GOVERNMENT STABILITY, ACCESSION TO EU AND FOREIGN DIRECT INVESTMENT IN TURKEY: A GMM APPLICATION

Bulent Esiyok

Department of Economics, Baskent University, Ankara, Turkey
E-mail: besiyok@baskent.edu.tr

Abstract

The article investigates the determinants of foreign direct investment (FDI) inflows from 19 OECD countries into Turkey from 1991 to 2007. In particular, it focuses on the impact of European Union (EU) membership negotiations and government stability on increasing FDI inflows into Turkey in in the 2000s. Two-step system GMM estimation technique is used due to possible endogeneity between GDP and FDI. The empirical results show that accession to EU and restoration of government stability contribute to the increase in FDI inflows.These results imply that recent demonstrations against the government would undermine government stability and cause a fall in FDI inflows into Turkey.

Keywords: Foreign direct investment, Turkey, Government stability, EU, GMM

JEL classification: C23, F21, F23

1. Introduction

Turkey registered unprecedented FDI inflows in the 2000s. While the registered cumulative FDIinflows were only 9.5 billion of US$ from 1995 to 2002,the corresponding value for 2007 amounted to 22 billion of US4$ in a single year (UoT, 2011). This trend in foreign direct investment (FDI) inflows into Turkey in the 2000s might possibly be associated with government stability and the initiation of European Union (EU) membership negotiations (Öniş and Bakır, 2007). A decade of weak coalition governments came to an end with the mandate of a majority government at the election in 2002, and victories at subsequent elections by the same partysecured political stability. The reforms carried out by the governmentin its first two yearsled to the initiation of membership negotiations with the EU in December 2004.

Government stability and accession process have both been shown to affect inward FDI in other host countries (Busse and Hefeker, 2007; Bevan andEstrin, 2004). FDI involves a considerable amount of capitalcommitment;hence it can be expected that firmsexhibit sensitivity to political

environment of the host country. Unexpected changes in government policy involving the regulatory framework of business (Butler and Joaquin, 1998) or tensions between political groups in a country with coalition governments make it difficult for multinational companies to design strategies related to their operations. Mina (2012) and Sanchez-Martin et al. (2014) provide evidence that government instability indeed deters FDI.

Harmonisation of Turkish laws and regulations with those of the EU will create an investment environment, which will be increasingly familiar for the EU origin firms.However, there are certain points which have to be kept in mind in discussing FDI into Turkey. Unlike the first wave and second wave of countries in EU enlargement process, Turkey has not been given a certaindate for accession to the EU. Furthermore, it is not certain that Turkey will eventually join the EU evenif Turkey completes all its obligations to its satisfaction. These prospects regarding EU membership makes Turkey an interesting case to analyse with respect to the impact of accession process on FDI inflows. Existent studies (Bevan and Estrin, 2004) and (Clausing and Dorobantu, 2005) show that accession prospects and EU candidacy spurred FDI inflows into Central and Eastern European Countries.

Privatisation efforts on the part of government may have further served as a catalyst for FDI inflows into the country in the 2000s. For instance, privatisation accounted for about 15% in 2005 and 8% in 2006of total FDI inflows (UoT, 2011).

Apart from government stability and accession to regional blocs, there are a large number of locational determinants of FDI inflows.The sizes of home and host country of investment are the core parts of recent gravity models. According to gravity model, FDI flows between two countries increase in their sizes and decrease in distance between them. Of the traditional determinants, labour cost is included in many studies. The view that multinational enterprises (MNEs) are sensitive to labour costs is consistent with the findings of studies analysing FDI inflows (Wang and Swain 1995; Carstensen and Toubal, 2004; Bellak et al., 2009). Exception is the study of Bénassy-Quéré (2003), which report positive correlation between labour costs and FDI inflows.

There also exist studies investigating the effect of other variables on FDI such as exchange rate level. A depreciation of a country's currency is found to stimulate inward FDI into the country byFroot and Stein (1991) and Klein and Rosengren (1994). The underlying arguments are that a depreciation of host country's currency increases its competitiveness and that such a change in the currency would make it cheaper to buy assets in the host country. A counter-argument is put forward by Campa (1993), who claims that appreciation of the host country's currency would increase FDI inflows due to higher expected profitability.

