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Institutional distance and Turkey’s outward foreign direct investment

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\textbf{ABSTRACT}

This study empirically examines the relation between institutional distance (ID) and Turkey’s outward foreign direct investment (TODI). The empirical results use panel data from 2002 to 2016 to show that TODI is attracted to countries with better institutional quality. We also find that host country political stability, government effectiveness, control of corruption, and rule of law attract TODI. We also document that TODI is positively related to cultural distance (CD) and ID is not moderated by CD.

1. Introduction

Many studies show that national institutional differences significantly affect internationalization (e.g., Xu and Shenkar, 2002; Cantwell et al., 2010; Ioannou and Serafeim, 2012; Salomon and Wu, 2012). Specifically, they document a negative correlation between foreign direct investment (FDI) and institutional distance (ID; see Kostova and Roth, 2002; Xu and Shenkar, 2002; Holburn and Zelner, 2010; Schwens et al., 2011; Salomon and Wu, 2012). Moreover, Egger and Winner (2005) and Cuervo-Cazurra (2006) show how well firms from developing countries can handle imperfect institutions in the host countries. Some studies have attempted to establish connections between ID and natural resources in the case of FDI from emerging economies (Aleksynska and Havrylchyk, 2013). However, very few studies address the question of how ID affects outward FDI (ODI) from developing countries. To the best of our knowledge, only two studies examine this relation. Tomio and Amal (2015) study the determinants of Brazil’s ODI from the perspective of the host countries and show that ID has a positive effect on ODI. This effect is constrained by the size of the host country and the amount of its bilateral trade. They also find a complementary relation between cultural distance (CD) and ID, since multinational companies from Brazil prefer to invest in culturally distant countries when these countries have a better institutional environment. In a similar study, Zhang and Xu (2017) examine the impact of CD and ID on China’s ODI in One Belt, One Road countries. They report that ID is negatively correlated with China’s ODI. Additionally, CD interacts with bilateral trade, resulting in a “benefit of foreignness” effect. We aim to contribute to this developing literature by examining the role of the ID between another emerging economy, Turkey, and the host countries of Turkey’s ODI (TODI).

Turkey's economic and legal structure began its transformation following the adoption of liberalization policies in 1980, which accelerated with further institutional reforms in the aftermath of the 2001 economic crisis. These reforms improved the business
environment and increased competition in the domestic market, which led to the economy’s integration within global markets. However, in recent years in Turkey, economic growth has slowed down, political risk has increased, and volatility in the financial markets has increased. All these factors have increased the motivations of Turkish companies to invest abroad, and, therefore, TODI has continued to rise (Yildirim, 2017). A poor domestic institutional/governance environment has motivated Turkish firms to invest abroad, where levels of uncertainty are lower, and allowing them to take advantage of political stability, market efficiency, and better property rights.\footnote{For a more detailed discussion of the causes of TODI’s recent surge, see Erdilek (2008); Sauvant et al. (2011), and Yildirim (2017).} This effect is not surprising or unique to Turkish firms, since multinational enterprises (MNEs) from emerging economies face similar challenges, such as a weak knowledge infrastructure, the liability of emergeningness, and a capability gap (Wilkinson et al., 2014). We also believe that Turkey is a good representative of emerging market economies, because the structure of its economy and the quality of its institutions resemble those of other emerging countries, that is, China, Brazil, Russia, Mexico, and South Africa.\footnote{For a detailed discussion of the definitions of the World Bank’s World Governance Indicators (WGI) used in this study, see https://openknowledge.worldbank.org/bitstream/handle/10986/3913/WPS5430.pdf?sequence=1.} Therefore, TODI provides a relevant research setting for examining emerging economy ODI determinants. Accordingly, this study fills a void in the literature by investigating the impact of ID on the locational choices for TODI.

We examine the following questions: Does ID play a significant role in the locational choices of TODI? What is the relation between the individual measures that constitute the ID measure and TODI? Is there a complementary relationship between CD and ID in TODI?

We use the WGI developed by Kraay et al. (1999) and follow Zhang and Xu (2017) to calculate the ID between Turkey and host countries. We construct and calculate a composite bilateral ID index that uses the following measures of governance: voice and accountability, political stability, government effectiveness, control of corruption, regulatory quality, and rule of law. This index allows us to capture the combined effects of the individual measures of ID. We find that ID plays an important role in TODI.

We also examine the role of the individual indicators that constitute ID and their relation to TODI. Our analysis illustrate that political stability, government effectiveness, rule of law, and control of corruption distances are positively and significantly related to TODI. On the other hand, we do not find any significant relation between TODI and voice and accountability or regulatory quality distance measures. Our results complement the findings of Ilhan-Nas et al. (2018) that suggest ID does not significantly affect the level of equity ownership for Turkish MNEs. We find that ID affects the locational choice of TODI, and that political stability, government effectiveness, rule of law, and control of corruption in the host country significantly attract TODI.\footnote{Of course, it is not possible to compare directly the results of this study with those of Ilhan-Nas et al. (2018), since our study uses different measures of governance/dependent variables. Accordingly, readers should be careful when comparing the findings of the two studies.} When we examine the relation between TODI and normative and regulative distance composite measures, we find that only normative measures are significantly related to TODI. The results of our sensitivity analyses show that this relation still holds when we account for unobserved time and country fixed effects (FEs). Finally, we document that TODI is positively associated to CD, openness, Turkey’s exports to the host country, the host country’s infrastructure, and geographical distance, and negatively related to the host market gross domestic product (GDP), economic distance, and the exchange rate level.

