

Factors Influencing Foreign Direct Investment Flows into Turkey

Ayla Oğuş Binatlı, Niloufer Sohrabji

ABSTRACT

Objective: Foreign direct investment (FDI) is an important determinant of development. Thus, identifying the main drivers of investment is critical especially for emerging markets. The main aim of the article is to verify factors influencing FDI flows into Turkey.

Research Design & Methods: Foreign investment can be affected by structural factors, such as growth and trade openness; stability factors, such as high fiscal deficits, inflation, and exchange rate changes; and global factors, such as the EU accession and the level of global liquidity. We examine the importance of these variables in affecting FDI flows into Turkey using quarterly data from 1992 to 2010 and cointegration and VECM methodology.

Findings: We conclude that for Turkey (and perhaps other emerging markets) structural reforms that expand market size and trade opportunities yield more capital inflows than economic stabilisation efforts that address prices, exchange rates, and budget balances. Moreover, we find that during that period in Turkey, trade and investment were substitutes.

Implications & Recommendations: Stabilisation efforts to control prices, exchange rates, and budgets matter, but not as much as structural reforms that impact market potential and trade flows.

Contribution & Value Added: Previous literature generally finds that FDI and trade are complements in emerging countries. This was the case in Turkey as well in the eighties and early nineties. We show that the EU candidacy prospects have transformed the relationship between FDI and trade in Turkey.

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INTRODUCTION

This article focuses on foreign direct investment flows in Turkey. On the basis of the prior research we examine the role of structural factors (market size and trade) and stability factors (inflation, exchange rates, and fiscal balances) in promoting FDI flows into Turkey during the 1990s and 2000s. Our focus on Turkey during those two decades is important for several reasons. There was an increasing reliance on capital flows as a driver of Turkey's growth in those decades (İzmen & Yılmaz, 2009). In turn, foreign investment was affected by economic events and policy changes during those decades. The financial crises of 1994 and 2001 probably reduced capital flows. On the other hand, those events were the catalyst to trade liberalisation which can promote FDI inflows. Also, Turkey shifted from a fixed to a floating exchange rate regime, which increased the volatility of the Turkish lira and led to rising trade and current account deficits (Dağdeviren, Oğuş Binatlı, & Sohrabji, 2012). This instability can reduce capital flows.

Aside from the above, two other factors affected FDI flows into Turkey in that period, Turkey's negotiations for the EU accession and the availability of global liquidity. There is empirical evidence that suggests that the EU accession could promote FDI flows. FDI flows have increased due to the EU membership (Buch *et al.*, 2003) and the European Monetary Union participation (Schiavo, 2007; Aristotelous & Fountas, 2012). Bevan and Estrin (2004) show that FDI flows into transition countries, whose accession prospects are enhanced, increase even after controlling for proximity and labour cost. However, MacDermott (2007) finds that NAFTA negotiations did not increase FDI to the negotiating countries. We add to this literature by incorporating the impact of the EU accession negotiations beginning in the mid-2000s on FDI flows in Turkey.

Another important aspect of our sample period is the availability of global liquidity which was not incorporated in earlier studies. Ruffer and Stracca (2006) and others compute liquidity as the ratio of nominal money to nominal GDP. Using this measure, Belke, Orth and Setzer (2008) show that the 1990s were a period of low liquidity while the 2000s are a period of high liquidity. Our focus on this period, therefore, enables us to capture the impact of this external factor on FDI in Turkey.

We end our empirical analysis in 2010 because of the significant economic and political changes in Turkey¹ as well as changes in the global environment (rising protectionism) and Europe (Euro crisis).

The article is organised as follows: the next section examines the discussed background of foreign investment in Turkey over the last two decades. Then we present the methodology which is followed by a discussion of results. The last section concludes.

¹ As of 2010, Turkey's political and social environment started changing. In 2010 Turkey had a controversial referendum after which the government gradually became more autocratic, which became faster following the September 2011 elections (Somer, 2016). Widespread street protests took place against the government in the summer of 2013 which became known as the Gezi Park Protests (Yardımcı-Geyikçi, 2014). In June 2015, another controversial election took place and the following year, Turkey witnessed the worst terrorist attacks in its history, with several bomb attacks in the following year (Güneyli *et al.*, 2017). Then, in July 2016, there was a failed coup attempt (Esen & Gümüşçü, 2017) after which a state of emergency was declared.

