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EFFECT OF AGGREGATE FDI AND SECTORAL FDI ON THE UNEMPLOYMENT RATE: EVIDENCE FROM TÜRKIYE

Toplam Doğrudan Yabancı Yatırımların ve Sektörel Yabancı Yatırımların İşsizlik Oranı Üzerindeki Etkisi: Türkiye'den Kanıt

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Effect of Aggregate FDI and Sectoral FDI on the Unemployment Rate: Evidence from Türkiye

Abstract

The objective of this research is to investigate the effect of FDI inflows on the unemployment rate by employing the Vector Autoregression (VAR) method during the period of 1992-2020 in Türkiye. The findings reveal that FDI inflows have no significant effect on employment, which may be due to the varying impact of FDI on employment rates across different sectors. Given that the linkage of FDI with the rest of economy, particularly the labour market may exhibit varying effect across different sectors. To address this issue, this research endeavours to examine the impact of FDI on unemployment rates in Türkiye across various sectors. The results demonstrate that FDI in the manufacturing industry is associated with a reduction in the unemployment rate, whereas FDI in the primary and service sectors is not found to have a significant effect. Based on the results, the study offers implications and recommendations for future research.

Keywords: Foreign Direct Investment, Unemployment Rate, Vector Autoregression

Özet

Bu araştırmanın amacı, Türkiye'de 1992-2020 döneminde doğrudan yabancı yatırımların (DYY) girişlerinin işsizlik oranı üzerindeki etkisini Vektör Otoregresyon (VAR) yöntemi kullanarak araştırmaktır. Bulgular, DYY girişlerinin istihdam üzerinde önemli bir etkisinin olmadığını ortaya koymaktadır ki bunun nedeni, farklı sektörlerdeki DYY'nin istihdam oranı üzerindeki etkisinin farklı olabileceğidir. Çünkü DYY'nin ekonominin geri kalanıyla, özellikle de işgücü piyasasıyla bağlantısı farklı sektörlerde değişkenlik gösterebilir. Bu durumun üstesinden gelmek için, bu çalışma DYY'nin Türkiye'deki işsizlik oranları üzerindeki etkisini çeşitli sektörlerde incelemektedir. Sonuçlar, imalat sanayiindeki DYY'nin işsizlik oranındaki azalma ile ilişkili olduğunu, fakat birincil ve hizmet sektörlerindeki DYY'nin anlamlı bir etkisinin olmadığını göstermektedir. Çalışmanın bulguları baz alınarak, bu çalışma gelecekteki araştırmalar için çıkarımlar ve öneriler sunmaktadır.

Anahtar Kelimeler: Doğrudan Yabancı Yatırım, İşsizlik Oranı, Vektör Otoregresyon

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Introduction

Countries have a severe competition to attract more foreign direct investment (FDI) by offering some incentives such as income tax holiday, subsidies for infrastructure in the idea that FDI will create positive spillovers such as the transfer of technology, know-how, etc. Additionally, it is anticipated that FDI will assist the host nation in increasing its growth rate. However, the consensus regarding the impact of FDI on the economies of host nations has been far from consistent. Even while the relationship between FDI and growth rate has received the greatest attention in the academic literature, the impact of FDI on the employment rate is also a controversial subject. Since the rise in unemployment in some countries due to globalization has brought attention to the relationship between FDI and employment (Golejewska, 2001). FDI is expected to reduce unemployment and increase employment opportunities by increasing the real gross domestic product. However, inflows of FDI may not necessarily result in a significant impact on the overall level of employment but may instead affect the productivity of the employment. The literature shows that there are differing findings on the impact of foreign investments on employment. Clearly, some studies (e.g., Abor and Havey, 2008; Javed et al., 2011) have found a positive effect while others conclude an insignificant effect of FDI on the employment rate (e.g., Pinn et al., 2011; Onisimi, 2014). It has been found in some studies that FDI and employment have a negative link. (e,g., Akcoraoglu and Acikgoz, 2011).

