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The Role of Governance on Economic Growth: A Case Study of Turkey 2002-2022

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ABSTRACT

This study investigates the role of governance in economic growth: A case study of Turkey 2002-2022. The study model is multiple linear regression. The study model includes independent variables such as "voice, accountability, political stability, control of corruption, and government effectiveness", with "economic growth" as the dependent variable. The research analyzes the data quantitatively using EViews 12 software. The multiple linear regression estimation results show a vital statistical significance between voice, accountability, political stability, and government effectiveness on economic growth in Turkey. There is no statistical significance between control of corruption and economic development. Voice and accountability are critical factors that affect state performance. However, these factors can also be negatively affected by other elements such as terrorism, taxation, spending, and infrastructure.

1. INTRODUCTION

Throughout its political history, the Republic of Turkey has had several coup d'états. These coups include three significant coup d'états that occurred on May 27, 1960, March 12, 1971, and September 12, 1980, when the military overthrew several administrations as a result of political and socioeconomic problems. A "post-modern" coup on February 28, 1997, brought about the resignation of the Islamist-led coalition leading the government. This occurred more recently. The Justice and Development Party (AKP) administration was targeted for overthrow in the most recent coup, which took place in 2016. A faction inside the Turkish Armed Forces conducted it out. It was discovered that the country's purported de-Islamization and decline of secularism were the causes of this coup [1-39].

Thus, throughout its political history, the Republic of Turkey has seen several military coups and political revolutions that have impacted its economic stability. The era from 2002 to 2022 is particularly interesting since it saw relative stability with the implementation of political and economic changes, but it was not without obstacles, such as the 2016 coup attempt. This time period offers a chance to investigate the influence of governance on economic growth in a country with a complicated political history and a mature economy [40].

An important component that positively correlates with a nation's economic progress is voice and responsibility. These variables pertain to how much freedom of expression, association, and citizens, as well as their ability to choose their government enjoy the media. Though they are not the same, voice and accountability have a big impact on political stability. A shift in the populace's power to choose their government may be a sign of a shift in the political regime's quality, which is directly tied to shifts in stability. Furthermore, voice and accountability are a useful indicator of the government's capacity to carry out sensible economic policies. When the government imposes excessive restrictions, certain factions would try to impose radical new systems or return to previous regimes, which would lead to a variety of political protests [19-26].

Governments' economic initiatives are likely to be more successful if they are implemented more smoothly. In this sense, the consistency of policymaking and the capacity of the government to formulate and carry out policies are vital. The duration of a government, irrespective of its political inclinations, raises the probability that it would implement policies that impact economic growth, underscoring the need of maintaining policy consistency. Policy changes are tightly linked to frequent changes in power, and any attainment of governmental stability is likely to influence economic policy in a similar way. Only powerful governments have the ability to carry out long-term steady economic policies [21-37].

Comprehending how political stability and corruption affect economic growth is essential. In this study, political stability and corruption are measured using the Control of Corruption

from Worldwide Governance Indicators. One of the six components of the World Governance Indicators is corruption control. It speaks to the degree to which private profit is made from governmental authority. This covers both little and major corruption, as well as the takeover of the state by elites and commercial interests. Political stability is weakened by corruption, and economic uncertainty is increased. It raises the probability that political factors will take precedence over wise resource allocation and investment choices [18-45].

A nation's capacity to prosper economically depends on its political stability. Turkey was selected as the study's focus for a variety of reasons. Despite the fact that political stability is a crucial factor in determining economic growth, the relationship between political stability and growth has not received much attention in research, and as far as we are aware, no study has been done specifically on Turkey. Second, it's a fascinating study since Turkey has a history of political instability marked by many military takeovers and coalition administrations [9, 25].

This study evaluates time series data to examine the associations between political instability through indicators of political instability (voice and accountability, political stability and absence of violence/terrorism, government effectiveness, and control of corruption) on economic growth in Turkey from 2002 to 2022. And to determine whether political instability contributed to economic growth in Turkey throughout the years from 2002 to 2022 given that Turkey has a history of political instability characterized by numerous military coups and coalition administrations. Therefore, the purpose of this study is to use a multiple linear regression model to examine the relationship between political instability through indicators of political instability (voice and accountability, political stability and absence of violence/terrorism, government effectiveness, and control of corruption) on economic growth in Turkey.