Our study provides several contributions to the literature. First, prior studies that examine the determinants of TODI neglect the relations between TODI and measures of ID. Our study extends the literature with both the composite and individual impacts of ID between Turkey and host countries by controlling for the factors that previous literature has found significant. Second, our balanced panel data set is the largest and encompasses the longest period (2002–2016)\footnote{This fact is important because, between 2002 and 2016, Turkish MNEs endured many structural changes, such as structural economic reforms, the European Union (EU) accession process, a new FDI law, rapid economic growth followed by political and economic instability, and a strong absolute increase in OFDI stock. For a detailed discussion, see Yildirim (2017).} among studies that examine the determinants of TODI.\footnote{According to Baltagi (2008), panel data techniques allow for tighter control over individual heterogeneity and reduce the effects of multicollinearity among independent variables, and hence increase the efficacy of the estimation.} Moreover, our study is not limited to Balkan or Turkic countries as the hosts of TODI. Consequently, our paper makes an important and comprehensive attempt at enhancing our understanding of the determinants of TODI. Third, this is the first study that examines if CD and ID are complements or substitutes regarding TODI. Fourth, our finding that the host market GDP is negatively related to TODI indicates that market seeking is not a significant motive for TODI. This result is contrary to the findings of Aybar (2016), who examines the determinants of TODI, but similar to findings of the FDI study of Thomas and Grosse (2001). Similarly, our findings regarding openness and geographical distance contradict Aybar’s (2016). These findings are not surprising, given that our sample uses a longer time frame and a significantly larger data set. Finally, economic development distance is an important determinant of TODI, despite the negative direction of the relation.

The remainder of this article is structured as follows. In Section 2, we present the TODI literature and develop our hypotheses. In Section 3 describe the sample and the econometric model. In Section 4, we test our main model and discuss the findings. In Section 5, we present the results of the sensitivity analysis. Finally, we conclude the study.

2. Literature review and hypothesis development

2.1. TODI literature

Although several studies examine TODI, they do not fully consider the relation between ID and TODI stock; hence, our
understanding of TODI remains incomplete. We present the findings of the literature in this section to illustrate our contribution.

Demirbag et al. (2009) examine a case study of Turkish MNEs' entry mode decisions and the role of institutional methods with a survey on a limited sample of Central Asian Republics (Azerbaijan, Kazakhstan, Turkmenistan, Uzbekistan, and Kyrgyzstan). Anil et al. (2011) also use a survey method to investigate the entry mode and location choice determinants of Turkish firms' outward direct investments. They additionally focus only on a limited sample of Turkish MNEs operating only in seven countries: Bulgaria, Romania, Uzbekistan, Kazakhstan, Turkmenistan, Kyrgyzstan, and Russia. Their study encompasses the period from 1989 to 2005 and documents that TODI is associated with economic and political risks, cultural proximity, and an absence of ownership advantages. Aybar (2016) examines the determinants of TODI between 2002 and 2011. The author shows that the market-seeking motive is an important factor driving TODI, along with other factors, such as profit seeking, cultural proximity, bilateral trade agreements, and natural resource endowments. However, Aybar does not control for ID and conducts the study with a relatively small sample size of 140. More recently, Ilhan-Nas et al. (2018) document the effects of ownership concentration and ID on the foreign entry ownership strategy of 68 Turkish MNEs in 2014. They focus on the impact of ID on equity ownership percentage in a cross-sectional setting. They estimate how institutional differences and ownership concentration affect the equity-based ownership strategies of Turkish MNEs, as well as how institutional differences moderate the link between ownership concentration and ownership strategies. Their study controls for four measures of ID, using Kogut and Singh’s (1988) approach. Ilhan-Nas et al. also control for cognitive distance based on the World Bank’s (2012) Knowledge Economy Index and find that MNEs exhibited a highly concentrated ownership structure, similar to many firms from emerging countries. Finally, the authors show a negative relationship between Turkish MNEs’ ownership in their foreign subsidiaries and ID measures (regulative, normative, and cognitive ID) and conclude that ID has a moderating effect rather than a direct effect on entry strategies.

2.2. Hypothesis development

2.2.1. ID and TODI

Institutions and more specifically, their quality play a significant role in the locational advantages of a host country for foreign direct investors as “created assets” (Narula and Dunning, 2000; Bevan et al., 2004). Additionally, the differences in the quality of institutions among nations are one of the determinants of economic development (Acemoglu and Robinson, 2010). This is not surprising, given that effective institutions, given the rules of the game, lower transaction costs and reduce uncertainty, which enables markets to function efficiently (North, 1990; Rutherford, 2001). Improvements in institutional environment lower the adaptation costs for companies that invest abroad (Daude and Stein, 2007). Adaptation costs are lower if the host and home countries have a similar institutional quality (Bénassy-Quéré et al., 2007). Therefore, it is not surprising that firms that internationalize choose locations with good institutional quality that support economic development (Rugman and Verbeke, 2002; Rodrik et al., 2004). Poor institutional quality can deter investments in domestic markets and can push firms to invest abroad, to take advantage of locations with better institutional environments (Ali et al., 2010). Countries with high-quality institutions attract more FDI (Daude and Stein, 2007). Similarly, institutional theory is increasingly used in the FDI literature (Larsen and Manning, 2015). In the case of TODI, since Turkey is a country with a relatively weak institutional structure, we expect to see a positive relationship between the institutional quality of the host country and TODI. Based on the literature review above, we first test the hypothesis that considers the effect of institutional quality in the host country on TODI, as follows.

H1: Strong institutional host country environment has a positive effect on TODI. Hence, the greater the ID between Turkey and the host country, the higher the TODI.

2.2.2. CD and TODI

While ID measures the formal institutions that affect TODI decisions, CD measures the effect of informal institutions and refers to differences in terms of how individuals from different countries perceive certain behaviors, which affects the extent to which working practices and methods can be transferred from one country to another (Hofstede, 1980, 1991). Additionally, CD is considered a major barrier for multinationals in gaining normative legitimacy in host countries, and it affects locational choice (Kang and Jiang, 2012). The literature has attempted various methods to use Hofstede’s dimensions in the FDI analysis to quantify culture and has documented that high levels of CD are associated with high-control (FDI) entry modes (Padmanabhan and Cho, 1996; Anand and Delios, 1997; Erramilli et al., 1997).

