye'ye Gelen Turistlerin Harcama Detayları

Harcama türü Detayları (Bin $)											
Yıllar	Yemeğe ve içmeye ilişkin harcamalar	Konaklamaya ilişkin harcamalar	Sağlık harcamaları	Türkiye İçi Ulaşım Harcamaları	Spor, eğitim, kültür	Turlara ilişkin hzmet harcamaları	Yerli uluslararası ulaştırma	Diğer mal-hizmet harcamaları	Giyecek ve ayakkabı	Hediyelik eşya	Diğer harcamalar
2012	6 138 781	3 053 647	627 862	1 706 185	188 648	289 712	3 466 105	6 749 262	2 991 698	1 673 513	2 084 051
2013	6 583 641	3 544 120	772 901	1 779 404	176 695	325 296	4 150 479	7 502 821	3 428 138	1 887 446	2 187 237
2014	6 523 852	4 202 131	837 796	1 962 824	171 526	327 907	4 580 382	7 396 533	3 632 433	1 900 387	1 863 714
2015	6 178 908	4 084 873	638 622	2 202 484	482 621	126 535	4 723 417	6 679 843	3 215 423	1 510 193	1 954 228
2016	5 108 647	2 507 120	715 438	1 772 267	295 109	55 804	3 269 461	5 132 957	2 607 763	1 024 129	1 501 065
2017	5 860 227	3 084 004	827 331	1 967 012	291 988	105 515	3 700 777	5 896 442	3 155 620	1 266 202	1 474 620
2018	5 933 587	3 299 496	863 307	1 943 636	347 688	117 374	4 191 515	6 168 843	3 326 167	1 260 846	1 581 830
2019	6 645 564	4 221 419	1 492 438	2 229 114	329 520	142 047	4 607 257	9 215 770	4 929 923	1 095 212	3 190 634
2020	3 085 147	1 520 120	1 164 779	867 675	128 475	30 744	1 882 315	3 871 630	1 976 831	419 159	1 475 640
2021	5 224 179	3 016 271	1 726 973	1 649 295	197 741	80 318	3 577 942	9 456 557	4 559 213	795 057	4 102 287

Kaynak: TÜİK, 2022, https://data.tuik.gov.tr/Bulten/Index?p=Turizm-Istatistikleri-I.-Ceyrek:-Ocak---Mart,-2022-45786, [Erişim Tarihi: 15.01.2023].

tir. Yatırımların arttırılması gereken alanların tespit edilerek planlama yapılması ve sektör için yeni kaynak alternatiflerinin yaratılması ile bu alana ilişkin yabancı sermayenin özendirilmesi konu başlıklarını içerek "Turizm Koordinasyon Kurulu" oluşturulmuştur. 2634 sayılı Turizm Teşvik Kanunu, 1982 yılında yürürlüğe girmiş ve bugünkü turizm sektörünün gelişmesinde önemli bir basamak olmuştur. Bu yasa yardımı ile turizm merkezleri belirlenmiştir. Bu potansiyel merkezlerde yer alan kamu arazilerinin yatırımcıya tahsis edilmesi 1982'den sonra yatırımları arttırmıştır (Toker, 2007:82-83).

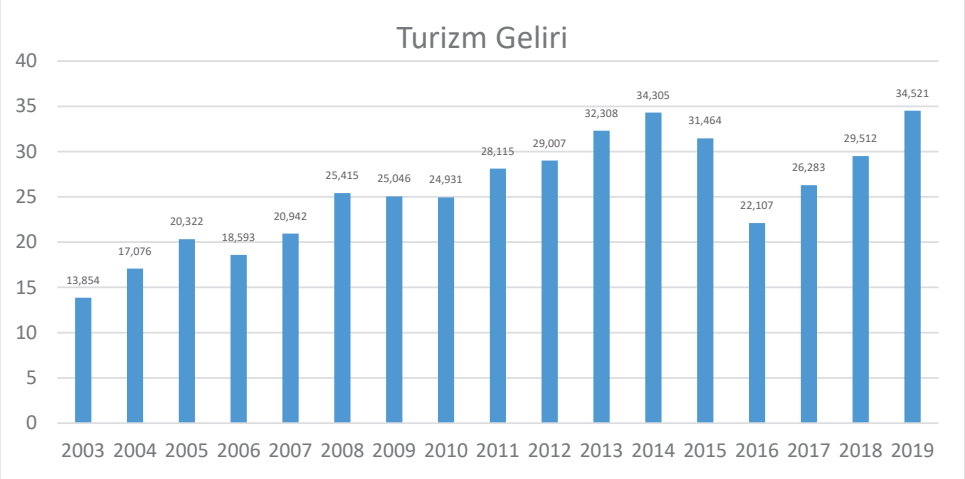
1980 yılından sonra turizm gelirleri ve turizmin GSYİH içerisindeki payı artmıştır. 1980'de %0,6 olan turizm gelirinin GSYİH içerisindeki payı 2019'de %4,5 seviyesine erişerek turizmin gelişim hızını desteklemektedir (Şahin, 2018: 241). 2003 yılında 13.854 bin dolar olan turizm gelirleri, 2019 yılında iki katından fazla artarak 34,521 bin dolar olmuştur (Tablo3).

3. LİTERATÜR TARAMASI

Türkiye'nin turizmden elde ettiği gelirleri ve ekonomik büyümesi arasındaki ilişkiyi araştıran pek çok çalışma bulunmaktadır. Bunlardan bazıları turizm ile ekonomik büyüme arasında ilişki olduğunu ortaya koyarken, bazı çalışmalar ise iki değişken arasında ilişkinin olmadığı sonucuna varmıştır.

Uysal, Erdoğan ve Mucuk'un 2004 yılında gerçekleştirdiği 1992-2003 yılları arasındaki GSYH ile turizm gelirleri ilişkisini Granger nedensellik testi aracılığıyla inceleyen çalışması sonucu; ekonomik büyüme ve turizm gelirleri arasında pozitif yönlü ilişki tespit edilmiştir. Yıldırım ve Öcal'ın (2004) 1962-2002 yılları arasında Reel Turizm Gelirleri, GSMH, reel tasarruflar ve iş gücü arasındaki ilişkiyi VAR analizi ile inceleyen çalışması sonucunda şu saptama yapılmıştır: Ekonomik büyüme ve turizm ilişkisi kısa vadeli değildir. Turizm gelirleri uzun dönemde büyümeyi teşvik eden bir faktördür. Demiröz ve Ongan'ın (2005) 1980-2004 yılları arasındaki GSMH ve Turizm Gelirleri verileri ile gerçekleştirdiği nedensellik analizi sonucunda kısa ve uzun dönemde iki değişken arasında nedensellik ilişkisi bulunmuştur. Bahar (2006), 1963 ile 2004 yılları arasında Turizm Gelirleri ve GSMH arasındaki ilişkiyi değerlendirdiği VAR modeli sonucunda iki değişken arasındaki ilişkinin uzun dönemli olduğunu tespit etmiştir. Değer (2006), 1980-2005 yılları arasında, turizm gelirlerini, toplam döviz gelirlerini, Gsmh'deki değişim oranını ve ihracat gelirlerini SEK ve Johansen Eşbütünleşme testi ile değerlendirmiştir. Analiz sonucuna göre, turizm gelirleri kısa vadede ekonomik büyümeyi etkilemezken uzun vadede etkilemektedir. Özdemir ve **Öksüzler'in** (2006) 1963-2003 arasında GSMH, turizm gelirleri ve reel döviz kuru arasındaki ilişkiyi Johansen Eşbütünleşme ve Vektör Hata Doğrulama Modeli ile ölçtüğü çalışması sonucunda gerek kısa gerek de uzun vadede turizmden ekonomik

Tablo 3. Turizm Gelirleri



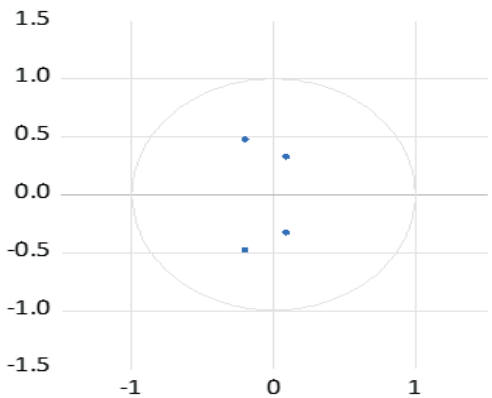
Kaynak: TÜRSAB, https://www.tursab.org.tr/istatistikler-icerik/turizm-geliri, [Erişim Tarihi: 10.01.2023].