This study seeks to respond to the following research questions:

1. How did governance indices (voice and accountability, political stability, government effectiveness, and corruption control) influence Turkey's economic development from 2002 to 2022?
2. How did political stability, or lack thereof, influence economic patterns throughout this time period?

Thus, the study aims to investigate the link between various governance indicators and economic growth in Turkey throughout the specified time period, as well as to determine the most essential indicators for sustainable development strategies.

2. LITERATURE REVIEW

This section of the study will examine the literature related to the independent variables and their relationship to the dependent variable. This will help us develop hypotheses and determine the necessary equation for the variables. The study will address the relationship between the independent variables, namely "voice and accountability," "political stability and absence of violence/terrorism," and "government effectiveness and control of corruption." and their impact on economic growth, which is the dependent variable.

2.1 Literature about voice and accountability on economic growth

Costantiello and Leogrande [12] have calculated the value of Voice and Accountability (VA) in a research that used World Bank data on Environmental, Social, and Governance (ESG). The study used panel data with fixed effects, panel data with random effects, and pooled ordinary least squares (OLS) techniques to analyze data from 193 nations between 2011 and 2021. It was discovered that the Maximum 5-Day Rainfall and the Mortality Rate under 5 are strongly correlated with the amount of VA. Conversely, "Adjusted Savings: Natural Resources Depletion" and "Annualized Average Growth Rate in Per Capita Real Survey Mean Consumption or Income" are adversely correlated with the amount of (VA). The k-Means technique was also used, the minimal variation of the variable across nations rendered it ineffective. As a result, some elements were hyperactive and concentrated in one particular cluster.

Das and Chatterjee [16] completed a study on mental diseases and discovered that, in addition to biological variables, large socioeconomic factors contribute to the increasing number of persons suffering from mental depression. The Wald test findings show that the depression rate, growth rate, health spending, and voice and accountability from the previous two periods are all contributing to the present period's depression [17]. In their study, Bird et al. [8] make the case that the conventional tax effort model has to be enlarged. They contend that although supply considerations are crucial, tax effort is also greatly influenced by demand variables including accountability, voice, and corruption. The main contribution of this work is to show that these demand factors must be taken into account when calculating tax effort.

Using an econometric model, Maune [28] investigates the relationship between good corporate governance and economic growth in Zimbabwe, a developing country. A study of multiple linear regression was used to look into the association. Zimbabwe's economic development is not significantly influenced by factors such as voice and accountability, rule of law, government efficacy, or quality of regulations [29]. A study on the effects of terrorism, infrastructure, voice and accountability, and savings on innovation in Pakistan was carried out by Nadeem et al. [3]. They examined the data using the ARDL method of cointegration. The study discovered that terrorism and poor voice accountability had detrimental long- and short-term impacts on innovation. These elements harm Pakistan's economy as well [32].

Beschel et al. [7] discovered a negative correlation between per capita GDP levels and voice and accountability (VOA) [7]. Tax income is essential for fiscal policy implementation and economic development, as Awotomilusi et al. [5] have determined. Nigeria has worked to strengthen its tax structure, but the country still depends heavily on oil earnings. According to our research, economic and institutional elements like voice and responsibility can increase tax income. According to our research conducted in Nigeria, these variables significantly, affect tax collection. The government may enhance tax laws and promote sustainable economic growth by utilizing these findings [5].

H1: *There is a negative effect of voice and accountability on economic growth.*

2.2 Literature about political stability and absence of violence/terrorism on economic growth

According to Cox and Weingast [14], leaders who are held accountable to the legislature in a horizontal manner significantly lessen the likelihood of economic downturns brought on by leadership transition. Vertical responsibility to the voters, however, has a different outcome. These results imply that legislative efficacy matters more than election efficacy when it comes to preventing succession-related downturns and fostering stable economic development. The study performed by Shabbir et al. [39] clarifies the significance of political stability in examining two opposing theories in the Developing Eight Muslim nations. It also looks at the significance of the conditional link between political stability and corruption. Empirical evidence suggests that political stability, investment, and population all contribute positively to economic growth. Therefore, political stability promotes growth as it lessens political turbulence and social unrest, promotes investment, and boosts the economy [41].

The goal of Mbukanma et al. [29]'s study attempted to find out how the GDP (gross domestic product) of the BRICS countries and political stability relate to one another. Regression analysis was employed in the study's quantitative technique to examine data on political stability. The findings show that while political stability has a relatively small effect on economic growth in the BRICS countries, higher levels of political stability are associated with higher GDP growth rates in these countries [30].