Differences in culture are expected to increase information requirements and search costs (Håkanson and Ambos, 2010). The greater the CD between the home country and the host country, the more difficult it will be to recognize and analyze information about the host country (Sousa and Bradley, 2006). In addition, FDI is sensitive to “soft” barriers, and firms prefer FDI to bilateral trade as the CD between the host and the home country increases (Lankhuizen et al., 2011). Hence, to overcome CD, MNEs increase their investments or acquire larger stakes to gain more control (Malhotra et al., 2011). Accordingly, we argue that the greater the CD between Turkey and the host countries, the more likely Turkish MNEs will be to penetrate foreign markets in the form of ODI. Thus, we posit the following hypothesis.

H2: The greater the CD between Turkey and the host country of the investment, the more likely the investment is made in the form of ODI.

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6 See Erdilek (2008); Demirbag et al. (2009); Anil et al. (2011); Aybar (2016), Heavilin and Songur (2017); Yildirim (2017), and Ilhan-Nas et al. (2018).

7 We also control for the direction of the ID. We report the results in the untabulated robustness section.
2.2.3. Relation between ID and CD

According to North (1990), institutional constraints have two dimensions: formal rules and informal ones. Formal rules complement and increase the effectiveness of informal ones by lowering the costs of information, monitoring, and enforcement. Culture is a part of informal institutions, which support formal institutions (Peng et al., 2008). Additionally, culture, as preference traits, norms, and attitudes, can be transmitted across generations or be acquired through socioeconomic interactions between peers (Bisin and Verdier, 2017). The normative dimension of institutional research stresses the impact of social values and norms (Scott, 2001). Alesina and Giuliano (2015) review the literature that examines two-way relations between culture and institutions and conclude that the majority of the literature documents that culture and institutions are complementary. However, the authors also conclude that more studies are needed to examine the interaction between these formal and informal institutions (i.e., culture) and economic outcomes.

Bisin and Verdier (2017) argue that culture and institutions can act as substitutes or complements. A complementary effect means that greater CD can have a positive effect on ODI if the ID is high (i.e., positive interaction). A substitutive effect points to diverse effect on a country’s culture and institutions (i.e., negative interaction). A nonsignificant effect means the ID is not moderated by the CD. Accordingly, to capture the interaction between the ID and the CD, we examine the extent to which these are complementary or substitutive or have no relations in terms of their effects on ODI. Similar to Tomio and Amal (2015), due to the limited expansion of TODI, we consider that the relation to be more complementary than substitutive. Therefore, we postulate the following hypothesis.

H3: The positive impact of CD on TODI is greater when the ID is greater between Turkey and the host countries.

3. Data and econometric model

We collect TODI stock data from the Central Bank of the Republic of Turkey (CBRT) from 2002 to 2016 for 16 countries that host over 73% of TODI stock. Our dependent variable is the FDI stock of Turkish firms in each of the host countries. We prefer to use stock values, since this is a more accurate measure of FDI location distribution than flow (Filippaios et al., 2003; Kang and Jiang, 2012). We collect governance measures to calculate IDs from the WGI website. These measures are widely used in the FDI literature (e.g., Gani, 2007; Kolstad and Wiig, 2012). We are constrained by the availability of TODI data before 2001 from the CBRT. We are also limited by the fact that the WGI provides yearly data only beginning in 2002. Further, the lack of availability of Hofstede’s cultural values for the host countries restricts our sample to 16 countries. Thus, given the availability of data, our empirical analysis is based on a sample size of 240. This is significantly larger than previous studies that examine TODI, that is, n = 140 for Aybar (2016) and n = 107 for Anil et al. (2011). We present the sources for the control variables in Table A1 in the Appendix A.

Table 1 presents the TODI stock in host countries for selected years. We see that, after surpassing the USD 8 billion mark in 2006, TODI stock went over USD 31 billion in 2016. We observe that over 40% of TODI stock, about USD 12.4 billion, was hosted by the Netherlands in 2016. The United States, Malta, Germany, and Luxemburg were the other countries with TODI stock amounts of over USD 1 billion in 2016. We also note that these 16 countries hosted between 59.4% (in 2006) to 72.3% (in 2016) of the TODI stock.

Uppsala model predicts a positive correlation between ODI and bilateral trade flows (Johanson and Vahlne, 1977). Accordingly, when we focus on the TODI host countries unsurprisingly we observe that Turkish MNEs penetrated countries which are Turkey’s major trade partners. For instance, in 2019, Germany was the largest trade partner of Turkey and the Netherlands was the eighth largest. Further, Turkish MNEs entered the Netherlands and Germany after Turkish workers began arriving in the 1960s to these countries (Yildirim, 2017). Furthermore, Turkish MNEs prefer the Netherlands as the center of their investments in Western Europe for two main reasons. First, they can set up BV (Besloten Vennootschap) companies which allow them to own 100% of the company shares under limited liability protections and privacy benefits. Second, in 1988 Turkey and Netherlands signed an avoidance of double taxation agreement (Apan, 2006). Turkish MNEs also prefer Malta and Luxemburg since these countries are tax havens (Yavan, 2012).