LITERATURE REVIEW

Foreign direct investment (FDI) can promote growth through technology spillovers (Johnson, 2006; Keller & Yeaple, 2009), export promotion, and improved economic stability through increased savings and better fiscal positions (Kumar, 2007). However, there is a debate about the benefits of FDI for growth.

Hanson (2001) questions the productivity benefits of FDI while Johnson (2006) finds that the benefits of FDI do not extend to all countries. Moreover, Tian, Lo and Song (2015) warn that FDI can have positive and negative spillovers. Also, Sunny (2015) finds that FDI can crowd out domestic investment. Finally, Arslan and Oğuş Binatlı (2010), as well as Wijeweera, Villano and Dollery (2010) argue that FDI is effective only if there is skilled labour, lower corruption levels, and improved infrastructure.

There is also considerable empirical evidence that FDI can help in growth. Arslan and Oğuş Binatlı (2010) find a positive impact of FDI on growth for a sample of 53 countries as Rachdi and Saidi (2011) do for 100 developed and developing countries. Kisswani, Kein and Shetty (2015) show that FDI helps growth in Estonia and Damooei and Tavakoli (2006) find a small positive impact of FDI on growth in Thailand and the Philippines. Omelańczuk (2013) finds that the interrelationship between exports and FDI can promote growth in Poland. There is also evidence of a beneficial impact of FDI on Turkey's growth (Izmen & Yılmaz, 2009).

Given the potential benefits of FDI, it is important to identify drivers of FDI inflows. The structural determinants are market size or growth (Nonnenberg & Mendonça, 2004; Choong & Lam, 2010; Ucal *et al.*, 2010; Abbas & Mosallay, 2016) and trade openness (Helpman, 1984; Hummels, Ishii, & Yi, 2001; Nonnenberg & Mendonça, 2004; Kapuria-Foreman, 2007; Choong & Lam, 2010). Stability factors include sustainable budget deficits as well as stable exchange rates and inflation (Nonnenberg & Mendonça, 2004; Erdal & Tatoğlu, 2002). Of the above, the only ambiguous factor is openness, which is typically expected to promote FDI but may reduce FDI if trade and investment were substitutes and FDI was a response to trade restrictions. The determinants of FDI have also been investigated in Turkey. Bilgili, Tülüce and Doğan (2012) find a negative relationship between imports and FDI and a positive relationship between exports and FDI. Erdal and Tatoğlu (2002), as well as Dumludag (2009) highlight the role of market size, openness, infrastructure and economic stability in attracting FDI flows into Turkey.

FDI flows in Turkey were very low for most of the 1990s (Figure 1). However, the 2000s had much higher levels of foreign investment, especially since 2004 (Figure 1). Sayek (2007) notes that Turkey's share in the world FDI flows was less than 0.3% for the 1990s, which increased in the following decade reaching 1% in 2005. The increase in FDI flows from 2006 to 2008 is particularly remarkable reaching approximately 20 billion USD annually, before declining in 2009-2010 due to the global financial crisis (Figure 1).

The target sectors for this increased FDI flows are shown in Figure 2. Financial and insurance activities were consistently an important target sector in that period. Other sectors received substantial investments in some but not in other years. In 2005 and 2006, information and communication services received a large amount of FDI and in 2009 and 2010 electricity, gas, steam and air-conditioning supply was the target of the largest FDI investment. The manufacturing sector received consistent but smaller levels of FDI.

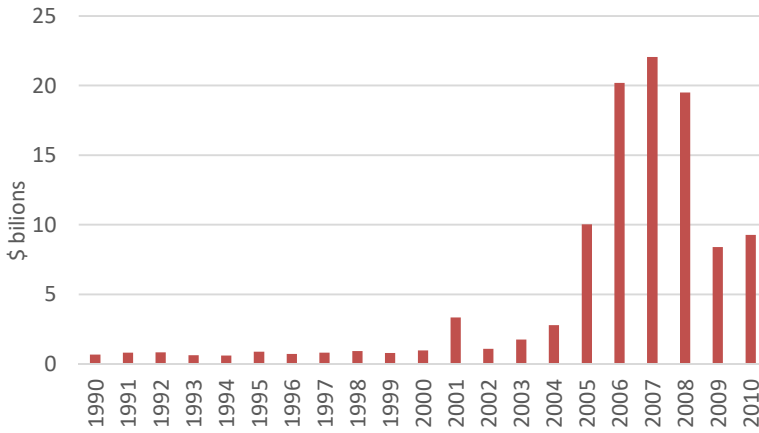


Figure 1. FDI flows into Turkey 1990-2010

Source: Central Bank of Turkey.