Armutçu [4] carried out research on the connection between BRICS-T nations' political stability and economic expansion. Together, these nations account for 30% of the world economy and 43% of the world's population. The Durbin-Housman Cointegration test and the second generation CIPS unit root test were employed in the study to determine the Cointegration connection. The long-run Cointegration connection between the variables was further examined using the second generation AMG test to ascertain its direction and coefficient. According to the research, the BRICS-T nations' economic development is negatively impacted by inflation, government spending, and political stability. These effects are statistically significant.

This study's goal is to look at any potential connections between political stability and economic expansion in Turkey and the Turkic Republics of Central Asia, which include Azerbaijan, Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, and Turkmenistan. The study uses cross-section dependency-aware panel data analysis techniques. The study employs unit root tests and cross-section dependency tests to accomplish this. Panel unit root co-integration tests are used in the second part of the investigation. The findings suggest that there is a one-way causal relationship between political stability and GDP per capita. Based on a nation-specific analysis, it can be observed that Azerbaijan is the only country where a causal relationship exists between political stability and economic development. There is no correlation between variables in other nations [35].

Baklouti and Boujelbene [6] used a dynamic panel data model estimated using the Generalized Method of Moments (GMM) for 17 Middle East and North Africa (MENA) countries from 1998 to 2011 to examine the relationship between democracy and economic growth while accounting for the importance of political stability. Our empirical findings demonstrated that democracy and economic growth are causally related in both directions. Furthermore, it was shown that political stability is a prerequisite for democracy's impact on economic growth.

Javed et al. [23] conducted a study analyzing the relationship between political stability in the absence of violence and economic growth in Pakistan from 1980 to 2016. They used the Ng-Perron test to determine the order of integration and found that both series were integrated into order one. To assess the short-run impact of political stability on economic growth, they used the VAR test. For the long-term relationship, they employed the Johansen Cointegration technique. Both tests showed that the two series were integrated into order one. The impulse response functions indicated a positive and significant short-run association between economic growth and political stability in the absence of violence [24].

Political stability and economic growth were found to be positively correlated by Corovei and Socol [11]. For further details, see Phul et al. [35]'s study, which examined the results and found that, in the short run, political stability had no influence at all on GDP. In the medium term, however, GFCF, TLF, and INF have a considerable beneficial impact on Pakistan's GDP [36].

Socio-political instability, according to Cotte Poveda and Martinez Carvajal [13], is a significant barrier to a nation's potential to progress economically and socially. One characteristic of such instability is political violence, which poses a serious barrier to growth by causing economic issues, restricting private and governmental investment, and deteriorating the nation's infrastructure. According to the political violence model, characteristics including total production per capita, health coverage, arrests, and education have a negative impact on political violence. Conversely, the rate of unemployment, GINI, illegal drug use, and population displacement all positively affects violent crime. According to the economic development model, corruption, military conflict, and political violence all hinder economic growth.

Between 1986 and 2014, Zghidi [46] studied the connections between political stability, democracy, and economic growth in 31 African nations. The purpose of the study was to ascertain how political stability impacts economic growth, explain the mechanisms by which democracy influences growth, and verify the positive and statistically significant effects of both political stability and democracy on growth in these nations. The GMM approach was used in the study's panel estimate procedure. The study's findings supported the notion that political stability and democracy significantly and favorably affect the economic development of the nations under investigation.

H2: *Growth in the economy is positively impacted by political stability and the absence of terrorism and violence.*

2.3 Literature about government effectiveness on economic growth

The effectiveness of the government is another factor that transforms the economic growth. Diverse studies have shown that the efficiency of government or their leadership style would influence the level of economic growth differently. Studies found trade openness, monetary policies and an effective government as the contributing factors behind per capita income growth [15]. In the same manner, Mahmut Ünsal and Ersin Nail Sağdiç underlined how effective policies

of government play crucial roles in economic growth of economies in transition inside the European Union. The study in Indonesia by Faisol et al. [19] shows that government expenditure is critically important and the government administration is a direct factor of any investment. Besides this, efficient spending by the government was one of the aspects highlighted as critical for economic expansion by Amusa and Oyinlola [3]'s study involving Botswana. All of these researches show that there is the correlation between economic growth and competence of the government.