These values are not surprising since Turkish MNEs targeted countries which were Turkey’s important trade partners in order to facilitate international trade. For instance, in 2019, Germany was the largest trade partner of Turkey and Netherlands was the eighth largest. Further, according to Yildirim (2017), Turkish financial institutions and MNEs entered Netherlands and Germany after Turkish workers began arriving in the 1960s to these Western European countries. Furthermore, according to Apan (2006) Turkish MNEs prefer Netherlands as the center of their investments in Western Europe for two main reasons. First, they can set up BV

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8 For the details of this literature, see Alesina and Giuliano (2015).
9 https://www.tcmb.gov.tr/.
10 Data on FDI stock are widely used in the literature. Moreover, according to Cezar and Escobar (2015, p. 721), “The most frequent arguments used to justify the use of FDI stock data are as follows: (i) FDI is also financed by markets in the host country, and therefore, stock data provide a more accurate measure than flow data; (ii) Stock is much less volatile than flows; and (iii) Stock data greatly reduce the number of zero observations in the sample”.
11 See http://www.turkstat.gov.tr/UstMenu.do?metod=temelist for detailed trade statistics.
12 As of 2019, over 400,000 Turks live in the Netherlands and over 1.4 million live in Germany (see: https://www.cia.gov/library/publications/the-world-factbook/geos/nl.html).
13 Moreover, in 2019, a committee of the European Parliament reported that Malta, Luxembourg, and the Netherlands “display traits of a tax haven and facilitate aggressive tax planning,” (see: https://www.icij.org/investigations/luxembourg-leaks/seven-eu-countries-labeled-tax-havens-in-parliament-report/).
14 According to CIA factbook (see: https://www.cia.gov/library/publications/the-world-factbook/geos/nl.html) over 400,000 Turks live in Netherlands and also over 1.4 million Turks live in Germany.
15 According to CIA factbook (see: https://www.cia.gov/library/publications/the-world-factbook/geos/nl.html) over 400,000 Turks live in
Besloten Vennootschap) companies which allow them to own 100% of the company shares under limited liability protections and privacy benefits. Second, in 1988 Turkey and Netherlands signed an avoidance of double taxation agreement. Turkish MNEs also prefer Malta and Luxemburg since these countries are tax heavens (Yavan, 2012).

We follow the method developed by Zhang and Xu (2017) and use the six dimensions of WGI to create a composite index for each host country to measure the ID from Turkey. Here, four dimensions of WGI, namely, voice and accountability, political stability, government effectiveness, and control of corruption, indicate the normative distance between Turkey and host countries. The other two dimensions, namely, regulatory quality and rule of law, indicate the regulative distance between Turkey and the host countries.

Algebraically, the ID is calculated as

\[ ID_{ijt} = \frac{1}{6} \sum_{k=1}^{6} \left( \frac{(I_{kit} - I_{kjt})^2}{V_{kt}} \right) \]  

(1)

where \( I_{kit} \) (\( I_{kjt} \)) represents the score for the \( k \)th institutional dimension of country \( i \) (\( j \)) in year \( t \), and \( V_{kt} \) refers to the variance of the score for the \( k \)th institutional dimension of all the countries.

To examine the individual effects of governance indicators, we also calculate the distances for each measure, adapting the method developed by Kogut and Singh (1988). Each year we calculate a WGI distance value from Turkey for each indicator by squaring the difference between the WGI value of the host country and Turkey’s and dividing by the variance of the WGI values of the individual indicator for that year (for countries in the sample only). We then take the square root of the resulting number,

\[ D_{kt} = \frac{1}{V_{kt}} \sqrt{(I_{kt,host} - I_{kt,Turkey})^2} \]  

(2)

where \( I_{kt,host} \) is the host country’s \( k \)th indicator \( (\text{voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, or control of corruption}) \) in year \( t \); \( I_{kt,Turkey} \) is similar for Turkey; and \( V_{kt} \) is the variance of all the WGI values of the \( k \)th indicator of the countries in the sample for year \( t \).

Table 2 reports both the average institutional quality by country and the ID values between the host country and Turkey. Average institutional quality is calculated by taking the arithmetic average of the six dimensions of the WGI values. In the first column, we see that Iran, Russia, and Turkey are the only countries with a negative average institutional quality. Switzerland, Luxemburg, and the Netherlands have the highest average institutional quality scores. We also see that, except for Iran and Russia, other host countries have better average institutional quality values than Turkey. This information, along with data presented in Table, indicates that TODI is mostly attracted to countries with better institutional quality. In the second column, we observe that Romania is the most proximate country to Turkey, with an ID value of 1.7551, followed by Bulgaria, Russia, and Italy. On the other hand, Switzerland is the most distant country to Turkey, with an ID value of 5.0864, followed by Luxemburg, the Netherlands, and Austria.

We follow Kogut and Singh (1988) and use the four cultural dimensions of Hofstede (power distance, individualism, uncertainty avoidance index, and masculinity) to create a composite index for each host country to measure the CD from Turkey. The deviations are corrected for differences in the variance of each dimension and then arithmetically averaged. Algebraically, the CD is calculated as

\[ CD_{ijt} = \frac{1}{4} \sum_{k=1}^{4} \left( \frac{(C_{kit} - C_{kjt})^2}{V_{kt}} \right) \]  

(3)

where \( C_{kit} \) (\( C_{kjt} \)) represents the score for the \( k \)th cultural dimension of country \( i \) (\( j \)) in year \( t \), and \( V_{kt} \) refers to the variance of the score for the \( k \)th cultural dimension of all the countries.