büyümeye tek yönlü bir ilişki tespit edilmiştir. Yavuz (2006), 1992-2004 yılları arasında GSYİH ile turizm gelirlerini Granger Nedensellik ve Toda Yamamoto Testleri ile incelemiş, nedensellik ilişkisi bulamamıştır. Arslan (2008) 1992-2007 yılları arasındaki GSMH, reel döviz kuru, uluslararası turizm gelirleri ve sermaye birikimi değişkenlerini Johansen Eşbütünleşme ve Granger Nedensellik testleri ile incelemiş, turizm gelirleri ile ekonomik büyüme arasında uzun dönemde ilişki saptamıştır. Çetintaş ve Bektaş (2008) tarafından 1964-2006 yılları arasındaki GSYİH ile turizm gelirleri arasında gerçekleştirilen nedensellik analizi sonucunda kısa dönemde bir ilişkiye rastlanmazken uzun dönemde tek yönlü ilişki tespit edilmiştir. Kızılgöl ve Erbaykal'ın (2008) 1992 ile 2006 yılları arasında GSYİH ve turizm gelirleri değişkenlerine ilişkin Toda-Yamamoto testleri ile gerçekleştirdiği çalışma sonucunda turizm gelirleri ve ekonomik büyüme arasında tek yönlü ilişki bulunmuştur. Katırcıoğlu (2009), 1990-2006 yılları arasında GSYİH ile gelen turist sayısı verilerini Toda- Yomamoto testi ile incelemiş, turizm gelirleri ve ekonomik büyüme arasında tek yönlü ilişki bulmuştur. Zortuk'un (2009) çalışmasında 1990-2008 yılları arasındaki büyüme, gelen turist sayısı ile döviz kuru değişkenleri kullanılarak nedensellik analizi gerçekleştirilmiştir. Yalnızca turistlerin sayısı ve ekonomik büyüme arasında tek yönlü ilişki bulunmuştur. Hepaktan ve Çınar'ın (2010) 1980-2008 yılları arasında yabancı turist sayısı, net turizm gelirleri, büyüme ve ödemeler dengesi değişkenleri ile gerçekleştirdiği nedensellik analizi sonucunda turizmin ekonomik büyüme üzerinde etkisinin olmadığı saptanmıştır. Arslantürk, Balcılar ve Özdemir (2011) 1963-2006 yılları arasındaki turizm gelirleri ve GSMH değişkenlerini Granger Nedensellik ve Vektör hata doğrulama modeli ile analiz etmiş, 1980'lerin başlarında değişkenler arasında nedensellik ilişki tespit etmiştir. Akkemik (2012), 1996-2002 yılları arasında GSMH elastikiyeti, turizm gelirleri, katma değer ve istihdam verilerini sektörel sosyal hesaplamalar yöntemi ile analiz etmiş olup uluslararası turizmin GSMH elastikiyetini zayıf katma değer ve istihdama ilişkin yetersiz olarak tespit etmiştir. Kara, Çömlekçi ve Kaya'nın (2012) 1992-2011 yılları arasındaki reel üretim endeksi, turizm gelirleri, cari işlemler açığı ve reel döviz kuru değişkenleri ile gerçekleştirdiği analiz sonucunda büyüme ve turizm gelirleri arasında tek yönlü nedensellik ilişkisi bulunmuştur. Turizm gelirlerinden cari işlemler dengesine karşılıklı ve döviz

Tablo 4. ADF Birim Kök Sınaması Sonuçları

Değişkenler		Sabit Trendli ADF-t İstatistiği	Prob. Değeri
TUR	Düzeyde	-0.874661	[0.9486]
GSYİH		-2.679531	[0.2499]
DTUR	1.Fark	-6.561146	[0.0000]
DGSYİH		-6.513308	[0.0000]

Şekil 2. VAR Modeli için Karakteristik Testler



kurundan turizm gelirlerine doğru tek yönlü bir nedensellik ilişkisi saptanmıştır. Polat ve Günay'ın (2012) turizm gelirleri, GSMH ve ihracat gelirleri değişkenleri ile 1992-2011 yılları arasında gerçekleştirmiş olduğu analiz sonucunda ihracat ve turizm gelirlerinden ekonomik büyümeye doğru tek yönlü bir nedensellik ilişkisi bulunmuştur. Yamak, Tanrıöver ve Güneysu'nun (2012) 1968-2006 yılları arasında reel GSMH, turizm gelirleri, sanayi, tarım ve hizmet sektörüne ilişkin Engle-Granger Eşbütünleşme Testi ile gerçekleştirmiş olduğu çalışmada bu değişkenler arasında uzun dönemli bir ilişki tespit edilememiştir. Topçuoğlu ve Bozkurt'un (2013) 1970-2011 yılları arasında GSHH, turizm gelirlerinin ihracat içerisindeki payı, ihracat ve ithalat toplamının GSYH'ya oranı ve reel döviz kuru değişkenler ile gerçekleştirilen analiz sonucunda Turizm ve ekonomik büyüme arasında gerek uzun gerek de kısa vadede nedensellik ilişkisi bulunmuştur. Özer ve Kırca (2014) tarafından 2003-2012 arasında turizm gelirleri, toplam ihracat hacmi ve sanayi üretim endeksinin ilişkisi Johansen Eşbütünleşme Analizi ve Granger Nedensellik Analizi ile teste edilmiş olup kısa dönemde büyüme ile turizm gelirlerinden ihracata ve büyümeden turizm gelirlerine doğru bir nedensellik ilişkisi tespit edilmiştir. Samırkaş ve Samırkaş'ın (2014) 2003-2013 dönemleri arasında reel turizm gelirleri üzerine gerçekleştirilen reel GSYİH ilişki Granger Nedensellik analizi sonucunda kısa dönem için karşılıklı nedensellik ilişkisi oldu saptanmıştır. Bozgeyik ve Yoloğlu'nun (2015) 2003-2013 yılları arasında turizm gelirleri ile GSYİH değişkenlerini kullanarak gerçekleştirdiği nedensellik analizi sonucunda turizm gelirlerinin nedensellik üzerinde etkili olduğu sonucuna varılmıştır. Kaygısız (2015), 2003-2013 yılları arasında net turizm gelirleri ve GSYİH ilişkisini nedensellik analizi ile test etmiş, net turizm gelirlerinden ekonomik büyümeye tek yönlü bir nedensellik ilişkisi tespit etmiştir. Topallı (2015), turist sayısı ve reel GSYİH değişkenleri arasında ile 1963-2011 yılları arasında bir ilişki tespit edememiştir. Kızılkaya, Sofuoğlu ve Karaçor (2016), turist sayısı, turizm gelirleri ve GSYİH ilişkisini 1980-2014 yılları arasında ARDL sınır testi ile sınamış ve gerek uzun gerek kısa vadede turizm gelirlerinin ekonomik büyümede etkili olduğunu saptamıştır. Ertuğrul Yıldırım ve Ayhan (2017), 2009-2015 yılları arasında turizm gelirlerini Wawelet analizi ile incelemiş, turizm gelirlerinin birim köke sahip olmadığını ve turizm sektörüne ilişkin şokların ise geçici olduğunu tespit etmiştir. Çınar ve Ülker (2018), 1977 ile 2013 yılları arasındaki turizm gelirleri ve GSMH verileri ile ARDL sınır testi gerçekleştirerek iki değişken arasında kısa ve uzun dönemde ilişki olduğunu tespit etmiştir. Şahin'in (2018) 1980-2016 yılları arasındaki ekonomik büyüme ve turizm gelirleri verilerini kullanarak gerçekleştirdiği VAR analizi sonucunda ekonomik büyüme ve turizm gelirleri arasında kısa ve uzun vadede ilişki bulunmuştur. Kızılkaya (2018), 1965-2016

Tablo 5. Eşbütünleşme Testinin Sonuçları

İz (Trace) Testi					
Boş Hipotez	**Alternatif Hipotez**	**Özdeğer İstatistiği**	**İz İstatistiği**	**Kritik Değer %5**	**Olasılık**
r=0	r≥1	0.408467	33.92230*	15.49471	0.0000
r≤ 1	**r≥2**	0.307643	13.97085*	3.841465	0.0002

Maximum Eigenvalue Testi					
Boş Hipotez	**Alternatif Hipotez**	**Özdeğer İstatistiği**	**Max-Eigen İstatistiği**	**Kritik Değer %5**	**Olasılık**
r=0	**r=1**	0.408467	19.95145*	14.26460	0.0057
r≤ 1	**r=2**	0.307643	13.97085*	3.841465	0.0002

r ifadesi tümleşik vektör sayısını ifade etmektedir.
* simgesi, boş hipotezin %95 güvenilirlikte reddedildiğini göstermektedir.