The conflicting results in the literature about the impact of foreign investments on employment may be due to the choice of sample nations. Countries with abundant natural resources may attract FDI mainly to that sector, leading to limited employment creation. Meanwhile, developed countries tend to attract FDI to sectors that create more employment opportunities. This could explain the mixed findings in the literature. Additionally, focusing only on the overall FDI and ignoring the specific sectors that receive the FDI may also contribute to the conflicting results. To address these issues, this study focuses on Türkiye, which is different from other developing countries with abundant natural resources and examines both sectoral and overall FDI during the period between 1992 and 2020 using a VAR model.

Türkiye is an appropriate country to examine the link between foreign direct investment and unemployment rate for the following reasons: Türkiye is one of the leading recipients of foreign investment in Asia, receiving 3.5% of the region's total foreign investment in 2017. Additionally, it attracts the largest amount of foreign investors in the Western Asia region, receiving 21% of all foreign direct investment inflows in the area (Gokceli, 2022). Moreover, it may be more meaningful to examine the role of foreign investment in unemployment in such a country, in which the rate is higher than the average in OECD member countries, instead of selecting a country with the lowest unemployment rate. This is because of the limited variation in the unemployment rate, the regressions may not yield significant results. To the best of our knowledge, this is the first study looking at the

effect of sectoral FDI on the unemployment rate. In this respect, its contribution to literature will be its examination on a sectoral basis.

The present study aims to examine the influence of aggregate FDI and sectoral FDI on unemployment rate in Türkiye and is divided into four parts. The first section provides an introduction, the second part consists of a review of the relevant literature, the third section contains information about the data and methodology. The results and discussion are presented in the fourth section, followed by the study's conclusion and suggestions in the last section.

1. Literature Review

A number of studies have examined the link between FDI and employment of the host country. However, these studies have not yielded a conclusive result on the impact of FDI on employment. This may be due to the various modes of FDI entry, periods of research, and methodologies employed, all of which can affect the results (Nordin, 2017). More significantly, the mixed results in the literature could be attributed to the overlooking of the potential diverse impact of FDI in different sectors. To show the mixed findings of the research on the effect of FDI on employment, initially, we provided a summary of research that analyzed the impact of total foreign direct investment (FDI) on employment rates. The results showed that there were no significant effects in some cases, while in others, FDI had either positive or negative effects on employment. Following that, we presented research that specifically examined the effects of FDI on employment in different sectors of the economy.

Onimisi (2014) examines the correlation between employment in Nigeria and foreign direct investment (FDI) using a multiple linear regression model that includes FDI, GDP, interest rate, and employment level as variables. The study period ranges from 2002 to 2012. The findings reveal a negative association between FDI and employment level, while GDP and interest rate are positively related to employment level. However, no variable significantly affects employment level in Nigeria during the study period.

Sarwar and Mubarik (2014) analyse the impact of foreign direct investment (FDI) on employment in Punjab, Pakistan, using annual data from 1984 to 2010. The study applies the ARDL approach and finds a significant long-term direct relationship between FDI and employment. The results show that a one million dollar increase in FDI can raise employment level in Punjab by 0.2%. Another positive effect of FDI on the employment rate is found by Abor and Harvey (2008), who look at the impact of foreign direct investment (FDI) on employment and wages in Ghana using a panel regression model. Their study reveals that FDI has a significant positive impact on employment levels but not on wages. Salami and Oyewale (2013) also find a positive and significant link between FDI and employment in Nigeria.

While many studies suggest that FDI decreases unemployment, some have found that it has a negative impact on employment. In a study by Akcoraoglu and Acikgoz (2011), they analyze the influence of FDI on employment and find that FDI flows have a long-term

negative impact on employment. They attribute this negative effect to the fact that most FDI in Türkiye comes from foreign acquisitions and mergers, rather than from new greenfield investments.