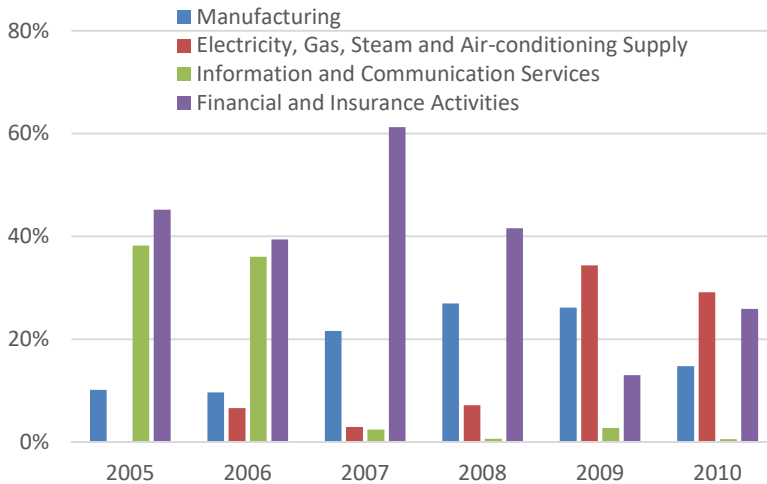


Figure 2. Sectoral Composition of FDI Flows into Turkey 2005-2010

Source: Central Bank of Turkey.

Since 2005, FDI inflows into Turkey mainly originate in Europe (Figure 3). Within Europe, the major origin countries are Germany, Austria, Belgium, France, the Netherlands, the United Kingdom and Greece. Greece and Belgium have been the source of large but sporadic FDI; whereas Germany, the Netherlands and Austria, the three countries where most of the Turkish diaspora reside, are the source of smaller but steady FDI.

Our focus is on the determinants of FDI flows into Turkey in the 1990s and 2000s. Table 1 shows that the average annual FDI flows were below 1 billion USD in the 1990s

and were significantly higher by approximately 10 billion USD in the 2000s. Global factors such as the EU accession and the availability of global liquidity can explain why FDI flows were higher in the 2000s. We also examine other factors that can shed further light on FDI inflows in those two decades.

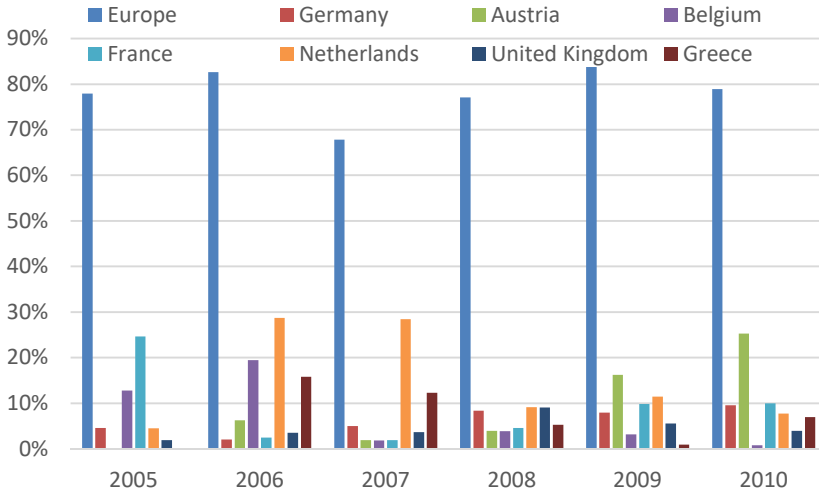


Figure 3. FDI Inflows into Turkey by Region 2005-2010

Source: Central Bank of Turkey.

We start with structural factors, growth and trade. At 4%, the annual average real GDP growth during both decades was healthy, but masks economic turmoil caused by financial crises (including the 2008 global crisis). The trading environment also changed. Until the 1980s, Turkey was a fairly closed economy, it pursued a more liberalised trade regime at the end of the decade, which led to increased trade (Nas & Odekon, 1996). Average annual exports and imports in the 1990s were approximately 37 billion USD and 40 billion USD, respectively, which exploded to 111 billion USD and 128 billion USD in the 2000s (Table 1). Rapidly rising trade with a consistently higher level of imports led to high and unsustainable current account deficits which have been linked to the 1994 and 2001 Turkish financial crises (Oğuş Binatlı, & Sohrabji, 2008) affecting both decades.