Tablo 6. Hata Düzelme Modeline (VECM) Dayalı Granger Nedensellik Testi Sonuçları

Boş Hipotez	**X2 İstatistiği**	**Prob. Değeri**
Turizm GSYİH'nın nedeni değildir.	20.28865	0.0000
GSYİH Turizm'in nedeni değildir.	1.262758	0.5319

yılları arasındaki büyüme ve turizm gelirleri verileri ile bootstrap nedensellik analizi gerçekleştirmiş ve değişkenler arasında bir ilişki saptayamamıştır. Yenisu (2018), ekonomik büyüme ve turizm gelirleri ilişkisini 2013-2018 yılları arasında analiz etmiş olup analiz sonucunda turizm gelirlerinin ekonomik büyüme üzerinde tek yönlü bir nedensellik ilişkisine sahip olduğunu saptamıştır. Dereli ve Akiş (2019) tarafından 1970-2016 arasındaki turizm gelirleri ve büyüme değişkenlerini kullanarak gerçekleştirilen nedensellik analizinde kısa vadede ilişki bulunamamışken, uzun vadede iki değişkenin ilişkili olduğu sonucuna ulaşılmıştır. Altıner (2019), 1969-2018 dönemine ait turizm geliri, büyüme, nüfus ve enflasyon değişkenlerini kullanarak ARDL yaklaşımını uygulamıştır. Sınır testi göstermiştir ki seriler arasında uzun vadeli bir ilişki vardır. Şahin, Durmuş ve Beşcanlar (2021) tarafından, 2012- 2019 dönemi turizm gelirleri, sanayi üretim endeksi, istihdam oranı ve enflasyon verileri kullanılarak gerçekleştirilen analiz sonucunda uzun dönemli nedensellik tespit edilmiştir. Şahin, Özkurt ve Bilgir (2022) tarafından, 1980-2020 yılları arasında turizm gelirleri ile ekonomik büyüme ilişkisi ARDL modeli ile analiz edilmiş, kısa ve uzun dönemde pozitif ilişki ortaya konulmuştur.

4. ANALİZ

4.1.VERİ SETİ ve YÖNTEM

Türkiye'deki ekonomik büyüme ve turizm gelirleri ilişkisini araştıran bu çalışmada T.C Kültür ve Turizm Bakanlığı ile Dünya Bankası veri tabanından alınan veri seti kullanılmıştır. 1980-2021 yılları arasındaki yıllık verilerin dahil edildiği analizde Gayri Safi Yurtiçi Hasıla (GSYİH) ile turizm geliri (TG) değişkenleri kullanılarak ekonomik büyüme ve turizm harcamaları arasındaki ilişki araştırılırken aşağıdaki model uygulanmıştır:

$$GSY\dot{I}H_{y=} \alpha_0 + \alpha_1 TG + \mu_t$$

Turizm gelirleri verisi ise, Dünya Bankası'ndan çekilerek GDP deflatörü yardımıyla seri reel hale dönüştürülmüştür. Bunun yanı sıra iki değişkene ilişkin serinin logaritmaları alınmak suretiyle analiz gerçekleştirilmiştir.

Bu çalışmada serilerin durağanlığını belirlemek üzere Genişletilmiş Dickey-Fuller (ADF) testleri kullanılmıştır. Modeldeki bağımlı ve bağımsız değişken arasındaki ilişkiyi tespit etmek için ilk olarak VAR modeli ile Johansen Eşbütünleşme tekniği kullanılmıştır. Ekonomik büyüme ile turizm gelirleri arasındaki uzun vadeli ilişkinin yönü Hata Düzeltme ile Geliştirilmiş Nedensellik Analizi testleri uygulanarak tespit edilmiştir.

4.2. BULGULAR

Modelde kullanılacak serilerin durağanlıkları birim kök testleri aracılığıyla analiz edilebilir. Birim kökün varlığını test edebilmek için farklı metotlar kullanılabilir. Bu çalışmada serilerin durağan olup olmadıklarını saptamak amacıyla Genişletilmiş Dickey-Fuller (ADF) testi kullanılmıştır. Bu test sonucuna göre ortaya çıkan sonuçlar Tablo 4'te gösterilmektedir.

Sabit terimli ve trendli model için, MacKinnon kritik değerleri %1, %5 ve %10 anlamlılık düzeyleri için sırasıyla-4.20,-3.52 ve-3.19'dur. Köşeli parantez içinde yer alan değerler ise olasılık değerlerini ifade eder. TUR ve GSYİH değişkenlerinin seviye değerleri için elde edilen ADF-t istatistiğinin mutlak değerleri sırasıyla %1, %5 ve %10 anlam seviyeli MacKinnon mutlak değerlerinden daha küçük olduğundan durağan olmadıkları tespit edilmiş ve analize ilişkin sonuçlar Tablo 4'te gösterilmiştir. Bu değişkenlerin birinci farkları alındığında tüm değişkenlerin durağan hale geldiği görülmüştür. Değişkenlerin bir farkları alındığında durağan olması durumu VAR analizi ve beraberinde eşbütünleşme analizinin gerçekleştirilmesine olanak sağlar.

VAR modeli, seçilen bütün değişkenleri birlikte ele alarak bir bütünlük içerisinde incelemeye olanak sunan modeldir (Enders, 1995:327). VAR modeline ilişkin önce değişkenlerin kaç gecikmesinin alınacağının tespit edilmesi gerekir. Bu çalışmada VAR modeline ilişkin gecikme uzunluğu 2 olarak saptanmıştır.

İki gecikmeli modele ilişkin karakteristik ters kökleri Şekil 2'de gösterilmiştir. AR köklerinin tümünün birim çemberin içinde konumlanması hali bu modelin durağanlığını ifade etmektedir. Bu sebeple iki gecikmeli VAR modeli, doğrulama testleri bakımından etkin olarak çalışmaktadır.

Johansen Eşbütünleşme testi yardımıyla ekonomik büyüme ile turizm gelirleri arasındaki uzun vadeli ilişki belirlenmiştir. Johansen ve Juselius (1990), koentegrasyon vektörlerinin sayısı ile anlamlılığını tespit etmek için farklı iki test önermiştir. İz istatistiği yardımıyla en fazla r tane eş bütünleşme var sıfır hipotezi ile r'den fazla eş bütünleşme vektörü var alternatif hipotezi test edilmektedir. En Büyük Öz Değer istatistiği ile eşbütünleşme gerçekleştiren vektör sayısının r olduğunu gösteren sıfır hipotezine karşın, r+1 tane koentegre olmuş vektör olduğunu gösteren alternatif hipotezi eşbütünleşme testi ile ortaya konmaktadır. (Topallı, 2005:345).

H_0 hipotezi değişkenler arasında r veya daha az sayıda eşbütünleşik ilişki bulunmadığını gösterirken; genel alternatif hipotez ise değişkenler arasında r sayıda eşbütünleşmenin varlığını ifade eder (Lutkepohl, Saikkonen ve Trenkler, 2001: 287-310). İz testine göre r=0 sıfır hipotezi, test istatistik değerlerinin %5 anlam düzeyinde tablo kritik değerinden büyük olması sebebiyle reddedilir. En büyük özdeğer istatistiğine ilişkin olarak eşbütünleşme yoktur sıfır hipotezi yine reddedilmektedir. Sonuçlar göz önüne alındığında modelde iki tane eşbütünleşme ilişkisi olduğu kabul edilmiştir.

VECM'e dayalı iki gecikmeden tahmin edilen değişkenler arasındaki nedensellik ilişkisi testi sonucu Tablo 6'da gösterilmektedir. Bu sonuca göre; "turizm gelirlerinin GSYİH üzerinde etkisi yoktur" boş hipotez reddedilmektedir. GSYİH ile turizm gelirleri arasında tek yönlü bir nedensellik ilişkisi bulunmuştur. Bu ilişkinin yönü turizm gelirlerinden GSYİH'ye doğrudur. Bu sonuca göre turizm gelirleri ekonomik büyüme üzerinde etkilidir.

5. SONUÇ

Bu çalışmada 2003-2021 yılları arasındaki GSYİH ve turizm gelirleri verileri ile eşbütünleşme ve nedensellik analizleri gerçekleştirilmiştir. Analiz sonucunda; GSYH ile turizm gelirleri arasında gerek kısa gerek uzun dönemde bir nedensellik ilişkisi bulunmuştur. Hal böyleyken, turizm gelirlerinde gerçekleşen artış, büyümeyi etkilemektedir. Bu doğrultuda Türkiye'nin turizm sektörüne ilişkin sahip olduğu coğrafi, tarihi, sosyal ve doğal güzellik ayrıcalıklarını sektöre ilişkin izleyeceği politikalar ile de destekleyerek ekonomik büyüme hızını arttırabilmesi mümkündür. Türkiye sahip olduğu ayrıcalıkları ve turist çeken özellikleriyle dünyanın önde gelen turizm merkezlerinden biri olabilir. Bu potansiyelini kullanabilmesi ve ülkeye turizm talebini arttırabilmesi adına turizme ilişkin çeşitliliğin arttırılması, teşviklerin sağlanması, tanıtımların etkin yapılması, ülkedeki iç huzur ve güvenliğin sağlanması gerekmektedir. Türkiye'deki sürdürülebilir turizm gelirinin artması makro ekonomik değişkenleri de etkiler. Özetle, bu çalışmanın sonucunda, gelişmekte olan bir ülke olan Türkiye'de artan turizm gelirinin büyüme üzerinde etkili olduğu görülmektedir. Bu doğrultuda, sürdürülebilir büyümenin sağlanması adına önemli bir ekonomik faktör olan turizm gelirlerinin arttırılması adına devletin uygulayacağı destekleyici politikalar artırılmalıdır. Bu sayede, Türkiye turistler açısından daha cazip bir hale getirilerek, turizm gelirleri artacak ve ekonomik büyüme olumlu etkilenecektir.