There are relatively less studies scrutinising the effect of FDI in different sectors on the employment rate. For example, Wong and Tang (2011) investigate the relationship between foreign direct investment (FDI) and employment in the manufacturing and services sectors of Singapore, using an autoregressive distributed lag (ARDL) model. The study reveals evidence of both long-run and short-run causality between FDI inflows and employment, with a significant correlation between employment and manufacturing and service sectors. Sinkala and Zhou (2014) also assess how Chinese foreign direct investment (FDI) affects Zambia's labor market. They state that Chinese FDI has increased in Zambia in the past 10 years, particularly in mining and construction. This investment has created many jobs for less-skilled locals, with over 10,000 jobs created in infrastructure development alone. In a comparable study, Golejewska (2001) examines the influence of FDI on job creation in Nigeria's manufacturing sector and finds that FDI is linked to a decrease in the unemployment rate. Likewise, Liu (2011) finds that FDI has generated employment in both the manufacturing and service sectors over the long term.

As seen from the sample studies presented in this section, the findings have been far away from the conclusion even though there are relatively less studies concluding the negative or insignificant effect on the link between FDI and employment rate. Moreover, there has been a lack of research on the sectoral level, and none of these studies have been conducted on Türkiye. Thus, our study is a significant contribution to the literature by focusing on the sectoral level in Türkiye.

2. Data and Methodology

To investigate the impact of aggregate foreign direct investment (FDI) and sector specific FDI on employment rates, we utilized yearly data spanning from 1992 to 2020 for Türkiye, employing the VAR method. The time period was selected based on data availability, as information on sectoral FDI was only available from 1992 onwards. Furthermore, we controlled for real GDP, as it is anticipated that GDP may influence employment rates.

Unemployment is defined as the proportion of the labor force that is not employed but is actively seeking employment and available to work. The data is taken World Bank Indicator Databe.

Foreign direct investment (FDI) refers to the inflow of equity investment into the reporting economy, which encompasses equity capital, reinvestment of earnings, and other capital. The ownership of at least 10% of the ordinary voting shares is the benchmark utilized for identifying the existence of a direct investment relationship. The data are expressed in current U.S. dollars and gathered from World Bank Indicator Databe.

The variables PrimaryFDI, ManufacturingFDI, and ServiceFDI represent the FDI inflows into three distinct sectors, namely, the primary, manufacturing, and service sectors. The data pertaining to sectoral FDI is acquired from the OECD's International Direct Investment Statistics Yearbook (from the Yearbook 2002 to Yearbook 2018).

The variable LnGDP represents the natural logarithm of Gross Domestic Product (GDP) at purchaser's prices, which denotes the summation of gross value added by all producers resident in the economy, alongside any taxes on products, and with subsidies not factored into the product value. The data is expressed in constant 2015 prices and denominated in U.S. dollars.

Table 1 presents the descriptive statistics for the variables utilized in the analysis of Türkiye for the period spanning from 1992 to 2020. As depicted in the table, the unemployment rate's minimum value is 6.5, while its maximum value is 13.67, exhibiting the highest standard deviation among the variables. The second highest standard deviation is attributed to lnFDI, with a minimum value of 20.22 and a maximum value of 23.81. The remaining variables show limited variation during the period of analysis, from 1992 to 2020.

Table 1: Descriptive Statistics

Variables	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Unemployment Rate	29	9.3829	1.8327	6.5	13.67
lnFDI	29	22.0603	1.3646	20.2257	23.8164
PrimaryFDI	29	0.0226	0.0182	0.0008	0.0678
ManufacturingFDI	29	0.2843	0.1308	0.0973	0.6296
ServiceFDI	29	0.6486	0.6475	0.1006	2.6568
lnGDP	29	26.9895	0.4092	26.3888	27.6466