Other factors that impacted FDI flows were stability factors such as rising fiscal deficits, exchange rate appreciation, and high inflation rates. The average fiscal deficit to GDP ratio for the 1990s was 5.06% and it rose to 5.44% in the 2000s (Table 1). The high average fiscal deficit to GDP ratios in the 2000s was due to the very high levels in the early 2000s following the crisis. The ratio exceeded 16% in 2001 and stayed high for a few more years. The end of the decade saw an improved fiscal deficit position with fiscal deficits falling below 1% of GDP from 2006 to 2009 (although it rose to 1.4% in 2010). Thus, despite the higher average annual fiscal deficit to GDP ratio in the 2000s, we find that that period was in a better fiscal position compared with the 1990s.

The annual real exchange rate appreciation was 3% on average in both decades (Table 1). This data includes severe depreciation related to the 1994 and 2001 crises. There

were also significant depreciations in 2006 and 2008 indicating increased volatility in the 2000s, which was expected given the shift to a floating exchange rate regime following the 2001 crisis. Inflation was very high in the 1990s with an average annual inflation rate of 77% (Table 1). By the 2000s, this figure had dropped to less than 19% (Table 1). This improved position is all the more impressive, given the very high inflation rates following the 2001 crisis, which lessened significantly after 2004.

Table 1. Statistics on foreign investment and its determinants

Factors	1990-2000 annual average	2001-2010 annual average
FDI	USD 0.79 billion	US 9.84 billion
Structural factors		
GDP growth	3.89%*	3.98%
Exports	USD 36.86 billion	USD 110.91 billion
Imports	USD 40.32 billion	USD 127.92 billion
Stability factors		
Budget balance/GDP ratio	-5.06%	-5.44%
Inflation	76.78%	18.44%
Exchange rate appreciation	2.97%	3.33%

Notes: Annual data from 1990 to 2010 is used. * since the measurement of GDP changed in 1998, we leave out the growth rate for 1998

Source: Central Bank of Turkey.

In some ways, the 2000s were a more dynamic and stable environment. The country was more open to trade, the EU accession was underway, and inflation was lower in the 2000s compared with the previous decade. However, the trade deficit position was more volatile and the decade witnessed Turkey experiencing two significant crises. So, why did Turkey see rising FDI flows? We analyse this question using the methodological framework described in the next section.

MATERIAL AND METHODS

Based on the theoretical and empirical literature discussed earlier, we examine the structural, stability, and global determinants of FDI flows. Structural factors include economic growth and openness. Growth, which is a proxy for market size, makes a country more attractive for foreign investment. An open trading climate has an ambiguous impact on investment depending on whether the investment is seen as a substitute or a complement to trade. If foreign investors are trying to circumvent trade restrictions, a closed economy increases investment flows into the country and vice versa. However, if a foreign investor intends to sell their products elsewhere or needs to purchase intermediate imports to produce their goods, they might find investing in a closed economy less attractive.

Stability factors include indicators that signal a steady economic environment to foreign investors. An unstable environment such as one with high inflationary pressures or fiscal unsustainability (high fiscal deficits or debt) is a less attractive investment climate. Moreover, if the currency is volatile or significantly overvalued, which could lead to high and unsustainable trade and current account deficits, investors would be wary, leading to reduced capital flows.

Finally, there are global factors including Turkey's progress on the EU candidacy and the overall global liquidity environment. The EU accession prospects are expected to have a positive and statistically significant impact on FDI flows as do periods of high global liquidity (the 2000s, based on the findings of Belke *et al.*, (2008).

Based on the above, the determinants of FDI are market size, openness, exchange rate, inflation, deficit, the EU accession, and the availability of global liquidity. Aside from the two global factors, all the other factors affect foreign direct investment and are in turn impacted by them. Thus, estimation would require a vector autoregression (VAR) approach. The structural and stability factors are part of the VAR system, the global factors are treated as exogenous.

The 6-variable vector autoregression with p-lags, denoted as VAR(p), with exogenous variables is expressed as follows:

$$y_t = \eta + \sum_{i=1}^p \Gamma_i y_{t-i} + \Theta x_t + \epsilon_t \quad (1)$$

where y_t is a 6 x 1 vector of system variables (FDI, market size, openness, exchange rate, inflation, deficit) each with p-lags, η is a 6 x 1 vector of intercept coefficients, and x_t is a 2 x 1 vector of exogenous variables (EU accession and availability of global liquidity). Γ_i 's are the 6 x 6 coefficient matrices for the system variables and Θ is the 6 x 2 coefficient matrix for the exogenous variables.