### Table 1

Annual TODI stock by sample countries for selected years (millions of USD).

| Host country | Annual TODI stock, Turkey |
|--------------|--------------------------|
|              | 2002 | 2006 | 2010 | 2012 | 2014 | 2016 |
| Austria      | 46   | 74   | 366  | 579  | 954  | 1250 |
| Belgium      | 52   | 56   | 208  | 206  | 193  | 209  |
| Bulgaria     | 39   | 52   | 76   | 84   | 87   | 261  |
| France       | 99   | 104  | 138  | 19   | 106  | 48   |
| Germany      | 343  | 375  | 651  | 1063 | 136  | 1347 |
| Iran         | 9    | 16   | 251  | 196  | 305  | 291  |
| Ireland      | 51   | 35   | 241  | 598  | 608  | 649  |
| Italy        | 2    | 111  | 11   | 40   | 70   | 64   |
| Luxemburg    | 146  | 160  | 748  | 773  | 1103 | 1799 |
| Malta        | 25   | 104  | 1500 | 1941 | 1605 | 1633 |
| Netherlands  | 2295 | 3041 | 6653 | 9588 | 11,389 | 12,467 |
| Romania      | 125  | 162  | 277  | 114  | 189  | 152  |
| Russia       | 154  | 180  | 362  | 470  | 306  | 272  |
| Switzerland  | 64   | 68   | 368  | 391  | 445  | 150  |
| United Kingdom | 519 | 586 | 253  | 297  | 665  | 191  |
| United States | 143 | 141 | 1033 | 1301 | 1812 | 1625 |
| Sample TODI  | 4112 | 5265 | 13,136 | 17,660 | 21,200 | 22,408 |
| TODI stock, all countries | 5847 | 8866 | 20,761 | 27,513 | 33,938 | 31,006 |
| Sample TODI/TODI stock, all countries | 70.33 % | 59.38 % | 63.27 % | 64.19 % | 62.47 % | 72.27 % |

Source: CBRT and authors’ calculations.
CDj = ∑(N) (IDj – IDN) / Vi / 4

where IDj denotes the index value for cultural dimension I of country j, Vi denotes the variance of the index for dimension I, and N denotes the home country (in our case, Turkey).

We use several control variables that are considered to affect FDI in the literature. We use the GDP (GDP) of the host country in current US dollars to control for market size, and GDP Growth and GDP per capita to control for market-seeking motives. The variable Exchange Rate controls for the motivating/discouraging effects of the lira vis-à-vis the host country currency. We use Openness (annual inward FDI flows scaled by the GDP) as a proxy measure for the attitude of the host country to FDI and its integration in the global economic system, similar to the work of Buckley et al. (2007) and Aybar (2016). Following internalization theory (Buckley and Casson, 1976), we use the variable Geographical Distance, between Turkey and host countries, to isolate the impact of the ID variable in our models. We use International Trade (exports and imports separately), since the Uppsala model predicts a positive correlation between ODI and bilateral trade flows (Johanson and Vahlne, 1977). We add the variable Natural Resources to the model, since internalization theory (Buckley and Casson, 1976) claims that companies invest to gain access to scarce natural resources (i.e., resource seeking), and the empirical literature supports the same argument (Anil et al., 2011). The variable Inflation is used because it is a significant indicator of economic stability. Erdilek (2008) argues that double-digit inflation in Turkey was a factor that pushed Turkish MNEs to invest abroad. Infrastructure, such as Internet access, port quality, access to reliable electricity, and airports, plays a significant role in the FDI location decisions of international companies. Hence, we use Individuals using the Internet (as a percentage of the population) as a proxy measure. We focus on this measure because the information revolution has changed the way the world does business. Liu et al. (2017) show that gaining access to technology is one of the factors that motivates firms to invest abroad. Thus, we measure the host country’s level of technology, with the ratio of high-technology exports to manufactured exports. High-technology exports are products of high research and development intensity, such as in aerospace, computers, pharmaceuticals, scientific instruments, and electrical machinery.

Based on our discussions above, similar to the literature (Tomio and Amal, 2015; Zhang and Xu, 2017; Ren and Yang, 2020), we write our equation based on the traditional gravity model as follows:

\[ LODI_{j,t} = \rho_0 + \rho_1 \text{ID}_{j,t} + \rho_2 \text{CD}_{j,t} + \rho_3 \text{ID}_{j,t} \times \text{CD}_{j,t} + \text{LODIT}_{j,t} + \text{LORE}_{j,t} + \text{LERATE}_{j,t} + \text{LDIST}_{j,t} + \text{LXPR}_{j,t} \times \text{LIMPRT}_{j,t} + \text{LINF}_{j,t} + \text{LINFR}_{j,t} + \text{LTECH}_{j,t} + \varepsilon_{j,t} \]

In our econometric models, \( \rho_0 \) is the constant and \( \varepsilon_{j,t} \) is the residual error. All the variables are represented for the host country \( j \) and the year \( t \). Our dependent variable, \( LODI_{j,t} \), is the natural logarithm of the TODI in host countries. We transform the variables other than those for ID and CD into natural logarithms to overcome nonlinearity comparable to the studies that use gravity models to examine the determinants of OFDI (e.g. Buckley et al., 2007; Kalotay and Sulstarova, 2010; Aybar, 2016; Heavilin and Songur, 2017; Ren and Yang, 2020). Following Aiken et al. (1991), the interactive terms were created by multiplying together the centered values of ID and CD variables. We assume that all the independent variables are endogenous. Hence, all time-variant independent variables are lagged by one year. The variables \( \text{LGDPS}_j \), \( \text{LORE}_j \) and \( \text{LINF}_j \) are the host country characteristics (host country GDP in current dollars, the share of natural resources in total merchandise exports in the host country, and annual consumer price index changes, respectively); \( \text{LDIST}_j \) is the distance of the host country’s capital from the capital city of Turkey, Ankara; \( \text{LXPR}_j \) denotes exports from Turkey to the host country; \( \text{LIMPRT}_j \) denotes imports to Turkey from the host country; \( \text{LERATE}_j \) is the host country annual exchange rate against the Turkish lira; \( \text{LOPEN}_j \) is the openness of the host country (the ratio of the host country FDI flows to its GDP); \( \text{LINFR}_j \) is the infrastructure of the host country (the ratio of Internet users to the population);
Table 3
Descriptive statistics of TODI sample, 2002–2016.