The VAR method was utilized to explore the interrelationship between FDI, unemployment rate, and GDP. As all variables are deemed endogenous, no exogenous variables are incorporated into the VAR model. The model employs all regressors as both dependent and independent variables. Furthermore, the dependent variable is a function of its prior values and the preceding values of other regressors in the system (Çalis and Gökçeli, 2022). The relationship among the variables is estimated through the subsequent equations:

$$UR_t = \alpha + \sum_{i=1}^{k} \beta_i UR_{t-i} + \sum_{i=1}^{k} \lambda_i FDI_{t-i} + \sum_{i=1}^{k} \Upsilon GDPt_{-i} + u_{1t} \quad (1)$$

$$FDI_t = \alpha + \sum_{i=1}^{k} \beta_i FDI_{t-i} + \sum_{i=1}^{k} \lambda_i UR_{t-i} + \sum_{i=1}^{k} \gamma_i GDP_{t-i} + u_{2t} \quad (2)$$

$$GDP_t = \alpha + \sum_{i=1}^{k} \beta_i GDP_{t-i} + \sum_{i=1}^{k} \lambda_i UR_{t-i} + \sum_{i=1}^{k} \gamma_i FDI_{t-i} + u_{3t} \quad (3)$$

Where UR refers to unemployment rate at time t. α is the constant term, $FDI_{i,t}$ stands for aggregate FDI inflows and FDI inflows into three sectors. GDP denotes the real GDP and u represent error term.

3. Empirical Results

Prior to examining the effect of foreign direct investment (FDI) on employment rates, it is necessary to conduct a unit root test. The Augmented Dickey-Fuller (ADF) test is utilised to assess the stationarity of the model's variables. The null hypothesis of the ADF test postulates that the time series variable possesses a unit root, while the alternative hypothesis contends that the model's variables are stationary.

As seen in Table 1, the critical values of all variables are lower than their reported critical values at 5% level, indicating that the unemployment rate, FDI and GDP possess a unit root. In other words, they are non-stationary at level. Nonetheless, when their first difference form is considered, they appear to be stationary. Consequently, one of the most suitable research techniques for investigating the relationship between these variables is Vector Autoregression (VAR), which we will employ.

Table 2: Unit Root Test, ADF

Variables	**Level Form**		**First Difference Form**	
	ADF statistics	**Critical value**	**ADF statistics**	**Critical value**
Unemployment rate	-0.091 (0.965)	-2.986	-5.435*** (0.000)	-2.989
LnFDI	-1.297 (0.631)	-2.986	-5.372*** (0.000)	-2.989
LnGDP	-1.172 (0.685)		-5.631*** (0.000)	-2.989

P-values are reported in the parentheses. (*) denotes 1% level, (**) denotes 5% level, (***) denotes 10% level,

In the literature, there are various criteria that can be applied for the selection of optimal lags, as stated by Liew (2004). We consider the famous ones, namely, final prediction error (FPE), Akaike's Information Criterion (AIC), Schwarz's Information Criterion (SIC), and Hannan and Quinn's Information Criterion (HQ), which indicate that lag (1) is

the most appropriate in our model, as reported in Table 3. Therefore, we proceed with conducting the VAR model with the selection of lag (1).

Table 3: Order Selections, FPE, AIC, HQIC, SBIC

Lag	LL	LR	df	FPE	AIC	HQIC	SBIC
0	-94.8741		9	0.282635	7.24993	7.29274	7.39391
1	-41.1273	107.49	9	.010341*	3.93536*	4.10661*	4.51128*
2	-35.0689	12.117	9	0.013246	4.15325	4.45294	5.16112
3	-30.1722	9.7935	9	0.019341	4.4572	4.88533	5.89702
4	-21.2882	17.768*	9	0.022658	4.46579	5.02236	6.33756

3.1. Effect of Aggregate FDI on Unemployment Rate

The vector autoregressive approach (VAR) is used in this study to examine how the unemployment rate responds to changes in FDI and GDP. This method uses both the past of the dependent variable and other variables incorporated in the model as the independent variables. Therefore, all model variables are considered endogenous, and there are no exogenous variables (Çalis and Gökçeli, 2022). As stated by Wijeweera and Mounter (2008), this technique permits the evaluation of the interdependencies between variables, since each variable might influence the others.