Physical distance is incorporated into the models as a proxy for transport cost to analyse FDI inflows. Transport costs increases in distance between home and host country of investment. Then MNEs would prefer to invest in distant locations rather than to serve them through exports. Such FDI is called horizontal investment, whereby a firm replicates its production in a foreign location. While greater transports costs motivate horizontal investment, it impedes vertical investment, whereby firms aim to locate different stages of production activity in cheapest locations and ship raw materials intermediate goods between production locations. Braunerhjelm and Svensson (1996),

Frenkelet al. (2004) and Waldkirch (2010) confirm the negative relationship between FDI and distance.

The literature on FDI inflows into Turkey comprises of studies using survey method and time-series econometric methods. The former group includes the studies of Erdilek (1982), Coskun (1996), Tatoglu and Glaister (2000), while the latter contains the studies ofHalicioglu (2001), Erdal and Tatoglu (2002), Bilgili et al. (2010) and Polat and Payaslıoğlu (2016). Regardless of the method or frequency of data (monthly, quarterly, annual), determinants of FDI inflows that have come to the fore are market size, real exchange rate, labour cost and Turkish-EU customs union.The present paper contributes to this literature but differs from the previous studies in emphasising three aspects, which they considered either insufficiently or not at all. First, it takes EU and political stability into account, second, it increases the efficiency of estimates by capitalising on panel FDI data, and third, it addresses the issue of endogeneity using Generalized Method of Moments (GMM).

2. Data and empirical methodology

I specify a gravity type panel model for 19 OECD countries[1] with FDI stocks in Turkey for the period 1992-2007 to investigate the determinants of FDI:

$$lnFDIN_{it} = \beta_1 lnTURGDP_{ht} + \beta_2 lnOECDGDP_{it} + \beta_3 TRC_{iht} + \beta_4 RER_{iht} \\ + \beta_5 RELAB_{iht} + \beta_6 EUNEGD_{it} + \beta_7 GOVSTA_{ht} + \varepsilon_{iht} \quad (1)$$

where the script i, h, t stand for home country, Turkey and year respectively. $lnFDIN_{iht}$ is the natural logarithm of inward FDI stocks from home country i in Turkey at time t; $lnTURGDP_{ht}$is the natural logarithm of the GDPof Turkey at time t, $lnOECDGDP_{it}$ is the natural logarithm of GDP of home country i at time t;TRC_{iht} is the transport costs of exports from home country i to Turkey at time t;$RER_{iht}$is the real exchange rate index between home country i and Turkey at time t. An increase in RER_{iht}indicates a depreciation of Turkish currency.$RELAB_{iht}$is the ratio of labour unit cost of Turkey to that of country i at time t; $EUNEGD_{it}$is a dummy that takes the value of 1 if country i is a member of EU from 2005 and onwards and 0 otherwise. The year 2005 signifies the beginning of Turkey's accession negotiations to the EU.$GOVSTA_{ht}$is the index of government stability for Turkey at time t; ε_{iht} is the error term. FDI is predicted to be positively correlated withhome and host country GDPs, government stability, transport costs, real exchange rate (Froot and Stein, 1991) andwith the start of EU accession negotiations and to be negatively correlated withrelative labour cost.

Following Egger (2001), proxy for transport costs is the ratio of import inclusive of cost, insurance and freight (c.i.f.) reported by Turkey to free on board (f.o.b.) export reported by country i.This proxy ismore informative than physical distance as itindicateschanges intransport costs over time. A

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[1] These countries are Austria, Canada, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Japan, South Korea, Netherlands, Norway, Poland, Spain, Sweden, Switzerland, United Kingdom and United States of America.

positive relation between FDI and proxy transport costs indicates horizontal investment (Brainard, 1997)

Due to lack of data concerning FDI values, dataset is unbalanced with 230 observations. The FDI data are compiled, mainly from OECD International Direct Investment Statistics Database. The FDI data from OECD are extended with those taken from, Eurostat, Central Bank of Netherlands, Statistics of Canada, and Japan External Trade Organisation.[2]In essence, the FDI data used in this study are outward FDI data reported by the home countries. The central bank of Turkey (CBT) reports inward FDI data, but this set is far less complete than that of OECD International Direct Investment Statistics Database. It would be desirable to merge these two FDI datasetsto obtain a more balanced panel dataset. However, there is considerable discrepancy between the investment values reported by the CBT and those of OECD. For the sake of consistency and reliability, only outward FDI data reported by OECD countries are used.