| Characteristics                           | Mean     | Median   | Std. Dev. | Max.      | Min.     | n  |
|------------------------------------------|----------|----------|-----------|-----------|----------|----|
| TODI stock (10^6 USD)                    | 765.4    | 208.5    | 1,798.8   | 12,467.0  | 2.0      | 240|
| ID                                       | 3.6575   | 1.0004   | 1.1841    | 6.2586    | 1.1143   | 240|
| CD                                       | 1.3237   | 480.5    | 3,569.5   | 18,624.5  | 4.69     | 240|
| GDP (10^6 USD)                           | 1,841.2  | 39.980   | 25.017    | 118.824   | 1.900    | 240|
| GDP per capita (10^3 USD)                | 0.7663   | 0.0335   | 2.3246    | 25.1625   | −2.3077  | 240|
| Economic distance                        | 1.3054   | 1.4294   | 0.6414    | 2.6584    | 0.0002   | 240|
| Exchange rate                            | 1.7179   | 1.7833   | 0.9492    | 4.1556    | 0.0001   | 240|
| Openness (%)                             | 16.301   | 2.937    | 49.441    | 451.716   | −15.882  | 240|
| Geographic distance (km)                 | 2,115.1  | 1,924.5  | 1,652.0   | 8,070.8   | 442.1    | 240|
| Imports from Turkey (10^9 USD)           | 3.3956   | 2.4173   | 3.2818    | 15.1474   | 0.0127   | 240|
| Exports to Turkey (10^9 USD)             | 5.6174   | 3.3634   | 6.2214    | 31.3645   | 0.0205   | 240|
| Natural resources (%)                    | 3.6234   | 2.8599   | 3.4655    | 20.1868   | 0.0000   | 240|
| Inflation rate (%)                       | 3.6945   | 2.1108   | 1.5210    | 39.2664   | −4.4799  | 240|
| Internet users (%)                       | 60.494   | 66.045   | 24.379    | 98.137    | 4.128    | 240|
| Technology export/total exports (%)      | 16.256   | 12.974   | 11.801    | 60.007    | 0.000    | 240|

and \( \text{LTECH}_{\text{H}} \) is the technology of the host country (ratio of technology exports to manufactured exports).

Table 3 reports the descriptive statistics of the TODI, ID, CD, and control variables used in our models. The mean (median) ID of the countries is 3.6575 (3.8945) and shows a large range, since the difference between the maximum and minimum is about 5.14. The mean (median) CD of the countries is 1.3237 (1.0004), and the difference between the maximum and minimum is about 3.05. The mean (median) value of the host country’s GDP is over USD 1.8 billion (USD 480 million), and the mean (median) GDP per capita is over USD 37,355 (USD 39,890). This indicates that Turkish MNEs mainly prefer to invest in relatively large and wealthy markets. We similarly observe that the mean (median) distance of the host countries is 2,115.13 (1,924.53) kilometers and that the majority of TODI is directed toward countries far away from Turkey. Accordingly, we can argue that TODI has a more global than regional character. Additionally, countries with relatively better institutional quality are also geographically more distant from Turkey. The average (median) inflation rate is 3.69% (2.11%) and indicates relatively stable economies in the host countries, compared to Turkey, whose inflation was in the double digits for many years.

4. Analysis and results

4.1. Correlations

In Table 4, we present the pairwise correlations between our variables. Overall, the correlation matrix shows no general problems with the data. Specifically, the correlations between the model variables do not exceed 90%, which could cause multicollinearity. In untabulated results, we also calculate the variance inflation factors and see that these are less than the acceptable threshold value of 10, except for \( \text{LGDP} \) and \( \text{LIMPRT} \). Accordingly, to address the potential multicollinearity issue, we run our models without the \( \text{LGDP} \) and \( \text{LIMPRT} \) variables. In these models, we do not observe any significant changes to our coefficient estimates. We also do not observe that our coefficients become very sensitive to small changes in our model.\(^{16}\) We conclude that multicollinearity does not pose a risk in our study (Gujarati, 2009).

4.2. Empirical analysis of ID and TODI

Table 5 presents the results of the pooled ordinary least squares (POLS) regression models that estimate Eq. (4).\(^{17}\) Model (1) only includes ID as the sole explanatory variable. In Models (2) to (4), we add all the control variables. The coefficient on the ID variable is positive and is highly significant in all the models. These findings support the idea that the greater the ID between Turkey and the host country, the more likely the investment is made in the form of FDI. This finding also indicates that the greater the ID is, the more likely Turkish MNEs will commit higher allocations of resources in the host country, to utilize the locational advantages of the created asset while reducing transaction costs and uncertainty. The higher investments by Turkish MNEs in host countries with better governance (a higher ID in our models) implies that better governance and a better institutional environment lower risk and uncertainty, inducing Turkish MNEs to make more investments. This argument supports the idea that countries with high-quality institutions attract more FDI (Daude and Stein, 2007). Another possible implication of this finding is that the relatively poor institutional quality in Turkey deters investments in the domestic market and pushes Turkish MNEs to invest abroad to take advantage of locations with better institutions. This argument is in line with the literature that shows that ID is a driving force when MNEs from

\( \text{ID} \) and \( \text{CD} \).

\(^{16}\) These estimates are available upon request.