The findings estimated by the VAR are reported in Table 4. As displayed in the first column, the unemployment rate is the dependent variable, while the lag values of other variables are employed as the independent variables. The coefficient of the unemployment rate is statistically significant and positive, meaning that a percent increase in the previous rate of unemployment is associated with an increase of 0.69 percent in the current rate of unemployment. The effect of FDI on the unemployment rate is not statistically significant. This finding is consistent with the study of Onimisi (2014), The possible explanation for the insignificant effect might be that FDI in the different sectors may have a distinct effect on the employment rate. More clearly, the magnitude of FDI's linkages in various sectors is not the same, as stated by Alfaro (2003). Because of this, we will assess the effect of FDI in distinct sectors on the unemployment rate in Türkiye in the next section. The impact of the lagged GDP on the unemployment rate seems to be negative and significant, suggesting that a higher GDP is related to a lower unemployment rate, as expected. Since an economy should employ more people in order to produce more goods and services. In the second column, FDI is used as the dependent variable, while others are incorporated into the model as independent variables (as well as the past value of FDI). The only significant variable is lagged FDI, which reveals that more FDI inflows to Türkiye in the last year lead to increased FDI inflows in the current year. In the last column, GDP takes the role of a dependent variable, whereas other variables are independent variables. The lagged value of GDP is positive and significant, showing that the previous year's GDP is associated with a higher GDP in the current year.

Table 4: Effect of FDI on Unemployment Rate

Dependent variables	Unemployment rate	LnFDI	LnGDP
Unemployment rate L1.	0.6975*** (0.000)	0.02992 (0.588)	0.0224 (0.233)
LnFDI L1.	0.4394 (0.305)	0.4939*** (0.003)	0.09297 (0.104)
LnGDP L.1	-0.2379* (0.079)	0.8261 (0.013)	0.7507*** (0.000)
constant	-0.3584 (0.980)	-11.1161** (0.046)	4.4558** (0.018)

P-values are reported in the parentheses. (*) denotes 10% significant level, (**) denotes 5% significant level, (***) denotes 1% significant level.

To evaluate the validity of the VAR model, we need to run some diagnostic tests. Using the Lagrange-multiplier autocorrelation test, we will check if there is autocorrelation in the model. This test's null hypothesis suggests that there is no autocorrelation. If the p-value was more than 0.10, we were unable to reject the null hypothesis. This means, the model is free from autocorrelation. The results are presented in Table 5. It has been shows that the p-values are greater than 0.10 so that we cannot reject the null hypothesis.

Table 5: The Results of Autocorrelation Test

lag	Chi2	df	Prob>chi2
1	9.7021	9	0.3751
2	10.3808	9	0.3205

We proceed with undertaking the normality test nu using the Jarque-Bera test. The null hypothesis of the test is that the variables are normally distributed. The findings are reported in Table 6, indicating that the p-values are greater than 0.10. Therefore, we can conclude that the variables are normally distributed.

Table 6: The Results of Normality Test

Equation	Chi2	df	Prob>chi2
Unemployment rate	0.711	2	0.7009

LnFDI	3.205	2	0.1204
LnGDP	3.670	2	0.1596
All	10.483	8	0.1057

The final diagnostic test is to examine whether the criterion of stability is satisfied. The results reported in Table 7 show that the VAR model meet the stability condition.

Table 7: The results of Stability Test

Eigenvalue	Modules
0.9714	0.9714
0.6411	0.6411
0.3297	0.3297

3.2. Effect of Sectoral FDI on Unemployment Rate

FDI in various sectors may have a diverse impact on the unemployment rate due to the different characteristics of each sector. In light of this, we will use the VAR approach to examine the impact of FDI in the three sectors on the employment rate.[1].