The data on GDP of home countries and Turkey are taken from the World Bank. FDI stocks and GDPs are measured in constant 2000 US$.Nominal exchange rates and consumer price indices of OECD countries are taken from the IMF sources to calculate the real exchange rate index.Relative unit labour costs data are from OECD.
Government stability data, which measure government stability as an index consisting of subcomponents; government unity, legislative strength and popular support, come from ICRG. This index assesses the government's ability to carry out its policies and to stay in office, and ranges from 0 to 12. A score of 12 indicates very low risk and a score of 0 points to very high risk. This indicator has been used by many studies to investigate the impact of political risk on FDI.[3]Summary statistics are reported in Table 1.

Table 1 - Summary statistics

Variable	Mean	SD	Min	Max
lnFDIN	6.274	0.962	4.823	8.429
lnTURGDP	17.109	0.180	16.800	17.433
lnOECDGDP	17.854	1.348	15.422	20.868
TRC	1.128	0.277	0.395	2.456
RER	112.155	22.108	55.001	169.983
RELAB	0.656	0.141	0.376	1.419
EUNEGD	0.160	0.368	0	1
GOVSTA	8.510	1.596	5.083	10.083

Graph 1 below depicts the performance of Turkey on the government stability index from 1992 to 2007. Within the time span of 10 years from 1992 to 2002, nine different governments were in office;hence, the government stability index was considerably unstable. Interestingly, the worst and bestscoreswere in 1994 and 1998, respectively during which coalitions were in government. A majority government was back in power in 2002 and the incumbent party won the election again in

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[2] Following Bénassy-Quéréet et al. (2007), I add a small constant to FDI values to transform the negative values of FDI to positive.
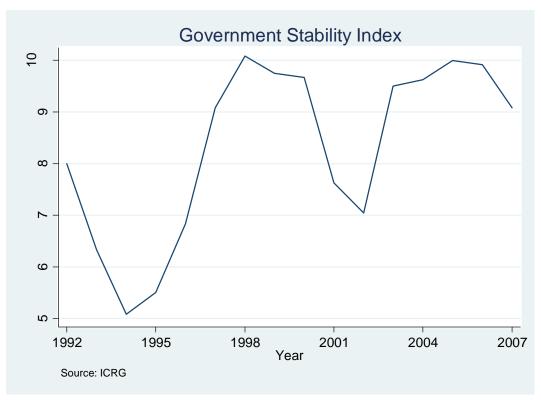[3] Among them are Busseand Hefeker (2007), Mina (2012) and Dreher et al. (2014).

2007 with 350 of the 512 seats in parliament. This five-year period from 2002 to 2007 corresponds to the part of graph where the government stability index of Turkey was more stable than pre-2002 period.

Graph 1. The evolution of government stability index of Turkey from 1992 to 2007

Rarely treated but an important problem in modelling FDI ingravity type equations is the endogeneity between the home and host country GDP and FDI.The solution to endogeneityis provided by GMM(Arellano and Bond, 1991; Arellano and Bover,1995; Blundell and Bond, 1998)which estimates a system of equations consisting of an equation in first-differences and an equation in levels. Lagged values of differenced explanatory variables are used as instruments in the equation in first-differencesand differenced explanatory variables are used as instruments in the equation in levels. A successful implementation of GMM hinges on the validity of instruments and the absence of second order correlation.[4]However, many instruments can overfit endogenous variables and fail to remove their endogenous components (Roodman, 2006).[5] Two-step variant of GMM adds a further stage to estimations, where residuals from the first step are used to construct a sandwich proxy for covariance matrix. Then, two-step estimator becomes robust to any patterns of

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[4] Taking concerns related to system GMM estimations into account, number of instruments used in the estimations are smaller than number of panels, following the rule of thumb (Roodman, 2006). Number of panelsis 19.

[5] With each additional explanatory variable and the extension of the time dimension of the data set, the number of instruments increases. Given the smal lnumber of panels in this study due to data limitations, only traditional determinants of FDI are used with government stability and accession to EU. For the same reason, data set is limited to cover from 1991 to 2007 to keep the number of instruments below the number of panels.

heteroskedasticity and cross-correlation.This study uses Windmeijer (2005) finite sample correction. Provided that a finite-sample correction (Windmeijer, 2005) is used in conjunction to compensate downward biased standard errors, two-step estimations are more efficient than their one-step counterparts.