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

Examining the impact of tax policies and institutional reforms on economic growth: A systematic approach on Djibouti

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Abstract

Institutions are rules, guidelines, and regulations that regulate how agents participate in economic transactions, such as the purchasing and selling of commodities and services, as well as the usage of assets. They impact the objectives of major economic players in society, influencing expenditures in both tangible and intellectual capital, technology, and commodity. It also entails proper amounts of tax collections, which are critical for long prosperity, but many nations' tax systems persist in their poorest connection in the encouragement of progress and state-building. Hereby, the present study examined the role of tax policies and institutional reforms in promoting the economic growth of Djibouti during the period 2000 to 2021. The paper employed a Vector Error Correction model (VECM) and a Granger causality test to capture the long-run and short-run dynamic connection between the variables. As well as determining the direction of these associations. The findings presented that during the short-run tax policies and institutional reforms have an insignificant influence on economic growth. Whereas, the long-run outcome revealed that business taxes, government effectiveness, and institutional quality have a positive impact on economic growth. Further, the Granger causality test illustrated one-way causality between GDP, government effectiveness, and regulatory quality. The findings contribute by providing evidence to the region and for the country itself on the way of managing taxation and implementing rigorous institutional regulation in hope of promoting economic growth.

Keywords: Tourism Income, Economic Growth, Causality

JEL codes: O40, O11, L83

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1. INTRODUCTION

Both academics and policymakers are curious about whether taxes or the allocation of total tax revenue across various tax sources have a distinct impact on a nation's ability to expand under a given degree of fiscal pressure. For instance, the "common knowledge" on the link between taxes and economic growth; a switch from direct to indirect taxation is related to higher GDP growth. However, the above reasoning should be addressed carefully, as the IMF and the OECD, the two main international organizations that deal with economic issues, assert that high labor taxes are detrimental to economic growth and that a switch from direct to indirect taxes has a growth-enhancing impact on a country's GDP. Indeed, a lower-middle income country such as Djibouti, embracing an aggressive tax policy with its current income status might be reasonably harmful to the level of economic growth in the sense of impacting the rate of household consumption which alternatively is detrimental for the production sector. Likewise, the implementation of such severe taxation by the Djiboutian government without fully providing a compensation package such as investing in human capital sectors; e.g. Education, Health, and infrastructure; would only be considered completely ineffective, relatively when we take into account the overall performance of the country's growth which is undermined by poor policy taxation.

Several influential papers have addressed the effect of tax on economic growth; (Hanlon et al., 2015; Khlif and Hussainey, 2016), assert taxes have an effect on how the government spends its money; by contending that taxes are the primary source of infrastructure modernization, provides fund injection to public finance and in the best scenario transforms state's institutions to more sustainable structure, it is also the main source for public service provision, all of which are common pillars of economic growth in both developing and developed nations. Theoretically, other experts propose tax rate reductions and tax base expansions to lessen economic distortions while maintaining a steady degree of fiscal pressure. For instance, Consumption taxes make it possible to adhere to these standards, mainly, because it has a larger tax base than labor income and allows households to fund their consumption decisions with other sources of income than salaries. Additionally, by raising both the supply and demand for workers as well as investment, labor tax reductions should promote economic growth (Baiardi et al., 2019).

Although the negative effect of the abovementioned macroeconomic factor (Tax) on GDP has relatively been revealed by many studies however an influential paper demonstrated a collective negative impact on the GDP; establishing a dichotomy in the field of tax policy. In a group of 21 OECD nations spanning from 1971 to 2004, Arnold et al. (2011) found that tax revenue is adversely and substantially connected with per capita GDP, but a transition from direct to indirect taxation is favorably and strongly associated with per capita GDP. To be more specific, they establish a "tax and growth hierarchy" in which corporation taxes, individual income taxes, consumption taxes, and real estate taxes are the taxes that have the biggest negative effects on economic growth.

In fact, as much as scholars reconcile and emphasize tax reforms to accommodate the state's level of growth; the cost of such as transition should be taken into consideration. Kate and Milionis (2019) argue that tax reforms are to some extent costly, both in terms of the political costs and the administrative burdens they entail. Even when tax improvements are technically effective and unrelated to equality issues, the so-called status quo bias is substantial and imposes certain barriers. On the administrative side, complicated tax systems are also difficult to change, and when they are, the transition costs may be high and have a significant adverse effect on economic development, even ideally efficient tax measures may not be put into practice and, even if they are, they may not have a major impact on economic development.

Although tax is not the only driver of economic growth, institutional reforms also have a decent attributable share of economic betterment. Researchers' interest in understanding the factors that contribute to institutional variation between

nations and the critical processes through which institutional performance affects the standard of individual macroeconomic conditions has increased significantly over the past thirty years. The main finding of the majority of studies is that increasing the quality of institutions (via institutional reform programs) has a positive impact on economic development, investment, and innovation.

Indeed, numerous research findings have shifted more in favor of highlighting the beneficial effects of institutions for economic growth and development and in favor of establishing that economic development results in substantive institutional transformation and broader, progressive social change. The capacity of institutions to adjust to the shifting economic environment (via institutional reform transformation improvement programs) and to create new norms and practices for conducting transactions determines how well economies may expand (Buterin et al., 2017; Haidar, 2012; Nedić et al., 2020).

Institutional reforms are therefore crucial for a country's economy to run smoothly at any given time, but they also need a considerable period to offer impetus to market opportunities and technologies. Most frequently, the influence of institutional reforms is defined by the level of state's rule of law, political stability, and low levels of corruption which in turn is used to describe how institutions affect boosting economic activity and lowering uncertainty (Corrado and Rossetti, 2018). Similarly, when fostering an environment that encourages investment and growth, it is crucial to consider how the political, economic, and social climate is perceived and embodied via the effectiveness of institutions.

Consequently, the main contributions of this study to the literature comprise several aspects. First, we are focusing on East Africa, a lower-middle income country (Djibouti) with relatively unavailable and inexistent literature papers. Second, we juxtapose a potential macroeconomic factor (Tax) with a governmental-related variable (institutions). To the authors' knowledge, no research has yet taken into account incorporating both the ad hoc effect and the relationship between institutional reforms and Tax policy on GDP stimulation. By doing so, two tax component variables; namely tax on labor and business was selected, whereas bureaucratic effectiveness and Djiboutian regulatory quality were considered cardinal factors for institutional reforms. The current study employs a vector error correction model to capture the long-run association, while a granger causality test was performed to examine the causal effect between the selected variables. Finally, we empirically answer the following questions: Are the overall tax levied on the business sector and labor income interlinked with GDP growth in the short and long run, in the context of contributing to state economic growth? Does institutional reform implementation assist states' total GDP growth?

2. A REVIEW OF THE PREVIOUS WORK

2.1. Taxation and Economic Performance

A tax is an obligatory financial charge or another sort of imposition that is levied upon a taxpayer (an individual or other legal entity) by a governmental body in order to pay for certain public expenses. It is worth noting that taxation and the economy are interconnected; reasonably, the growth rate and taxation are all influenced by the economy's structure and pace of expansion, which reversibly affects the state's revenue depending on the situation. Additionally, taxes help to encourage structural change, welfare advancement, and economic progress (see Li, Xiong, and Xie, 2018; Dramane, 2022).

Simionescu and Albu (2016) examined how the typical value-added tax (VAT) affected five Central and Eastern countries' economic growth. Various panel data models, including the random effect, dynamic panel, and panel vector-autoregression, throughout the period of 1995 to 2015 revealed that the VAT had a favorable impact on economic growth. Similarly, the relationship between economic growth and the VAT exhibits a bidirectional Granger causation. Yet, only for Hungary did the Bayesian linear models show that the VAT had a favorable impact on GDP. On the other hand, when VAT rates rise, some nations see short-term declines in GDP rates.