We first scrutinise the effect of FDI in the primary sector on the unemployment rate, and the results are displayed in Table 8. As showed, unemployment rate is used as the dependent variable and other are independent variables in the first column. Among the regressors, the previous year's unemployment rate is associated with a higher unemployment rate in the current year. FDI in the primary sector does not have a significant impact on the employment rate. The possible explanations for the insignificant effects may be that the degree of the linkages of the primary sector with the employment rate is generally restricted because of the fact that this sector is primarily capital-intensive and employs few intermediate goods produced by indigenous enterprises. This argument is also supported by Aykut and Sayek (2007), who assert that when FDI comes to the primary sector, particularly in the mining and extracting subsector, foreign investment typically arrives in the form of a mega-project and is capital-intensive compared to the other two sectors. Moreover, it is likely that foreign enterprises would achieve monopoly status in the industry as a result of the project's scope, displacing local businesses and discouraging entrepreneurs from investing more, hence raising the unemployment rate in the host nation. On the other side, FDI in this sector may assist the country in expanding its total production by contributing to its economy by bringing in a substantial amount of

[1] It is worth noting that to save space and avoid presenting the numerous similar tables, we prefer to not the results of the diagnostic tests in the main text. All the diagnostic tests regarding the analysis of the three sectors meet the criteria of VAR methods.

foreign currency, which in turn increases the employment rate. Considering the possible negative and positive effects of FDI in the primary sector, the net effect may not be clear. Therefore, the ambiguous effect of FDI in the primary is expected. Regarding GDP, it remains its negative effect on the unemployment rate, as found in the previous regression. Clearly, a higher GDP leads to a lower unemployment rate.

Table 8: Effect of FDI in the Primary Sector on Unemployment Rate

Dependent variables	Unemployment rate	PrimaryFDI	LnGDP
Unemployment rate L1.	0.6759***	0.002443	0.0267
	(0.000)	(0.184)	(0.175)
PrimaryFDI L1.	-1.9339	0.06657	2.5472
	(0.209)	(0.733)	(0.224)
LnGDP L.1	-0.9801**	0.0184***	0.8568***
	(0.038)	(0.002)	(0.000)
constant	-2.2614*	-0.4471***	3.3581**
	(0.056)	(0.003)	(0.018)

P-values are reported in the parentheses. (*) denotes 10% significant level, (**) denotes 5% significant level, (***) denotes 1% significant level.

The findings regarding the effect of FDI in the manufacturing sector on the unemployment rate are presented in Table 9. In the first column, the unemployment rate is employed as the dependent variable, while lnFDI and lnGDP are used as regressors. The coefficient of the lagged level of unemployment rate is significantly negative, meaning that the past rate of unemployment leads to an increase in the current year's unemployment rate. The effect of FDI in the manufacturing sector is associated with a lower unemployment rate, as anticipated. The reasons for the negative relationship between manufacturing FDI and unemployment rate may be explained as follows: FDI in the manufacturing sector typically hires workers who are better educated because of the fact that foreign companies in this sector generally produce with modern technology, as argued by De Backer and Sleuwaegen (2003). Since understanding how to work with modern technology necessitates the foreign companies to employ the more educated worker (De Backer and Sleuwaegen, 2003). In addition, multinational firms train their employees, and the workers continue to develop their knowledge by working with cutting-edge technologies throughout their employment. Possessing adequate skills and expertise allows employees to establish their own businesses in the future, resulting in a higher employment rate. Foreign firms also offer skilled employees above-average wages, allowing them to save money and launch their own firms (De Backer and

Sleuwaegen, 2003). Because of the mentioned reasons, the negative link between FDI in the manufacturing sector and unemployment rate is expected. As for the control variables, they have the same sign as those reported in the previous regression.

Table 9: Effect of FDI in the Manufacturing Sector on Unemployment Rate

Dependent variables	Unemployment rate	ManufacturingFDI	LnGDP
Unemployment rate L1.	0.8086***	-0.0342**	0.0211
	(0.000)	(0.026)	(0.323)
ManufacturingFDI L1.	-3.6882**	0.1483	-0.0883
	(0.034)	(0.416)	(0.728)
LnGDP L.1	0.2583	0.0998**	0.9139***
	(0.508)	(0.014)	(0.000)
constant	-6.0387	-2.1141**	2.1899
	(0.523)	(0.033)	(0.113)

P-values are reported in the parentheses. (*) denotes 10% significant level, (**) denotes 5% significant level, (***) denotes 1% significant level.