The first step is to test for non-stationarity as a standard VAR in levels cannot be used if the variables have unit roots. We employ ADF and KPSS tests. If variables are non-stationary, the analysis should search for a cointegrating relationship among FDI and its determinants. There are two main approaches to cointegration analysis. The Engle-Granger method is a single-equation method valid only if a single cointegrating vector exists. The Johansen (1988) approach, which estimates a vector error correction model (VECM), can handle multiple cointegrating vectors and will find a cointegrating relationship more reliably if it exists. Thus, following Erdal and Tatoğlu (2002), we use the Johansen cointegration method to identify the main drivers of foreign direct investment in Turkey and estimate a VECM which provides the long-run and short-run relationship between the variables. Lag length for the test is determined by AIC.

Estimation results are analysed in the following section.

RESULTS AND DISCUSSION

We use quarterly data from 1992 to 2010 to estimate the factors that affect foreign investment in Turkey. **FDI** is measured as billions of U.S. dollars of net FDI inflows (denoted as *FDI*). To capture **market size**, we use the index of industrial production (denoted as *IIP*) rather than GDP. This is a good proxy for two reasons. Firstly, GDP estimation changed in Turkey in 1998, which makes this series problematic. Also, IIP captures the productive capability of a country and is thus an important indicator for investors looking to invest in Turkey. The factor **openness** is included as the sum of exports and imports also measured in billions of U.S. dollars (denoted as *Trade*). For **inflation**, we use the consumer price index (denoted as *Prices*) and for the exchange rate, we use the IMF-estimated CPI-based real effective exchange rate index weighted for Turkey's major trading partners (denoted as *REER*). **Fiscal balance** (denoted as *Budget*) is expressed in thousands of Turkish lira which is converted to billions of U.S. dollars using the lira-dollar market exchange rate. The base

year is 2005 for all the indices. All variables except *Budget* are in natural logarithm terms. We used data from the Central Bank of Turkey website.

In addition to the above, we have two dummy variables for the EU accession and the level of global liquidity. For global liquidity (*GL*) we use a dummy variable that captures the measures identified by Baks and Kramer's (1999) and estimated by Belke *et al.* (2008). They conclude that the 1990s were a less-liquid and the 2000s a more-liquid global environment. Thus, our variable takes a value of 0 for the 1990s and 1 for the 2000s. We also use a dummy variable for the EU accession (denoted as *EU*) which takes a value of 1 for periods following the start of the accession negotiation talks which began in 2005 and 0 for earlier periods. Table 2 presents the variables and their descriptions.

Unit root tests are conducted for all the series except the two dummy variables using ADF and KPSS tests and are presented in Table 3. Tests were conducted assuming a constant and a constant and a trend. The variables are non-stationary in levels and stationary in first differences.

Table 2. Description of variables

Variables	Description
<i>FDI</i>	Foreign direct investment flows in billions of U.S. dollars
<i>IIP</i>	Index of Industrial Production (base year = 2005) which is a proxy for market size.
<i>Trade</i>	Exports and imports in billions of U.S. dollars
<i>Prices</i>	Consumer Price Index (base year = 2005)
<i>REER</i>	IMF estimated CPI-based real effective exchange rate index weighted for Turkey's major trade partners (base year = 2005)
<i>Budget</i>	Fiscal balance expressed in Turkish lira converted to billions of U.S. dollars using market exchange rate.
<i>EU</i>	Dummy variable equal to 1 after the EU accession talks began in 2005.
<i>GL</i>	Dummy variable equal to 1 after 2000, which is considered a period of high global liquidity.

Notes: all variables except *Budget*, *EU*, and *GL* are in natural logarithm terms.

Source: Central Bank of Turkey.

Given this result, we test for cointegration between the variables including exogenous variables described above. The results of the Johansen eigenvalue test shows evidence of one cointegrating relation between the variables².

Results of the VECM estimation are presented in Table 4. We start with the long-run coefficients. Theoretically, *Trade* had an ambiguous relation with *FDI*. We find a negative relationship which indicates that in the long run, foreign investment and trade are substitutes. However, there is literature that suggests that *FDI* and trade are complements, such as a study by Zysk and Śmiech (2014) on Visegrad countries and by Erdal and Tatoğlu (2002) on Turkey. Martens (2008) reviews the relationship between *FDI* and trade and concludes that there is enough evidence to show that trade and *FDI* are complements in emerging countries in most cases, but there are some exceptions, for example, Brazil or OECD *FDI* to Africa. Also, Kreinin and Plummer (2008) find that trade and *FDI* act as substitutes in the cases of regional integration. Thus, our finding suggests

² The eigenvalue statistics are 41.74 and 31.72 for the null of no cointegrating relation and at least one cointegrating relation, respectively

that the previous complementarity between FDI and trade in Turkey (Erdal & Tatoğlu, 2002), may have been transformed due to integration prospects.