Using the ARDL method, Mashkoor et al,. (2010)

studied the link between tax on income and the rate of economic growth between 1974 and 2009. The real GDP growth was greatly influenced by the direct tax to GDP ratio, which demonstrated that a high level of direct taxes could apparently accelerate GDP. Moreover, increasing consumption taxes while cutting taxes on labor and capital can promote the dynamics that drive economic growth. Nevertheless, some studies point out that depending on the country, the time period, and the environment, the influence of tax burden and tax system on economic activity will vary. For instance, in a study performed on twenty-eight EU, Stoilova (2017) contends that Selective consumption taxes, personal income taxes, and property taxes are more beneficial to economic progress. Reversely, Yazbeck. (2020) conducted on the funding of the healthcare sector through labor taxes in low- and low-middle-income nations. According to the author, there is little support for the implementation of labor-tax funding for health care in these nations, while there is a shred of ongoing evidence that such policy may raise inequality and split the health system.

The Literature focusing on African countries has also highlighted the significant role of taxation on economic betterment. Ojong, Anthony, and Arikpo (2016) researched how taxes affect the Nigerian economy. The study's goals were to investigate the effects of non-oil revenue on the Nigerian economy, firm income tax's effects on the economy of Nigeria, and the link between petroleum profit tax and the country's GDP. The association between the dependent and independent variables was established using OLS multiple regression models. The results showed a strong correlation between the growth of the Nigerian economy and the tax on oil profits. Additionally, the findings demonstrated that; non-oil earnings and the expansion of the Nigerian economy are significantly correlated. The research also showed that there is no connection between the growth of the Nigerian economy and corporate income tax. In a similar context, Okafor (2016) and Akwe (2014) looked into how income tax affected Nigeria's GDP. Their study used the same statistical approach and a number of federal income tax revenue ranging from 1981 to 2007. The outcome of the regression analysis revealed a strong and positive correlation between the various tax income components and the expansion of the Nigerian economy. Similarly, Onaolapo et al. (2013) investigated how value-added tax affected the creation of revenue. A stepwise regression analysis was used to analyze the data. The result demonstrated that value added tax positively impacted.

Furthermore, a study conducted by (Angelopoulos et al., 2007; Kate and Milionis, 2019) mostly contradicts previous studies on the negative effect of corporate income tax on the economy such as (Arnold et al., 2011) contend; higher corporation taxes may encourage private innovative activities and help produce funds for beneficial public investment and may promote growth while simultaneously introducing for the state some cutting edge technologies. The relationship between corporate tax rates and growth, on the other hand, may be more adverse for trailing nations that are more focused on technological imitation because they must entice foreign investment by lowering tax rates (Kasadha et al., 2020; Osipov, 2017).

Vatavu et al. (2019) studied the effect of tax on the welfare state; surprisingly, the findings confirmed that greater taxation injects the economy with higher quality deliverance. Nonetheless, their influence on human development (HDI) is considerably constrained. It is worth noting that people of nations with high HDI are more likely to pay more taxes over time, considering how taxes and well-being are associated. Therefore, realistic tax changes should entail a balance between equality and a respectable level of living that promotes a longer life expectancy, more tax revenues, and efficiency. It is worth noting that human development is predicted to have a link with taxes and economic progress as long as authorities can implement fiscal policies that boost social and cultural spending in order to improve people's well-being. The Scandinavian nations and Switzerland, which have high levels of government investments in public services like education, have the highest human development indices. In particular, Norway has a dual tax structure that levies flat taxes on capital in-

come and progressive taxes on labor income. The expansion of the economy is unaffected by these fiscal policies, despite their emphasis on high taxes and wealth distribution. In a similar vein, the Swedish government prioritizes income equality while offering top-notch services to its people; such as in the areas of retirement plans, healthcare, and education (Angell, 2011). In a formal way, the major models for contemporary welfare states are Sweden and Norway, as both countries offer social and economic benefits to all their residents while imposing substantial income taxes in order to close income gaps.

On the other hand, Baiardi et al. (2019) investigated the linkages between per capita GDP, tax receipts, and tax structure. The results showed that while there is no evidence of a strong association between revenue tax adjustments and economic growth, there is some indication of a negative and statistically significant association between tax and economic development. Certainly, the ideal tax rate and tax system depend on a variety of variables and vary greatly from nation to nation. In a similar vein, Kaneva et al. (2022) investigated how tax policy affected economic growth and assessed the contribution of relevant tax tools to accelerating several sector recoveries. The findings indicated that, between 2000 and 2021, tax levels in Central Europe and the Baltic States negatively impacted GDP per capita growth rates. Another important conclusion is that; the growth rates of real GDP per capita were favorably impacted by increases in both total employment and the investment-to-GDP ratio. Typically, based on empirical research, Vegh and Vuletin (2015) concluded that less procyclical tax policy was more common for economies with significantly better institutional environments and profound integration into the global financial markets.

Ahmad et al. (2018) also looked at the factual connection between Pakistan's economic development and indirect taxation. Annual time series data from 1974 to 2010 were utilized for the estimate. The study's primary goal was to determine the long- and short-term relationships between indirect taxes and economic development. The long-run and short-run relationships between the variables were estimated using the (ARDL) technique for cointegrations. The results showed that indirect taxes have a long-term, considerably, negative impact on economic growth, while having a negligible short-term impact. For intake, indirect taxes would rise by 1%, resulting in a 1.68 % decline in economic growth. In another paper, Lin and Jia (2019) analyzed the relationship between direct tax rate, government revenue, and economic output. The author highlights numerous findings: The association between tax rates and GDP is comparable to the relationship between tax rates and wages, which is viewed as a labor input in the national economy. Furthermore, the economy's resource flow is another crucial component, however, it does not have the same impact as the employment rate. The high rate of taxation will limit citizens' consumption. While the labor costs will rise, the cost of capital will drop dramatically. Whereas, individuals' commodity consumption declines as a result of higher taxes, which also affects businesses' performance. Similar to those (Hussain, 2015) and (Coccia, 2018) who note that tax on corporate does not boost labor productivity.

Another study by (Langenmayr, Haufler, and Bauer, 2015) suggests that the level of international tax competition is a key factor in determining the best avenue of tax differentiation, which in turn depends on the practicable level of the corporate earnings tax. In reality, tax policy can have the best results for high-productivity enterprises when there is little tax competition and a high-profit tax rate. Instead, the best tax policy benefits low-productive enterprises when tax competition is fierce and profit taxes are low. A peculiar tax reform spectrum had been studied by (Hope & Limberg, 2022). The author analyzed several rich OECD countries from an interval period of 1965 to 2015. The author aimed to study the effect of tax reduction on people with high incomes on employment and economic growth. (Hope & Limberg, 2022) discovered that tax breaks for the wealthy result in an increased income disparity over the short- and medium-term. As a result, neither unemployment nor economic growth is significantly impacted by such measures. Indeed, Studies looking at how taxing the wealthy affects income inequali-

ty often reveal a strong inverse link between top marginal tax rates and top income shares. However, there are rare outliers that show that more progressive taxation has a positive impact on the state of the economy (Gemmell and Sanz, 2014).

From an environmental standpoint, Numerous studies show how different pathways might help environmental taxation policies induce economic growth. Several papers demonstrate that environmental taxation policy may boost economic growth via a variety of channels; According to (Nakada, 2004), green taxes promote environmental quality, which raises the output of other productive economic activities and, consequently, influences the overall factor productivity of the economy, which in turn promotes economic growth. Moreover, the increasing environmental tax encourages businesses to enhance their own abatement efforts, which lowers overall production after abatement at the expense of consumer spending. As a result of the decline in private consumption, people start spending more time studying instead of doing other things, which promotes the expansion of human capital. Additionally, an environmental tax can increase research intensity since it encourages the transfer of funds to R&D projects, which serve as the growth engine. Nevertheless, the reverse effect of embracing environmental taxation was found by (Liu et al., 2018; Hassan et al, 2020) in which, the environmental tax would certainly reduce GHG emissions but it would contract the economy.

2.2. Institutional Reforms and Economic Growth

There is consensus among scholars studying the relationship between institutions and economic growth contending that; there is a relationship and that it can be assessed, but there are frequently discrepancies in the importance of this relationship as well as in the factors that contributed to the expansion of institutions, and ultimately, economic growth and development. The majority of authors place a strong focus on the preservation of property rights, political freedom, and the degree of political turbulence (Buterin et al., 2017).

According to Chong and Calderon (2000), there is a two-way causal relationship between institutions and development, and growth itself by leading to the establishment of new, better institutions. The author continued by noting that poorer nations have greater institutional effects on economic growth. Moreover, Haidar (2012) studied the relationship between changes in company regulations and economic development in 172 nations. The empirical findings showed that each business regulatory change is typically associated with a 0.15% rise in GDP growth rate, indicating that business regulatory reforms are beneficial for economic growth. In a similar vein, Nedić et al. (2020) proposed a model that accounts for how institutional reform initiatives and regulatory quality have affected the GDP recovery of five Western Balkan countries. The World Bank Governance Indicators were applied to experimentally examine the effects of specific quality indicators of institutions on productivity expansion, and the Good Governance and Administrative Quality variable had the most statistically significant and beneficial effects. The Corruption Prevention and Rule of Law variable have a more noticeable, but slightly less strong, effect on GDP per capita.