H3: *The effectiveness of government has a positive effect on economic growth.*

2.4 Literature about control of corruption on economic growth

Corruption is one of the key contributors toughening the control of economic progress. The many different place studies show an improved performance level in the economy through effective corruption control. It is also illustrated through some studies in lower middle-income countries in Asia show that if the corruption level is reduced it has a major and positive impact on economic growth [45]. Additionally, a decrease of corruption reduces growth volatility and indirectly results into economic growth through financial improvement as indicated by 131 countries worldwide [42]. Subsequently, such studies supported by EU members revealed that despite the corruption may not have statistical significance in GDP growth, it is still a relevant factor together with GDP per capita for economic development [32]. All of that evidence indicates how corruption must be dealt with in order to maintain prosperity in the country over long term.

H4: *Combating corruption has a beneficial effect on the growth of the economy.*

The results of prior studies examining the connection between four governance variables and economic growth suggest that there may be a positive or negative link. This study is distinctive, though, in that it looks particularly at how the four governance metrics affect economic development. The research employs a quantitative methodology, notably utilizing OLS EViews for multiple linear modeling.

3. METHODOLOGY AND MODEL

The multiple linear regression model was chosen because it provides an effective analytical tool for investigating the association between governance variables and economic development in Turkey from 2002 to 2022. This model aligns with the study's aims by allowing us to quantify the influence of various independent governance elements on economic development (the dependent variable). This model enables researchers to investigate the combined effects of several variables on economic performance, such as good governance, political stability, and government transparency. The multiple linear regression model is particularly appropriate since it can handle time-based data acquired from many sources during this timeframe, allowing the study to make reliable and statistically supported findings.

The period from 2002 to 2022 was chosen based on several key factors. First, this period coincides with a period of relative political stability after the 2001 Turkish financial crisis, which witnessed major economic and political changes. This period represents an important stage for tracing the impact of stable governments on economic growth in Turkey, especially after the development of economic policies that were included in this decade.

Systematic testing and measurements are recommended in qualitative research in order to obtain the desired findings. Compared to qualitative research, the quantitative research methodology involves a more systematic approach to data collecting and analysis. After defining the study objectives, they may be developed into testable hypotheses. Establishing a causal relationship between two variables is the aim of research employing an experimental or quasi-experimental approach. This type of study is directly related to the application of quantitative data and statistics. Because the acquired data is given numerically, statistical examination of the importance of the findings is possible [2-30].

Similarly, the study employed a quantitative approach to explore how multiple variables affected Turkey's economic growth from 2002 to 2022. These variables were government effectiveness, voice and accountability, political stability, and corruption control. Using EViews 12 software, the researcher examined the data gathered, producing precise and trustworthy results.

4. MODEL

Scientific studies use equations to comprehend the connections and interplay of economic, social, political, and other significant factors. Additionally, it makes it possible for researchers to assess various circumstances and comprehend the effects. As a result, the dependent variable in this study will be the impact of independent factors on economic growth.

Several researches, including Stock and Watson [41] will be cited in this study.

Eq. (1), which represents the model we'll be employing, has *Yit* as a function of *Xit,* with i=1, 2... n denoting the variety of countries and t=1, 2, ..., T denoting the period of time:

$$Yit = f(Xit) \tag{1}$$

The following equation may also be used to create a straightforward linear time series model with a single explanatory variable:

$$Yit = \alpha + \beta Xit + uit \tag{2}$$

We must take into account the characteristics of the fixed-effects and random-effects models while taking into account country-specific elements. Since each entity in the fixed-effects model is distinct from the others yet remains constant throughout time, various constants αi can be assigned to different groups. Eq. (3) may be used to express this model:

$$Yit = \alpha i + \beta Xit + uit \tag{3}$$

The constants αi for every section are considered random parameters in the random-effects model. Eq. (4) may be used to express this model:

$$Yit = \alpha i + \beta Xit + uit \tag{4}$$

αi is a typical random variable with zero mean in this case. For balanced time series, the fixed-effects model is more suited, but the random-effects model is better suited for unbalanced time series.

The following hypotheses are tested as part of a Hausman test (Hausman, 1978) to determine which of the fixed-effects and random-effects models to use:

H0: The random-effects model makes sense.

H1: Fixed-effects modeling is suitable.