Table 3. Unit Root Test Results

Factors	ADF ^a		KPSS ^b	
	μ	μ, τ	μ	μ, τ
<i>FDI</i>	-1.29 [1]	-2.93 [1]	0.92* (6)	0.16* (6)
Δ <i>FDI</i>	-15.04* [0]	-14.92* [0]	0.04 (1)	0.04 (1)
<i>IIP</i>	-0.74 [6]	-2.51 [5]	1.07* (6)	0.07 (5)
Δ <i>IIP</i>	-4.90* [5]	-4.84* [5]	0.15 (17)	-
<i>Trade</i>	0.36 [6]	-1.57 [6]	1.05* (6)	0.13** (6)
Δ <i>Trade</i>	-4.59* [5]	-4.56* [5]	0.45 (51)	0.08 (6)
<i>Prices</i>	-4.26* [2]	-0.68 [0]	1.07* (6)	0.29* (6)
Δ <i>Prices</i>	-	-6.61* [0]	0.97* (6)	0.15* (6)
<i>REER</i>	-1.34 [0]	-3.42** [2]	1.00* (6)	0.11 (5)
Δ <i>REER</i>	-5.75* [3]	-	0.14 (8)	-
<i>Budget</i>	-2.18 [5]	-2.20 [4]	0.37** (2)	0.35* (2)
Δ <i>Budget</i>	-4.77* [3]	-4.73* [3]	0.10 (14)	0.09 (14)

Notes: all tests are conducted for a constant (μ) and a constant and trend (μ, τ). * and ** denotes rejection of the null at 5% and 10% level of significance respectively. The null for ADF is that the variable is nonstationary and for KPSS is that the variable is stationary. ^a Lag length (in square brackets) is selected based on AIC with maximum lag length set at 6. ^b Bandwidth is in brackets.

Source: own study.

IIP and *Budget* are positively related to FDI while *Prices* and *REER* are inversely related to FDI. The greater the economic potential of a country (as measured by *IIP*), the greater the level of FDI. Price increases and budget deficits which signal instability are associated with lower FDI. A higher *REER* implies an appreciation of the real effective exchange rate and hurts FDI. This result also reaffirms the previous finding about trade and FDI being substitutes. Thus, the long-run relation between FDI and all structural and stability indicators has expected results and is statistically significant.

In the short run, only three factors have a statistically significant impact on FDI. Once again, market size has a positive effect and prices have a negative effect on FDI. Unlike in the long run, trade and FDI are complements in the short run. The positive impact of openness on FDI reinforces the findings of Erdal and Tatoğlu (2002) and Güngör and Oğuş Binatlı (2010). Exchange rate and budget balances do not play a statistically significant role in FDI flows in the short run.

Moving on to our two exogenous variables, *EU* and *GL*, we find that as expected, greater integration with the EU and greater availability of global liquidity lead to greater FDI flows into Turkey. Although, *EU* is not a statistically determinant of FDI at usual levels of significance, the adjusted R^2 test shows that it is an important variable in the estimation. This supports the results of Güngör and Oğuş Binatlı (2010) concerning the additional benefits of emerging markets joining economic unions. Moreover, emerging markets, unlike developed countries, cannot escape conditions in the global environment and are more susceptible to the availability of global liquidity.

Table 4. VECM Results

Variable	Coefficient	Standard Error
Long-run coefficients		
<i>IIP</i>	13.57*	(2.48)
<i>Trade</i>	-1.87*	(0.81)
<i>Prices</i>	-0.62*	(0.15)
<i>REER</i>	-4.16*	(1.28)
<i>Budget</i>	0.03*	(0.01)
<i>EU</i>	0.14+	(0.22)
<i>GL</i>	0.62*	(0.29)
<i>Error correction term</i>	-0.40*	(0.12)
Short-run coefficients		
Δ <i>FDI</i>	-0.44*	(0.11)
Δ <i>IIP</i>	4.69*	(2.06)
Δ <i>Trade</i>	2.19*	(1.06)
Δ <i>Prices</i>	-2.86**	(1.75)
Δ <i>REER</i>	0.51	(1.07)
Δ <i>Budget</i>	-0.001	(0.008)
$R^2 = 0.487$		

Notes: Lag length of the underlying VAR was determined to be two lags based on AIC. We report long-run and short-run results, as well as the coefficients for the exogenous factors and the error correction term. We include but do not report the constant term. * and ** indicates that the variables are statistically significant at 5% and 10% level of significance respectively and + indicates that although the variable is not statistically significant at usual levels of significance, the inclusion of the variable is justified when examining adjusted R2.