The findings of several research have shifted in favor of highlighting the beneficial effects of institutions for economic progress as well as in favor of demonstrating the link between economic advancement and substantive institutional transformation and broader progressive social change. The capacity of institutions to change with the times (via institutional development and reform programs) and adopt new ways of doing business determines how well economies may thrive. Institutions are crucial for an economy to operate well at any one moment, but they also need to evolve over time to provide the rules and incentives that new markets and technology need (Masuch et al, 2017; López-Tamayo et al., 2018). Papaioannou and Siourounis (2008) determined the short- and long-term effects of reforms and political democratic transition on GDP. According to the study's panel data analysis, democracy increases actual annual per capita income by 1%. On the other hand, Growth significantly declines during the period of transition, and then, follow-

ing the period of change, it stabilizes even faster. It is determined that all of those nations may achieve exceptional economic development rates if strong institutional foundations prevail. This was further validated by (Buterin et al., 2017). Whereas (Uberti, 2016) identified how a greater emphasis on institutional reforms reduces corruption at the parliamentary level. Although this has been argued by (Zhao et al., 2021) in which the finding demonstrated the opposite effect.

Furthermore, Bartlett (2017) examined the link between institutional reform and economic growth in non-EU nations. Their findings indicated that candidate nations have stronger institutional consolidation than non-UE countries. And if they don't assume a more decisive part in the process, the reform initiatives will lead to the risk of stagnating or "running out of steam." The fact that post-socialist governments failed to successfully replace the outdated institutions of the previous system with more effective ones appears to be the one that is most pertinent. Furthermore, because of the lowered trust in the government and the failure to integrate into the informal institutional context, even small institutional reforms proposed did not succeed.

Reasonably, may intuitional reforms transpire due to common crises management instead of pure governmental intention transformation. For instance, Afonso et al. (2016) investigated the effect of several monetary and fiscal institutional reforms on the Brazilian economy. According to the author's reasoning; despite the relative success, it is crucial to remember that the procedures involved in creating the aforementioned monetary and fiscal instruments, as well as in implementing and consolidating them, were not the outcome of prior, efficient strategic planning. In general, institutional reforms were implemented in reaction to a string of domestic and, most importantly, foreign crises. The necessity to address both structural and economic difficulties permitted several governments to pass significant legislative amendments in the National Congress. Indeed, institutional rearrangement and upgrading is a path-dependent operation, and there are significant transaction costs in altering any former institutional artifacts therefore, both people and organizations have to approach such alteration with extreme caution (Afonso et al., 2016).

Ortmann and Ortmann (2017 p:93) Studied how the Vietnams government through consecutive institutional reforms ameliorated the state's whole performance. Several remarks were made by the author: First of all, although the VCP continues to be the most significant political force, pragmatic and administrative choices now take a far more significant role than ideological ones. This is due to the fact that the credibility of the government nowadays is largely determined by its performance. Second, the government has additionally made investments in fortifying its different institutions, which have better resources, therefore are able to rely on more highly skilled personnel and more advanced monitoring tools due to their increased budget. Moreover, the value of scientific data has increased over time and has grown more transparent and accessible. The environmental sector now has considerable influence on the government's development project, which now emphasizes the need for sustainability. Similarly, the judicial system has seen a substantial improvement. Since it is the first introduction, the Environmental Protection Law has undergone two revisions. The legislation has evolved over time and becomes diverse and thorough with each implementation of institutional and governmental reforms which retroactively increased the level of human development.

3. METHODOLOGY

3.1. Data Source and Description

The present study is examining the impact of tax policy and institutional reforms on economic growth. With a particular focus on Djibouti as a pivotal country, the research uses yearly time series data ranging from 2000 to 2021. Djibouti has experienced tremendous growth over the last decade by investing in transportation and port facilities and capitalizing on its geostrategic value. However, there are questions regarding the inclusivity and sustainability of this expansion in the future. GDP growth averaged 8% from 2013 to 2016, with GDP per capita growth averaging 6.3 percent throughout the same time, a remark-

able performance when compared to similar countries. However, this expansion has not been inclusive: 20.8 percent of the population remains in absolute poverty, unemployment is substantial (39 percent), and human resources outcomes are typically poor. Based on this information, the paper used the region's GDP as an index of economic growth. Additionally, the research takes into account variables like labor tax contribution and tax on business as indices for measuring the impact of the tax policies. While government effectiveness and regulatory quality are considered proxies for measuring institutional reforms. Within this scope, to carry on with the examination Vector Error Correction (VECM) model and Granger causality test are performed to capture the long-run and short-run dynamic relationship among the variables. As well as to determine the direction of these relationships. All the information was extracted from the World Bank Indicators.

3.2. Model Specification

The study uses a vector error correction model to assess the cointegration between the selected variables. Besides, we will perform a granger causality test to determine the direction and the causality among the variables (Gujarati, 2010). The VECM technique is a model that can be used to separate the long-run and short-run components from the data design process. It is a variant of the VAR (Vector Autoregressive) approach (Dirir, 2022). Therefore, the VECM approach can be expressed in the following equation:

$$\Delta Y_t = \sigma + \sum_{i=1}^{k-1} \gamma_i \Delta Y_{t-1} + \sum_{j=1}^{k-1} \eta_j \Delta X_{t-j} + \sum_{m=1}^{k-1} \xi_m \Delta R_{t-m} + \lambda ECT_{t-1} + \cdots + u_t \quad (1)$$

$$\Delta GDP_t = \sigma + \sum_{i=1}^{k-1} \beta_i \Delta GDP_{t-i} + \sum_{j=1}^{k-1} \phi_j \Delta TP_{t-1} + \sum_{l=1}^{k-1} \eta_l \Delta B_{t-l} + \sum_{m=1}^{k-1} \xi_m \Delta GE_{t-m} + \sum_{n=1}^{k-1} \vartheta_n \Delta RQ_{t-n} + \lambda ECT_{t-1} + u_t \quad (2)$$

The equation above contains the various variables used in the study. First, we observe the dependent variable which is GDP and the independent variables that consist of TP, B, GE, and RQ. The VECM equation has k-1 which implies that the lag length is reduced by 1. Then we perceive $\beta_i, \phi_j, \eta_l, \xi_m, \vartheta_n, \omega_p$ that stands for the short-run dynamic coefficients of the model's adjustment long-run equilibrium. Next, there is the ECT_{t-1} that signifies the error correction term. And finally, u_t which is the residuals (impulses).

Further, the goal was to document the causal relationships between the variables. and determine whether there is a causal relationship between the variables, the Granger causality test suggested by (Granger, 1969) was used. The model is explained in more detail below:

$$X_t = \sum_{l=1}^{p} \left(a_{11,1} \mathrm{X}_{t-1} + a_{12,1} \mathrm{Y}_{t-1}\right) + \mu_t \quad (3)$$

$$Y_t = \sum_{l=1}^{p} \left(a_{21,1} \mathrm{X}_{t-1} + a_{22,1} \mathrm{Y}_{t-1}\right) + \epsilon_t \quad (4)$$

As illustrated in equation 3 and 4p is the model order, $a_{ij,1}(i, j = 1,2)$ are the coefficients of the model, and μ_t and ϵ_t denotes the residuals. Ordinary least squares can be used to estimate the coefficients, and F tests can identify the Causality relationship between X and Y.

In addition to the econometrics equations above, the study employs the Dickey-Fuller test for Unit Root to examine the stationarity of the variables. According to Dickey and Fuller (1979), the test inspects the value of Ø. It specifically contrasts the null hypothesis that Ø = 1 in comparison to

Table 1. Description of Variables

Variable	Abbreviation	Measurement	Proxies
Dependent	GDP	The logarithm of GDP (current US$)	Economic Growth
Independent	TP	Labor tax and contributions (% of commercial profits)	Tax Policies
	B	Other taxes payable by businesses (% of commercial profits)	
	GE	Government Effectiveness: Percentile Rank	Institutional Reforms
	RQ	Regulatory Quality: Percentile Rank	

the alternative that Ø < 1. The test requires the employment of several forms in actual practice. The following equation express the test.

$$y_t = \alpha + \beta t + \emptyset y_{\epsilon-1} + e_t \quad (5)$$

$$\Delta y_t = y_t + y_{t-1} + \alpha + \beta t + \emptyset y_{t-1} + e_t \quad (6)$$

As expressed in equations (5) and (6), Ho: Ø = 1 suggests the variables are non-stationary while Ø < 1 implies the stationarity of the data. What is more, y_t stands for the overall study's data and the regression form is rewritten as Δy_t (Holmes et al., 2020).