\(^{17}\) In the untabulated analysis, we also apply the fixed effects generalized least squares method. We see that the empirical results obtained from the POLS and the FE estimations are qualitatively similar. These results are available upon request.
Table 4
Correlation matrix of the model variables.

|       | ID   | CD   | LGDP | LORE  | LERATE | LOPEN | LDIST | LXPRT | LIMPRT | LINF  | LINFR | LTECH | LGDPCP | LGDPGR | EDIST |
|-------|------|------|------|-------|--------|-------|-------|-------|--------|-------|-------|-------|--------|--------|-------|
| ID    | 1    | 1    | 1    | 1     | 1      | 1     | 1     | 1     | 1      | 1     | 1     | 1     | 1      | 1      | 1     |
| CD    | 0.566| 1    | 0.077| 0.077 | 0.480  | 1     | 0.491 | 0.479 | 0.491  | 1     | 0.159 | 0.159 | 0.497  | 0.479  | 1     |
| LGDP  | 0.077| 1    | 0.077| 0.077 | 0.480  | 1     | 0.491 | 0.479 | 0.491  | 1     | 0.159 | 0.159 | 0.497  | 0.479  | 1     |
| LORE  | 0.418| 0.308| 0.198| 0.198 | 1      | 0.480 | 1     | 0.491 | 0.479  | 0.491 | 1     | 0.159 | 0.159  | 0.497  | 0.479 | 1     |
| LERATE| 0.647| 0.491| 0.115| 0.115 | 0.233  | 0.458 | 0.233 | 0.479 | 0.491  | 0.479 | 1     | 0.159 | 0.159  | 0.497  | 0.479 | 1     |
| LOPEN | 0.159| 0.103| 0.090| 0.090 | 0.151  | 0.458 | 0.233 | 0.479 | 0.491  | 0.479 | 1     | 0.159 | 0.159  | 0.497  | 0.479 | 1     |
| LDIST | 0.497| 0.479| 0.578| 0.578 | 0.353  | 0.233 | 0.458 | 0.491 | 0.479  | 0.479 | 1     | 0.159 | 0.159  | 0.497  | 0.479 | 1     |
| LIMPRT| 0.279| 0.122| 0.835| 0.835 | 0.199  | 0.199 | 0.839 | 1     | 0.479  | 0.479 | 1     | 0.159 | 0.159  | 0.497  | 0.479 | 1     |
| LINF  | 0.047| 0.358| 0.088| 0.088 | 0.048  | 0.765 | 0.107 | 0.124 | 0.053  | 0.174 | 1     | 0.159 | 0.159  | 0.497  | 0.479 | 1     |
| LINFR | 0.659| 0.484| 0.284| 0.284 | 0.139  | 0.745 | 0.069 | 0.353 | 0.076  | 0.006 | 1     | 0.159 | 0.159  | 0.497  | 0.479 | 1     |
| LTECH | 0.450| 0.254| 0.235| 0.235 | 0.364  | 0.428 | 0.438 | 0.143 | 0.146  | 0.046 | 0.399 | 0.282 | 1     | 0.334  | 1     | 1     |
| LGDPCP| 0.795| 0.586| 0.312| 0.312 | 0.327  | 0.777 | 0.102 | 0.535 | 0.104  | 0.083 | 1     | 0.159 | 0.159  | 0.497  | 0.479 | 1     |
| LGDPGR| 0.181| 0.077| 0.120| 0.120 | 0.088  | 0.253 | 0.001 | 0.055 | 0.184  | 0.227 | 1     | 0.159 | 0.159  | 0.497  | 0.479 | 1     |
| EDIST | 0.814| 0.559| 0.200| 0.200 | 0.305  | 0.590 | 0.040 | 0.549 | 0.326  | 0.210 | 1     | 0.159 | 0.159  | 0.497  | 0.479 | 1     |
emerging markets invest in countries with a better institutional environment (Ali et al., 2010; Aleksynska and Havrylchyk, 2013).

In Model (5), we also examine the interaction between ID and CD (\(ID \times CD\)) to test whether the relation is complementary or substitutive in terms of effects on TODI. While the coefficient and significance of ID is lowered when CD is added to the model, we do not find sufficient evidence to support the hypothesis that ID is moderated by culture. Hence, we fail to accept H3.

We now discuss the results for the control variables. In all three full models, namely, Models (2) to (4), we find that the CD, LOPEN, LERATE, LXPRT, and LINFR variables are significant (\(p\)-value < 0.05). The variable LGDP is negative and significant in Model (3) and indicates the host country’s market size has a negative influence on TODI, with a 1% rise in the variable decreasing TODI by at least 0.37%. This result indicates that market seeking is not a significant motive for TODI. This result is contrary to Aybar’s (2016) findings. A negative and significant LERATE value shows that relative depreciation of the host country’s currency vis-à-vis the Turkish lira leads to an increase in TODI. This is expected, since, as the Turkish lira appreciates, the more profitable opportunities for TODI arise as foreign currency–denominated assets become cheaper for Turkish MNEs. A significant and positive LXPRT indicates that TODI follows exports and is an indicator of the role of host market demand. Moreover, this finding also supports the literature that shows FDI and exports are complementary (Alesina and Giuliano, 2015; Tomio and Amal, 2015). The variable LINFR is positively related to TODI, which means that Turkish MNEs tend to invest in countries with well-developed infrastructure facilities. This finding is in accordance with the literature that states countries with good infrastructure facilities attract more foreign investment (Asiedu, 2006; Kamal et al., 2014). On the other hand, the LIMPRT variable is nonsignificant. This result indicates that Turkey’s imports from the host country are not a significant pull factor for TODI. The variable LINF is nonsignificant, which is not surprising, since most TODI is hosted by developed countries with relatively low inflation. We also find that the LOPEN variable is positive and highly significant. This positive relation indicates that Turkish MNEs take advantage of markets that offer a welcoming foreign investment environment. Our finding contradicts Aybar’s (2016) study, which finds no relation between openness and TODI. Likewise, we see that the LDIST variable is positive and marginally significant in Models (2) to (4). These results suggest that Turkish MNEs prefer FDI for other modes of penetration to foreign markets as geographical distances increase. Again, we see that our results are contrary to those of Aybar (2016), who finds no relations.