Source: own study.

Finally, we turn to the error correction term. For long-run equilibrium, this coefficient should be negative and less than the absolute value of 1. We find a coefficient of -0.401, which is a relatively large coefficient that indicates a quicker convergence to long-run equilibrium. We calculate the speed of adjustment following Mathisen (2003) and Dağdeviren *et al.* (2012) as the inverse of this coefficient which shows the number of quarters it would take to eliminate half the deviation from long-run equilibrium. We find that 50% of the deviation in long-run equilibrium is eliminated in less than three quarters.

In addition to the above, we analyse the impulse response function of FDI to a one-unit shock to each of the other endogenous variables in the system (Figure 2). These results are dependent on the order of the underlying VAR system. Based on Wijeweera and Mounter (2008)³, we use the following order for the VAR: *FDI, IIP, Trade, Prices, REER, and Budget*. FDI flows respond positively to a unit shock in *IIP, Trade, and Budget* and negatively to *Prices and REER*.

There is a considerable similarity in the magnitude and trajectory of the effects. There is a relatively large initial effect which becomes a smaller sustained impact after the third quarter which stays beyond the two-year period (graphs of longer periods are not shown here). Structural factors (*IIP and Trade*) have a bigger impact than the stability factors (*Prices, REER, and Budget*). Of the two structural factors, openness (*Trade*) is more volatile

³ Wijeweera and Mounter (2008) have variables not included in our VAR and vice versa. We maintain the theoretical underpinning to the order.

while market capacity (*IIP*) has a bigger effect. Among the stability factors, the exchange rate (*REER*) dominates while inflationary pressures (*Prices*) has the smallest impact.