Table 10 presents the findings about the impact of FDI in the service sector on the unemployment rate. In the first column of the table, unemployment rate enters the regression positively and significantly, indicating that 1 percent increase in the previous year's unemployment rate is related to an increase of 0.7% in the unemployment rate in the current year. However, we have no evidence of a significant effect of FDI in the service sector on the employment rate. The insignificant effect might be explained by the following arguments: The relationship between FDI in the service sector and the unemployment rate is not as simple as FDI in other sectors because of the wide range of subsectors included in the service sector. Some subsections, such as the electricity, gas, and water supply sectors, tend to be linked with the rest of the economy, so the potential effect on the unemployment rate is less likely to be observed. On the other hand, FDI in the subsectors, such as tourism, financial activities, more likely to affect the employment rate owing to the more workers hired in these subsectors. The remaining signs of the variables follow the same pattern as in the previous regressions.

Table 10: Effect of FDI in the Service Sector on Unemployment Rate

Dependent variables	Unemployment rate	ServiceFDI	LnGDP
Unemployment rate L1.	0.7025***	0.0516	0.0262

	(0.000)	(0.380)	(0.176)
ServiceFDI L1.	0.1148 (0.744)	0.7106*** (0.416)	0.0679 (0.140)
LnGDP L.1	0.5679 (0.157)	-0.0606 (0.703)	0.8804*** (0.000)
constant	-12.3436 (0.216)	1.3362 (0.736)	2.9675** (0.023)

P-values are reported in the parentheses. (*) denotes 10% significant level, (**) denotes 5% significant level, (***) denotes 1% significant level.

Conclusion

Countries compete to attract more foreign direct investment (FDI) through incentives such as tax breaks and infrastructure subsidies, with the expectation that FDI will bring positive spillover effects and increase economic growth. However, there is no consistent consensus on the impact of FDI on host economies. While the relationship between FDI and growth rate has received the most attention, the increase in unemployment in some countries resulting from globalization has drawn focus to the impact of FDI on the employment rate. While FDI is expected to reduce unemployment and increase employment opportunities, the literature shows mixed findings on the impact of foreign investments on employment. Some studies (e.g., Abor and Havey) show a positive effect, while others find no significant impact on the employment rate (e.g., Onisimi, 2014).

This paper examines the effect of aggregate FDI on the unemployment rate in Türkiye over the period 1992-2020. The results show that there is no significant effect of FDI inflows on the employment rate. One reason for the lack of significant effect could be the fact that the impact of FDI on employment rate varies across different sectors. Since the linkage of FDI with the economy, particularly the labour market, may not have the same level of influence across sectors. To account for this, our study aims to analyse the effect of FDI in different sectors on the unemployment rate in Türkiye.

The employment rate is not significantly affected by FDI in the primary sector, possibly because the linkages between this sector and employment are limited. This may be due to the primary sector's focus on capital-intensive activities and the use of few intermediate goods produced by local businesses. The study also finds that FDI in the manufacturing sector is associated with a lower unemployment rate in Türkiye, as foreign companies hire workers who are better educated and offer skilled employees above-average wages. These factors allow workers to establish their own businesses in the future, resulting in a higher employment rate. Finally, the study does not find any significant effect of FDI in the service sector on the employment rate. The reason for this may be that the service

sector includes a wide range of subsectors with different levels of linkage with the rest of the economy. The effect on the unemployment rate is less likely to be observed in some subsectors like electricity, gas, and water supply, while more likely to affect the employment rate in subsectors like tourism and financial activities.

To summarize, this research has implications for policymakers as it suggests that the effect of FDI on employment rates is not uniform across all types of FDI. Only the manufacturing sector shows a significant impact on reducing unemployment rates. Therefore, policymakers should consider encouraging FDI in the manufacturing sector if their goal is to reduce unemployment through FDI inflows. Furthermore, there is a need for further research to investigate the impact of FDI on specific sub-sectors within the service industries, as they may have different effects on employment rates.

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