Lastly, we create the following model by expanding the basic time series model to include all of the variables in our analysis:

$$DGDPit = \alpha + \beta 1VAit + \beta 2PSit + \beta 3GEit + \beta 4CCit + \varepsilon it \quad (5)$$

The definitions taken from the World Bank's Worldwide Governance Indicators database were used due to their widespread use in the global academic and economic literature. However, we recognize the importance of adapting these definitions to the local context of Turkey. Therefore, in the study, these indicators are examined in detail in the context of their impact on Turkish economic growth, taking into account country-specific factors, such as the political and economic situation and the challenges that Turkey faced during the specified period (2002-2022). For example, the impact of political stability is examined in relation to events that Turkey experienced, such as the 2016 coup attempt, and their effects on various governance indicators.

The four components that are used to gauge global governance indicators are described below.

1) Voice and accountability: This component gauges the degree to which individuals may freely express themselves, organize into organizations, and obtain news media. It also gauges the extent to which citizens can choose their government.
2) Political stability and absence of violence/terrorism: This factor assesses the probability of political unrest, violence, or terrorism occurring in a certain nation.
3) Government effectiveness: This metric assesses the quality of the civil service, its independence from political influence, the provision of public services, and the government's ability to formulate and implement policies.
4) Control of corruption: This component assesses the extent to which public servants exploit their position of authority for personal benefit, the extent to which corruption exists across the government, and the extent to which private interests influence the government.

5. DATA

In statistical analysis, data and unit root tests are frequently used to determine if the data follow a stationary process. The link between two or more time series data sets may be ascertained using co-integration analysis [37].

The sources from which the study's data were gathered are listed in Table 1 below. The study's independent and dependent variables, together with the sources from which they were gathered, are displayed in the table. World Bank indicators provided the GDP (economic growth) data for the dependent variable. Data for the independent variables voice and accountability (VA), political stability (PS), government efficiency (GE), and control of corruption (CC) were gathered via the World Bank's section on worldwide governance indicators.

Table 1. Worldwide governance indicators world bank, by author

Variable	Definition	Data Source	Variable Type
GDP	Real GDP	World Bank	Dependent
VA	Voice and accountability	WGI	Independent
PS	Political stability	WGI	Independent
GE	Government efficiency	WGI	Independent
CC	Control of corruption	WGI	Independent

5.1 Jarque-Bera test

The normality test, which is considered a preliminary stage in panel data analysis, is carried out using many methodologies. The Jarque-Bera test, presented in Table 2, is employed to ascertain the normality of the time series data utilized in the investigation. The Lagrange multiplier test (LM), often known as the Jarque-Bera test, is used to assess if the data are normal. Normality is one of the assumptions that has to be confirmed before doing further tests, such as t- or F-tests. Since bigger sample sizes may render conventional normality tests incorrect, large datasets are often utilized for this test [43].

Table 2. Jarque-Bera test, by researcher; EViews unit root test

Variable	Probability
GDP	0.31
VA	0.31
PS	0.31
GE	0.20
CC	0.37

The "Jarque-Bera test" results in Table 2 indicated that the data were stable and followed the normal distribution. Every variable, including "GDP with a value of 0.3, AV with a value of 0.3, PS with a value of 0.3, GE with a value of 0.2, and CC with a value of 0.3," had a value larger than 0.05. The researcher will use the unit root for the stability of the time series of the variables as a result of this stability.

5.2 Unit root test

If a time series data collection has a unit root, it may be determined statistically using the Augmented Dickey-Fuller (ADF) test. This can indicate if the data is trending or stagnant. It is crucial for determining heteroscedastic errors and evaluating the robustness of a process. In order to provide non-inconsistent results for the different model specifications, the ADF test depends on the right intercepts assertion. It is important to evaluate the likelihood of an incorrect regression and distinguish between stationary and non-stationary variables, particularly when dealing with time series data. The ADF test's ability to determine stationarity depends heavily on the temporal aggregation of the provided data. Therefore, this

needs to be done in an empirical study, and it's important to keep these things in mind when carrying out an empirical investigation [10-48].

In econometrics, a statistical method for time-series or cross-section data is called the Phillips-Perron test. It makes it easier to distinguish between unit root processes and mean-reverting exponential smoothing conventional autoregressive processes. This test is relevant in this case, especially when a negative moving average appears to be developing. The choice of that estimator is crucial, even if spectral density estimators are used in the test formulation to gauge its efficacy. Different estimators may have a substantial impact on the test's size and power attributes. In time series analysis, the Phillips-Perron test provides a helpful way to look at non-stationary data and identify underlying processes by combining the capabilities of the Dickey-Fuller GLS test and the Phillips-Perron test [26-43].