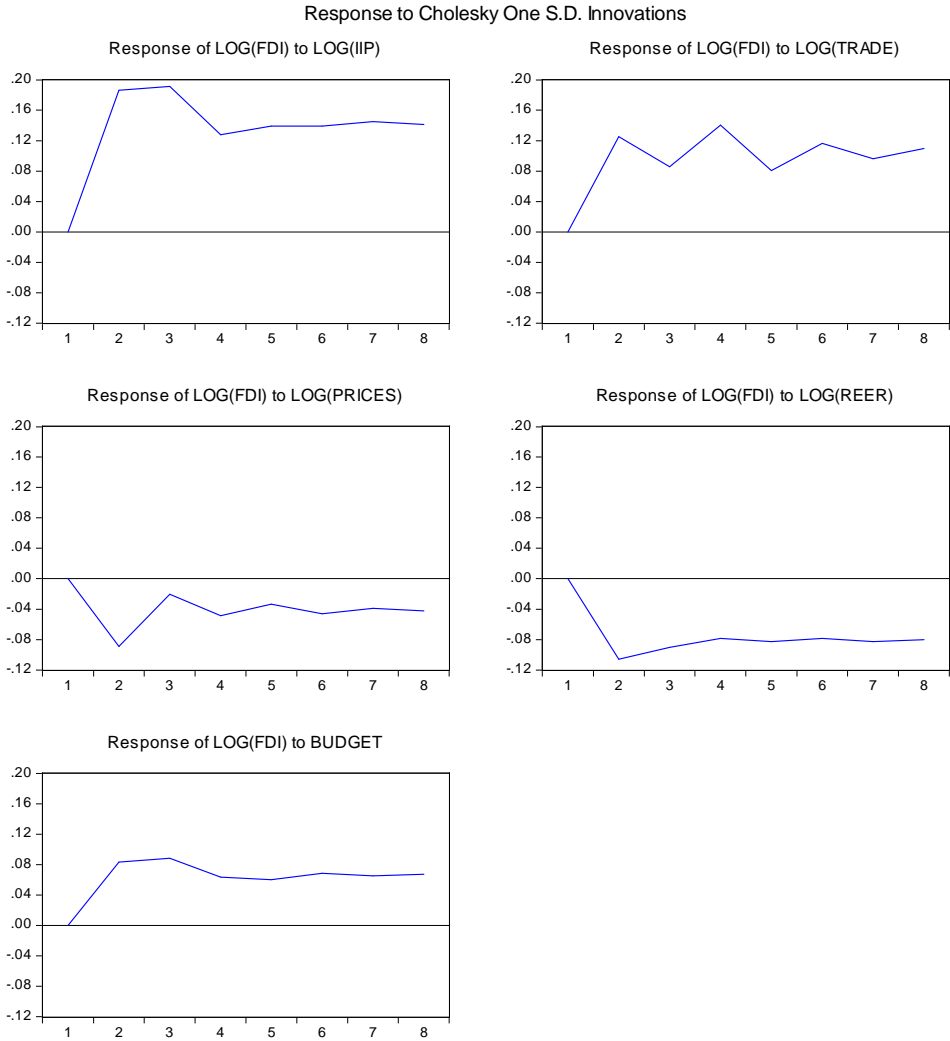


Figure 2. Impulse Responses of FDI

Notes: we present impulse responses for FDI for a one-unit shock to other variables in the system.

Impulse responses are reported for two years (eight quarters).

Source: own elaboration.

Our empirical analysis shows that structural factors (growth and trade) dominate over all other determinants of FDI. Moreover, our results highlight the complex relationship between trade and FDI which is affected by economic integration. Our finding of the substitutability between FDI and trade in Turkey in the sample period suggests that the complementarity between FDI and trade in earlier decades in Turkey was affected and transformed by the EU candidacy prospects.

CONCLUSIONS

In this article, we analyse the factors that affect FDI flows into Turkey. Turkey's struggles with economic instability (high prices and deficits) as well as the financial crises which led to the introduction of the new Turkish lira and the change in exchange rate regime have important implications for attracting capital flows. In addition, Turkey's experience with reforms that liberalised the economy in response to earlier crises as well as due to the EU accession make the country an important case study.

Using cointegration and vector error correction methodology we estimate a long-run and a short-run impact of market size and openness (structural factors) and prices, exchange rates, budget balances (stability factors). Structural factors play an important role in the long- and short- run, while stability factors only matter in the long run (except prices which are also important in the short run). The EU accession and the availability of liquidity (global factors) also have an impact on FDI.

The role of trade is important and complex. Trade and foreign investment were complementary in the short run. This means that the reforms that have liberalised Turkey's trade regime helped attract capital flows although the impulse responses show some volatility. A related result is that the period since the EU accession talks began (which increased trade opportunities with the EU common market) saw increased FDI flows. In the long run, however, trade is shown to be a substitute for FDI. This result is striking given that trade continues to be an integral part of Turkey's development strategy. Our results show that short-run and long-run effects of FDI on trade could be different, which might explain some of the mixed results in the literature. On the other hand, a lot of the recent FDI into Turkey was in the services, which may be clouding our results about the impact of trade on FDI and thus needs further research.

What lessons does Turkey offer to other countries? For emerging markets trying to attract capital flows, Turkey provides a useful insight. Our study shows that emerging markets like Turkey are susceptible to global liquidity constraints. Stabilisation efforts to control prices, exchange rates, and budgets matter, but not as much as structural reforms that impact market potential and trade flows. Moreover, it confirms that there are additional benefits for emerging markets that are joining economic unions. It is important to be cautious about the conclusions. While our study shows the importance of these structural, stability, and global factors on FDI flows in general, individual firms may experience the impact very differently. Thus, a micro-based firm-level analysis of FDI inflows would be a useful complement to this study.

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Authors

The contribution share of authors is equal and amounted to 50% each of them.

Ayla Oğuş Binatlı

Bachelor of Arts in Economics (Boğaziçi University, İstanbul, Turkey); PhD in Economics (Boston College, Boston, MA, USA). Her research interests include international economics and environmental economics.


Correspondence to: Prof. Ayla Oğuş Binatlı, PhD, İzmir University of Economics, Department of Economics, 156 Sakarya Cad. 35330 Balçova, İzmir, Turkey, e-mail: ayla.ogus@ieu.edu.tr

ORCID  <http://orcid.org/0000-0002-8291-0010>

Niloufer Sohrabji

Bachelor of Arts in Economics (St. Xavier's College, Mumbai, India); PhD in Economics (Boston College, Boston, MA, USA). Her research interests include international economics and development economics.

Correspondence to: Prof. Niloufer Sohrabji, PhD, Simmons University, Department of Economics, 300 Fenway, Boston, MA 02115, USA, e-mail: sohrabji@simmons.edu

ORCID  <http://orcid.org/0000-0003-4154-4568>

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