3. Results

Results with Windmeijer (2005) correction are presented in Table 2.[6] Variables *lnTURGDP, lnOECDGDP*are treated as endogenous, while the rest of explanatory variables are assumed to beexogenous. Lack of second order autocorrelation is not rejected by Arellano-Bond (AB) test. In light of the Hansen test results, the exogeneity of instruments is accepted, implying that the instruments are valid.According to Wald tests results, the variables are jointly significant at the 1% level.

Except the coefficient of the relative labour cost (*RELAB*), all the explanatory variables carry the expected sign. In column (1), the estimation results exclude EU dummy and government stability. Both Turkish and home country market size are positively associated with FDI as gravity model predicts. This result suggests that MNEs from countries with large market size tend to invest more in Turkey as the Turkish GDP grows.

According to the results reported in Table 2, FDI increases with trade cost of exporting to Turkey. Thispositive relation between transport cost (*TRC*) and FDI points to horizontal investment. This implies that FDI in Turkey may have been motivated by market access. The coefficients for real exchange rate (*RER*) in both column (1) and (2) are positive and significant at the 1% level. This suggests that depreciation of Turkish Lira makes Turkish assets cheaper and thereby promotes FDI.

Contrary to expectations, relative labour costs are positively related to FDI as the coefficient estimates for *RELAB* significantly positive at the 1% level in Table 2. Thus, an increase in labour costs of Turkey relative to home countries increases FDI inflows into the country. Such relationship is not uncommon in the literature (Bénassy-Quére et al., 2005) as unit labour costs are positively related to the quality of labour. Results remain robust to the inclusion of EU dummy (*EUNEGD)* and government stability variable (*GOVSTA)* (Column 2).

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[6] STATA 12 is used to conduct the regressions. In order to keep the number of the instruments below the number of panels, lag leng this reduced and collapse option isused in STATA 12.

Table 2 - Estimation results: two-step system GMM with Windmeijer correction

Independent Variables	Dependent Variable *lnFDIN*	
	(1)	(2)
CONSTANT	-64.164***	-46.810***
	(7.241)	(8.463)
lnTURGDP	3.812***	2.557***
	(0.503)	(0.602)
lnOECDGDP	1.039***	0.948***
	(0.158)	(0.195)
TRC	0.607*	0.702**
	(0.326)	(0.339)
RER	0.022***	0.017***
	(0.004)	(0.006)
RELAB	1.828***	1.197***
	(0.443)	(0.535)
EUNEGD		0.332**
		(0.168)
GOVSTA		0.043*
		(0.025)
Observations	230	230
Hansen test (*p*-value)	0.66	0.36
AB 2 (*p*-value)	0.11	0.13
Wald test (*p*-value)	0.00	0.00
Instruments	12	14

Notes: Standard errors are in parenthesis.***, **, * represent statistical significance at the 1%, 5% and 10% level, respectively.

Both variables (*EUNEGD)* and (*GOVSTA*) are positively associated with FDI as expected. Turkey is predicted to have received 39% more FDI from EU countries than non-EU countries following the initiation of EU membership negotiations.[7] It seems that post-2002 increase in FDI inflows ispartly attributable to government stability. One point rise in government stability index increases FDI by 4.3 percentage points.

4. Conclusions and policy implications

This analysisindicatesthat government stability partially explains the considerable increase in FDI inflows into Turkey in in the 2000s. In addtion, EU membership perspective attracted more FDI inflows from EU countries than non-EU countries. Government stability, hence FDI inflows, is likely to suffer from protests against government policies. The country experienced a nation-wide demonstration in June 2013; the first of its kind against the ruling party since its accession to power in 2002. More recently, bomb explosions in the cities shook the country and may have challenged the

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[7] The value 39% is calculated as 100*(exp(0.332-1).

ability of the ruling party to carry out its policies. Given the positive correlation between government stability and FDI, ant-government protests, if strong and frequent enough, would likely cause a decrease in FDI inflows.

It is important that even though EU membership for Turkey has long been elusive, EU based firms reacted positively to the prospect of EU membership. One interpretation of this can be that these firms value the reforms implemented by the government to be able to continue its EU accession journey more than the country's final membership.If so, deviation from reform path on the part of the government would reverse the upward trend in FDI inflows.Theanalysis also shows that cheap labour argument in attracting FDI is no longer valid for Turkey. Hence, improvement of the quality of labour may have become more important than merely increasing its quantity.

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