It seems from the data in Table 3 that most study variables' "time series" were not stable at the "level". Nonetheless, for both the "ADF and PP" tests, the "time series" of the "variable GDP" remained steady at this point. "The First Difference" test was run to verify the stability of the remaining time series, and the results showed that every time series was stable. This is a reliable indicator of how thorough the model estimate is.

Table 3. "Augmented Dickey-Fuller ADF" and Phillip-Perron PP", unit root test results Jordan, by researcher, EViews 12

Variable	ADF		
	Level	**1 ST Difference**	**2 ND Difference**
	Prop	Prop	Prop
GDP	0.9	0.5	0.004**
VA	0.9	0.2	0.01**
PS	0.3	0.7	0.02**
GE	0.5	0.9	0.03**
CC	0.6	0.8	0.01**
Variable	**PP**		
	Level	**1 ST Difference**	**2 ND Difference**
	Prop	Prop	Prop
GDP	0.6	0.8	0.003**
VA	0.02**	***	****
PS	0.001**	***	***
GE	0.02**	0.2	0.3
CC	0.01**	0.3	0.2

5.3 Cointegration analysis

A technique that may be used to investigate the long-term relationships among several variables in a system is the Johansen Cointegration test. Finding cointegration, a long-term stable equilibrium relationship between the variables, depends on the cointegration test. By doing this, we are able to ascertain the relationships between the various economic variables, including trade and economics, GDP growth, agricultural sector production, exchange rates, and stock transactions [22].

Even when abrupt changes or systemic breaks occur, the Johansen Cointegration test is a useful tool for monitoring long-term connections. It does this by decreasing the number of estimated parameters while accounting for any changes through the use of sophisticated methods like Fourier functions. All things considered, this exam is quite helpful for scholars and decision-makers [33].

It is clear that a Cointegration vector exists between the time series of the variables based on the results of the Johansson Cointegration test in Table 4. In the first Cointegration vector, the test indicates the presence of Cointegration between the variables by rejecting the null hypothesis and accepting the alternative hypothesis. The value of the trace statistic being higher than the critical value lends credence to this. The alternative hypothesis, which shows five Cointegration relationships, is accepted. Based on the test results, the conclusion is that there are at most Cointegration vectors between the "time series" of the variables. This is a positive indicator for model estimation.

Table 4. Johansson cointegration test

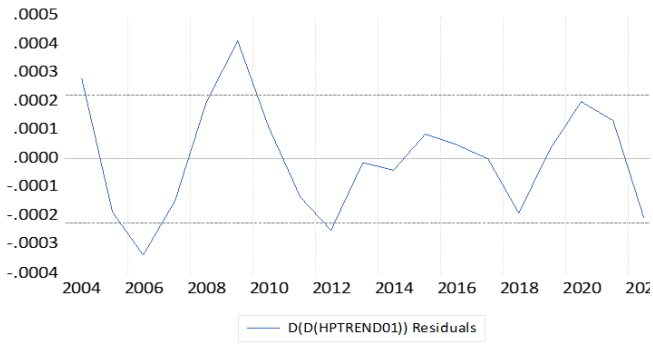
Trace Statistic	Critical Value Sig Level=0.05	Hypothesized No. of CE(s)
326.3	69.8	Non*
192.4	47.8	At most 1*
109.9	29.7	At most 2*
55.1	15.4	At most 3*
15.5	3.84	At most 4*
"Denotes rejection of the hypothesis at the 0.05 level"		

6. RESULT AND DISCUSSION

After using the "OLS" method to estimate the parameters of the standard model in "EViews12", the results were obtained in Table 5:

Table 5. OLS results

Variable	Coefficient	S.E	T-statistics	P-value
Constant	0.05	0.01	5.05	0.0002
VA	0.17	0.03	4.9	0.0002
PS	-0.20	0.03	-5.07	0.0002
GE	-0.16	0.03	-4.7	0.0003
CC	0.01	0.005	1.8	0.08
"R-squared=0.82, Adj R-squared=0.77 prop=0.0000 At the level of 5%"				



The results of the "multiple linear regression" MLR model indicate that the "independent variables" account for 82% of the change in the "dependent variable', with an R-squared value of 0.82. However, it is important to note that the R-squared value alone can sometimes be false and misleading. In this case, the "F-statistic value" of 16.1 and the "F-statistic Prop value" of 0.00 deny this possibility, indicating that there is a significant relationship between the "dependent variable and independent variables" in general. In addition, in Table 6, the "LM" test showed a result of 0.3, which means there is no

strong indication of auto covariance and model reliability. To complete the confirmations, the "Normality" Test showed that the residuals are normally distributed and the test result was 0.7. The "Breusch-Pagan" test showed that there is no conditional variance. Which is a good indicator of the quality of the model.