4. FINDINGS AND INTERPRETATION

During 2000 and 2021, GDP had an average of 9.13%, and it had a maximum of 9.5% and a minimum of 8.7%. The standard deviation for TP and GE was found to be much higher (6.2% and 5.1%), followed by those for RQ (4.2%), GDP (0. 2%), and B (0.1%). Smaller standard deviation values often indicate that the datasets are closer to the average, while larger standard deviation values typically indicate that the datasets are spread. Lastly, it appears that all the variables are positively skewed except for TP which indicates a negative skewness of (-0.17) See table 2.

Another crucial method for getting assumptions between variables before they are approached is the correlation matrix. In Table 3 the results for GDP display a strong positive correlation with TP and a moderate association with B and RQ. Whereas, we observe a strong negative association between the GDP and GE. This implies an increase in labor tax, business taxes, and regulatory quality rises economic growth, and vice versa.

In order to ascertain whether the random walk assumption is present in the long-term fluctuated period information, the ADF and Phillip perron test unit root tests are used. Consequently, in accordance with table 4, the outcome for both tests reveals that all the variables are stationary at first difference except for B which displayed stationarity both at the level and first difference. Hence, we can proceed with the cointegration approach since the panel unit root test results indicate that certain variables are stationary at a level while others are stationary after the first difference and the variables did not reach the second difference.

One of the metrics used to evaluate the VAR model is the optimal lag of use. Autocorrelation difficulties in a VAR system may be handled by establishing the ideal lag, which is important for evaluating how long a variable takes to react to other variables. This test also verifies the data supplied by the Vector error correction model estimate. (LR), (AIC), (FPE), (SC), and (HQ) are evaluated to estimate lag candidates. According to the data in table 5, the ideal lag for the research is lag 1.

Table 2. Descriptive Statistics

ITEMS	GDP	TP	B	GE	RQ
Mean	9.124	29.63	2.454	19.92	25.37
Maximum	9.541	36.00	2.700	33.33	35.07
Minimum	8.741	23.00	2.200	13.46	19.71
Std. Dev.	0.285	6.207	0.159	5.187	4.244
Skewness	0.096	-0.176	0.059	0.970	0.582
Kurtosis	1.452	1.040	2.031	3.316	2.547
Jarque-Bera	2.228	3.634	0.873	3.541	1.429
Observations	22	22	22	22	22

Table 3. Matrix of Correlation

	GDP	TP	B	GE	RQ
GDP	1.000	-	-	-	-
TP	0.859	1.000	-	-	-
B	0.179	0.338	1.000	-	-
GE	-0.556	-0.641	-0.152	1.000	-
RQ	0.029	0.341	-0.044	-0.480	1.000

The cointegration test is used to determine the cointegration of non-stationary variables. If there is cointegration, the examination of the VECM model can be pursued. Table 6 shows a cointegration with statistical values greater than the Trace statistic test criterion. As a consequence, we establish the existence of a long-term relationship between the variables. As a result, we shall proceed with the error correction technique.

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

Table 7 denotes the results of the short-run estimation. Based on the results, we observe that all the variables have an insignificant influence on the GDP during the short period. This suggests that taxes on business, labor tax contribution, government effectiveness, and regulatory quality have no prominent impact on the economic growth of Djibouti. On the other hand, we perceive that GDP has a positive impact on regulatory quality. For instance, a 1% increase in GDP will rise 45% of the regulatory quality of Djibouti.

Table 8 expresses the long-run estimates between tax policies, institutional reforms, and the economic growth of Djibouti. The results indicate that TP has a negative impact on the GDP. This implies that the tax contributed by the Djiboutian laborers decrease the economic growth by 0.052%. Nevertheless, tax on business, government effectiveness, and regulatory quality displays to increase economic growth by 0.42%, 0.004$%, and 0.04% respectively. Based on these outcomes we deduce that in the long-run factors such as taxes imposed on business, the effectiveness of the government as well the quality of institutional systems plays a favorable role in promoting the economic growth of Djibouti.

Table 4. Unit Root Test

Variables	**Augmented dickey fuller test**				**Decision**
	At level		At first difference		
	Constant	**Note**	**Constant**	**Note**	
GDP	0.047	Not stationary	-4.078***	Stationary	I (1)
TP	-1.131	Not stationary	-4.434***	Stationary	I (0)
B	-3.550**	Stationary	-3.979***	Stationary	I (1)
GE	-1.549	Not stationary	-4.159***	Stationary	I (1)
RQ	-1.364	Not stationary	-4.056***	Stationary	I (1)
Variables	**Phillip perron test**				**Decision**
	At level		At first difference		
	Constant	**Note**	**Constant**	**Note**	
GDP	0.033	Not stationary	-4.078***	Stationary	I (1)
TP	-1.132	Not stationary	-4.438***	Stationary	I (0)
B	-2.311	Not stationary	-3.979***	Stationary	I (0)
GE	-1.642	Not stationary	-4.204***	Stationary	I (1)
RQ	-1.364	Not stationary	-4.054***	Stationary	I (1)

Note: *, ** and*** denotes 1%, 5%, and 10% level of significance.

Table 5. Lag length selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-147.47	NA	2.8817	15.247	15.496	15.295
1	-54.362	130.35*	0.0034	8.4362*	9.929*	8.7278
2	-20.500	30.475	0.0025*	7.5500	10.288	8.0845*

Note: * indicates the lag order selected by the criterion. LR: sequential modified LR test statistic (each test at 5% level). FPE: final prediction error. AIC: Akaike information criterion. SC: Schwarz information criterion. HQ: Hannan–Quinn information criterion.

Table 6. Cointegration test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.929660	101.9448	69.81889	0.0000
At most 1 *	0.657381	48.85656	47.85613	0.0401
At most 2	0.579301	27.43384	29.79707	0.0915
At most 3	0.389995	10.11708	15.49471	0.2718
At most 4	0.011499	0.231314	3.841465	0.6305

Note: * Denotes rejection of the hypothesis at the 0.05 level

The Granger causality test uncovers a sequence of associations among factors, resulting in long-term economic remedies. The Granger causality estimates in Table 9 reveal one-way causality between GDP and GE, as well as between GDP and RQ. This suggests government effectiveness and regulatory quality have a prominent association with the economic growth of Djibouti. Nevertheless, the test uncovered that tax policies have no causality with the GDP.

Table 10 displays the impulse responses and variance decomposition function estimate. According to the findings, in the event of an impulsive response, the degree of economic development would most likely drop as a result of business taxes and the effectiveness of government. This suggests that the tax rates imposed on businesses in Djibouti will have a detrimental impact on economic growth. Djibouti presently does not encourage small company and entrepreneurship initiatives and does not create a sufficient environment to foster entrepreneurial ventures; thus, if the country continues at this rate, economic advancement would be severely hampered. On the other hand, it looks like labor tax contributions and regulation quality will boost economic growth during the next 10 years. As a result, these sectors demand more attention and investment. Furthermore, the findings of the variance decomposition model show that the labor tax,

Table 7. Short-run estimates

VARIABLES	D_LGDP	D_TP	D_B	D_GE	D_RQ
CointEq1	0.0836	17.034**	-0.1319	15.664*	-19.104***
	(0.099)	(6.947)	(0.425)	(8.685)	(5.477)
	[0.922]	[2.451]	[-0.310]	[1.803]	[-3.487]
DGDP (-1)	-0.1867	-52.529	0.3462	11.943	45.723*
	(0.433)	(33.46)	(2.047)	(41.83)	(26.38)
	[-0.427]	[-1.569]	[0.169]	[0.285]	[1.733]
DTP (-1)	0.0020	0.5267	-0.0056	0.0364	-0.1020
	(0.004)	(0.328)	(0.020)	(0.411)	(0.259)
	[0.478]	[1.602]	[-0.286]	[0.088]	[-0.393]
DB (-1)	-0.0849	-10.358	0.2753	11.327	4.5105
	(0.117)	(9.023)	(0.552)	(11.28)	(7.113)
	[-0.721]	[-1.148]	[0.498]	[1.004]	[0.634]
DGE (-1)	-0.0036	-0.0715	0.0051	0.0115	0.1021
	(0.002)	(0.206)	(0.012)	(0.257)	(0.162)
	[-1.354]	[-0.346]	[0.407]	[0.044]	[0.628]
DRQ (-1)	0.0021	-0.2080	-0.0146	-0.5155	0.6255***
	(0.003)	(0.293)	(0.017)	(0.366)	(0.231)
	[0.571]	[-0.708]	[-0.816]	[-1.405]	[2.703]
Constant	0.0468**	2.3714	-0.0053	-0.9712	-2.0246
	(0.018)	(1.401)	(0.085)	(1.751)	(1.104)
	[2.562]	[1.692]	[-0.061]	[-0.554]	[-1.832]
Observations	22	22	22	22	22
R-squared	0.2701	0.3806	0.1380	0.2792	0.5892
Adj. R-squared	-0.0666	0.0947	-0.2598	-0.0533	0.3996
F-statistics	0.0171	100.83	0.3775	157.59	62.670
Mean Dependent	0.8020	1.3314	0.3469	0.8394	3.1076
chi2	28.1320	8.917	2.150	5.19	19.20
P>chi2	0.0002	0.2587	0.9511	0.6359	0.0076