Table 6. Model quality results

	LM	Normality Test	Breusch-Pagan
Prop	0.3	0.7	0.2

Voice and accountability are essential elements for the economic growth of any country. According to one study, the degree of accountability and voice has a somewhat detrimental effect on economic growth. The p-value of 0.0002 indicates a strong statistical significance with economic growth and increasing levels of voice and accountability. In addition, the positive relationship between voice and accountability suggests that any increase will lead to an improvement in economic growth. This result rejects the null hypothesis and accepts the alternative through the positive relationship between the two variables.

According to previous studies [5, 7, 29, 32], voice and accountability are crucial factors that affect the performance of a country. However, these factors can also be negatively impacted by other elements such as terrorism, taxes, spending, and infrastructure.

The p-value of political stability is 0.0002, which means that there is a strong statistical significance with economic growth as well. Overall, this result indicates a somewhat positive effect of political stability on economic expansion. These results are in line with earlier research [14, 30, 41], which showed that political stability, investment, population, and legislative efficacy may all lower social and economic crisis.

Government efficiency with a p-value of 0.0003 shows that increased government efficiency contributes to economic development and that there is a strong statistically significant relationship. When taken together, these results show a moderately positive effect of government efficiency on economic growth, with the p-value showing a significant degree of significance. These results are in line with those of previous studies [19], which discovered that monetary policies, trade openness, efficient government spending, efficient government administration, and direct investment all have a positive impact on economic growth.

The results showed that there is no strong statistical significance between controlling corruption and economic growth, which accepts the explicit hypothesis and rejects the alternative.

Based on the above, the OLS model indicated the presence of strong statistical significance and acceptance of the alternative hypothesis between three variables (voice and accountability, political stability, government efficiency), while the variable of controlling corruption had no statistical significance with economic growth.

7. CONCLUSION

The main goal of the current study was "The Role of Governance on Economic Growth: A Case Study of Turkey 2002-2022." The linked World Bank governance indicators, which cover political stability, voice and accountability, corruption control, and government effectiveness—were used in the study to examine how these factors affect economic growth. In order to emphasize these hypotheses and connect them to the findings, the study also looked at previous studies on this connection. The most appropriate approach for representing the data collected for the study was determined to be a multiple linear model. About 82% of the variance in the "dependent variable" is explained by the independent factors. It was also demonstrated by the "Johansson test" that time series of variables had five vectors of Cointegration.

The results obtained from the multiple linear regression analysis that voice and accountability are essential elements for the economic growth of any country. According to one study, the degree of accountability and voice somewhat harms economic growth. The p-value of 0.0002 indicates a strong statistical significance with economic growth and increasing levels of voice and accountability. In addition, the positive relationship between voice and accountability suggests that any increase will improve economic growth. This result rejects the null hypothesis and accepts the alternative through the positive relationship between the two variables.

Moving on, the p-value of political stability is 0.0002, which means there is a strong statistical significance with economic growth. Overall, this result indicates a somewhat positive effect of political stability on economic expansion. Government efficiency with a p-value of 0.0003 shows that increased government efficiency contributes to economic development and that there is a strong statistically significant relationship. When taken together, these results show a moderately positive effect of government efficiency on economic growth, with the p-value showing significant significance.

Finally, there is no strong statistical significance between controlling corruption and economic growth, which accepts the explicit hypothesis and rejects the alternative.

8. RECOMMENDATIONS AND CONTRIBUTIONS

According to the findings of the study titled “The Role of Governance on Economic Growth: A Case Study of Turkey 2002-2022,” the authors offer recommendations to decision-makers in Turkey. They highlight the negative impact of voice and accountability on economic growth and identify the factors that have contributed to this issue.

This study will have great importance for the political, administrative and economic dimensions associated with Turkey. In addition, researchers who focus on the Middle East will find this study valuable. To the best of the author's knowledge, this study contributes positively to the literature on the topic of governance and economic growth in Turkey. This is because there are few studies that have specifically analyzed this topic in the context of Turkey.

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