Note: Standard errors are in parentheses, while T-statistics are in brackets
*** p<0.01, ** p<0.05, * p<0.1

Table 8. Long-run estimates

Variables	Coefficient	Std.Dev	T-statistics	P-value
TP	-0.0520***	0.00226	-23.02	0.000
B	0.4296***	0.06669	6.443	0.000
GE	0.0045*	0.00252	1.788	0.074
RQ	0.0468***	0.00277	16.90	0.000
Constant	-9.9274			

Note: *, ** and*** denotes 1%, 5%, and 10% level of significance

which is expected to increase from 0.97 percent in 2022 to 13.06 percent in 2031, would have a higher variance shock on the economic growth of 13.06 percent. The other determinants, business tax, and regulatory quality are not predicted to have a major influence on Djibouti's economic development until 2031, with 5.62% and 3.78% variance shocks, respectively. Government effectiveness, on the other hand, is predicted to marginally reduce economic growth during the next ten years.

After we have completed all of the tests, we will run the diagnostic test to determine the validity of the model employed in the research. To begin with, the residual of autocorrelation reveals that there is no significant autocorrelation among the variables at lag order. The white test for heteroskedasticity produced a prob value of 0.438, indicating that the hypothesis of heteroskedasticity is rejected and the model is independent of heteroskedasticity. Finally, the stability criterion imposes moduli of four units. This indicates that the model is stable.

5. CONCLUSION

Institutions have an impact on the economy by creating an atmosphere conducive to stability and progress. As a country advances toward prosperity, its demands evolve, necessitating the implementation of institutional reforms. Implementation gaps in institutional changes lead to a delayed development cycle with far-reaching macroeconomic repercussions. Institutional reforms are efforts to alter the norms that govern human interactions. It is a framework of activities, methods of implementation, strategic planning, and foundational pillars of interaction with other entities. Nations with excellent economic systems give a favorable atmosphere and advantages to their citizens, allowing them to flourish quicker than counties with extraordinary capabilities.

These institutional improvements include informal prohibitions such punishments, customs, codes of behavior and formal guidelines for conduct, legislation, and land rights. When assessing a country's success, its institutions should be considered. The cornerstones of a community, legislative and administrative structures, create an atmosphere for the formation of public well-being. The institutional environment is defined by the legal and administrative structures within which individuals, corporations, and authority engage to create money and assure economic success. Institutional assistance for the growth of market freedoms, determining the ideal degree of regulation, avoiding corruption, liberating the judiciary from political reliance, and environmental protection are all vital.

Furthermore, tax reform is more complicated since it entails both tax rate decreases and base-widening reforms. Theoretically, such adjustments should increase the total scale of the economy over time, albeit the actual impact and amount of the influence are subject to substantial unpredictability. One issue that sometimes goes unreported is that widening the taxation by decreasing or removing welfare spending

Table 9. Pairwise Granger Causality Test

Variables	F-Statistic	Prob.	Note
TP granger cause GDP	2.729	0.1158	No causality
GDP granger cause TP	1.750	0.2024	
B granger cause GDP	2.090	0.1654	No causality
GDP granger cause B	0.563	0.4625	
GE granger cause GDP	3.039*	0.0983	One way causality
GDP granger cause GE	0.710	0.4105	
RQ granger cause GDP	5.854**	0.0263	One way causality
GDP granger cause RQ	1.207	0.2863	

Note: *, ** and*** denotes 1%, 5%, and 10% level of significance

enhances the effective tax rate that individuals and businesses bear and thus operates in the opposite direction of rate decreases. However, base-broadening has the added advantage of redirecting funds from presently tax-favored industries to sectors with the best economic (pre-tax) return, which should increase the total value of the economy.

A reasonable analysis would suggest that well-designed taxation possesses the capability to boost economic development, but there are several roadblocks to overcome and no certainty that all tax adjustments would enhance economic efficiency. Due to the distinct networks through which tax reform heavily influences, an economic expansion tax policy would include the following: first, a sizable favorable reward (substitution) effect that encourages work, saving, and investment; second, revenue impacts that are limited and positive or negative, including cautious segmentation of tax reductions toward new investment instead of giving higher returns for the past project; and finally, a decrease in disruptions across economic sectors and macroeconomic sectors.

Within this scope, the present paper examined the impact of tax policy and institutional reforms on the economic growth of Djibouti from the period 2000 to 2021. The paper used the region's GDP as an index of economic growth. Additionally, to carry on with the examination a Vector Error Correction model (VECM) and Granger causality test are performed to capture the long-run and short-run dynamic relationship among

Table 10. Impulse response and variance decomposition

Impulse Response Function					
Period	GDP	TP	B	GE	RQ
1	0.036314	0.000000	0.000000	0.000000	0.000000
2	0.036800	0.005210	-0.002164	-0.004165	0.007619
3	0.046838	0.013664	-0.005039	-0.002809	0.008359
4	0.041850	0.019150	-0.011193	-0.007695	0.007291
5	0.038993	0.017494	-0.014523	-0.005639	0.008890
6	0.040208	0.017917	-0.013370	-0.002584	0.010407
7	0.041104	0.019570	-0.012351	-0.002491	0.010616
8	0.040991	0.020153	-0.012665	-0.003195	0.010434
9	0.040737	0.020053	-0.013117	-0.003293	0.010431
10	0.040691	0.019990	-0.013189	-0.003088	0.010532
Variance decomposition of labor force (LF)					
Period	GDP	TP	B	GE	RQ
1	100.0000	0.000000	0.000000	0.000000	0.000000
2	96.14317	0.976487	0.168406	0.624090	2.087844
3	92.45611	4.062938	0.571310	0.479529	2.430112
4	86.85679	7.619454	2.038920	1.108445	2.376396
5	83.32012	9.076931	3.749796	1.190257	2.662896
6	81.29878	10.06414	4.542201	1.024563	3.070318
7	79.79247	11.08948	4.863399	0.900405	3.354251
8	78.55037	11.95007	5.134728	0.833996	3.530830
9	77.55848	12.58436	5.403469	0.787927	3.665763
10	76.78007	13.06955	5.622843	0.745990	3.781552

Table 11. Diagnostic tests

Tests	Prob	Note
Residual auto-correlation	Lag 1 (0.77) lag 2 (0.89)	No prominent autocorrelation at lag order.
White test for heteroskedasticity	0.4380	No heteroskedasticity
Eigenvalue stability condition	The VECM specification imposes 4-unit moduli	

the variables. As well as to determine the direction of these relationships. According to this, the results demonstrated that during the short-run taxes on business, labor tax contribution, government effectiveness, and regulatory quality have no prominent impact on the economic growth of Djibouti. Contrarily, the model revealed distinctive results in the short run. For instance, in the long-run factors such as taxes imposed on business, the effectiveness of the government as well the quality of the institutional system was revealed to have a favorable role in promoting the economic growth of Djibouti. Whereas, labor tax contribution presented a negative influence on the economic growth of Djibouti. Further, the Granger causality test illustrated one-way causation between GDP and GE, as well as GDP and RQ. This shows that government effectiveness and regulation quality have a strong relationship with Djibouti's economic growth. Nonetheless, the test revealed that tax policies had no causal relationship with GDP.

An adequate analysis of tax policies and institutional reforms in the Djiboutian economy is scarce or even non-existent in the economic literature. The current paper has used Djibouti a country located in Eastern Africa that has a complex institutional structure and taxation policies as a focus nation. The country is also understudied in comparison to other African countries. Accordingly, the results contribute by providing evidence to the region and for the country itself on the way of managing taxation and implementing rigorous institutional regulation in hope of promoting economic growth. The paper is the first one in Djibouti to employ a VECM approach in order to assess the long-run influence that exists between three different phenomena (tax policies, institutional reforms, and economic growth). In terms of recommendation, Djibouti needs to adjust its taxation and reforms to the needs of local and foreign firms. The country also needs to open its market in order to create an adequate environment for competition and business creation because in Djibouti there is the presence of monopolistic regulation. All the important sectors such as (health, telecommunication, and energy) are only controlled by governmental organizations.

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