### Table 5

Model estimations.

|   | (1)       | (2)       | (3)       | (4)       | (5)       |
|---|-----------|-----------|-----------|-----------|-----------|
| ID| 0.5401*** | 0.3609**  | 0.2501*   | 0.3446**  | 0.2727*   |
|   | (< 0.001) | (0.0112)  | (0.069)   | (0.016)   | (0.056)   |
| CD| 0.3604*** | 0.3963*** | 0.3613*** | 0.3613*** | 0.6043*** |
|   | (0.004)   | (< 0.001) | (0.003)   | (0.003)   | (0.261)   |
| ID × CD| 0.2055    | 0.2055    |           |           |           |
|   | (0.119)   | (0.119)   |           |           |           |
| LGDP| −0.2614 (0.161) | −0.3712 (0.038) | −0.2467 (0.186) |
| LORE| 1.6615 (0.594) | 4.1898 (0.172) | 2.3644 (0.454) |
| LERATE| −1.1269 (0.012) | −1.5882 (0.000) | −1.1929 (0.008) |
| LOPEN| 1.4698 (0.001) | 1.4071 (0.001) | 1.5201 (0.000) |
| LDIST| 0.4248 (0.086) | 0.4303 (0.084) | 0.4078 (0.099) |
| LXPRT| 0.4216 (0.008) | 0.5754 (0.000) | 0.4090 (0.010) |
| LIMPRT| −0.1642 (0.354) | −0.1874 (0.292) | −0.1471 (0.407) |
| LINFR| 3.5434 (0.216) | 5.210 (0.069) | 4.0431 (0.161) |
| LINF| 8.9627 (0.000) | 7.2907 (0.000) | 8.6463 (0.000) |
| LITECH| −2.0707 (0.106) | −1.7621 (0.180) | −1.7165 (0.188) |
| LGDPCAP| −0.6580 (0.014) | −0.5826 (0.010) | −0.5826 (0.010) |
| LGDPRG| 0.4612 (0.067) | 0.3504 (0.169) | 0.3504 (0.169) |
| Intercept| 17.3575 (0.001) | 19.5987 (0.001) | 13.8227 (0.001) | 18.1958 (0.001) | 18.0045 (0.001) |
| R²| 0.1617 | 0.5228 | 0.5166 | 0.5271 | 0.1842 |
| n| 224 | 224 | 224 | 224 | 224 |

Notes: The \(p\)-values are in parentheses; ***\(p<0.01\), **\(p<0.05\), *\(p<0.1\).
4.3. Individual distance measures and TODI

Table 6 presents the results of the regression analysis that estimates the relation between individual distance measures and TODI. Our goal is to determine which of the individual factors that determine ID is significantly related to TODI. We also examine the relations between normative distance and regulatory distance composite measures and TODI, similar to Ilhan-Nas et al. (2018).

In Model (1), the coefficient on the voice and accountability variable (VOICEACC) is positive yet nonsignificant. This finding shows that the distance between Turkey and host countries regarding participation in government selection, as well as freedom of expression, freedom of association, and a free media, is not a major determinant of TODI. In Model (2), the coefficient on the political stability variable (POLSTB) is positive and significant. This positive relation shows that the distance between Turkey and host countries regarding the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically‐motivated violence and terrorism, is a major factor that determines TODI. This is not surprising, given the history of both successful and attempted military coups in Turkey’s recent history. In Model (3), we see that the coefficient on the government effectiveness variable (GOVEFF) is positive and significant. This result indicates that the distance between Turkey and host countries regarding the quality of public services, the quality of civil service, and the degree of independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies is a major factor that determines TODI. This finding explains why the majority of TODI is hosted by countries more developed than

|               | (1)       | (2)       | (3)       | (4)       | (5)       | (6)       | (7)       | (8)       |
|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| VOICEACC      | 0.1155    | 0.0404    | 0.4013    | 0.4787    | 0.3216    | 0.3801    | 0.3728    | 0.3788    |
| (0.727)       | (0.001)   | (0.001)   | (0.001)   | (0.008)   | (0.001)   | (0.001)   | (0.001)   | (0.001)   |
| POLSTB        | 0.6509*** | 0.3603**  | 0.3557**  | 0.3192*   | 0.4061**  | 0.2407    | 0.2877    | 0.2877    |
| (0.04)        | (0.063)   | (0.077)   | (0.026)   | (0.192)   | (0.125)   |           |           |           |
| REGQUAL       | 1.3217    | 1.3400    | 0.6138    | 1.8949    | 1.1155    | 2.2117    | 1.9284    | 1.9284    |
| (0.536)       | (0.849)   | (0.536)   | (0.970)   | (0.477)   | (0.546)   |           |           |           |
| RULELAW       | 0.1616*** | 0.9272**  | 1.1420**  | 1.1835*** | 0.8698*   | 1.2537*** | 1.1110*** | 1.1110*** |
| (0.013)       | (0.012)   | (0.012)   | (0.053)   | (0.053)   | (0.014)   |           |           |           |
| CONTCORRUPT    | 1.3922*** | 1.5378*** | 1.3537*** | 1.4360*** | 1.5435*** | 1.5624*** | 1.4250*** | 1.4250*** |
| (0.001)       | (0.001)   | (0.001)   | (0.001)   | (0.001)   | (0.001)   |           |           |           |
| NORMDIST      | 0.5202**  | 0.5025**  | 0.5893**  | 0.2650    | 0.5230**  | 0.4591**  | 0.3960**  | 0.3960**  |
| (0.043)       | (0.000)   | (0.000)   | (0.000)   | (0.000)   | (0.000)   |           |           |           |
| REGDIST       | 0.3495**  | 0.4065*** | 0.3414**  | 0.5109*** | 0.4559**  | 0.4188**  | 0.3837**  | 0.3837**  |
| (0.028)       | (0.015)   | (0.031)   | (0.002)   | (0.004)   | (0.008)   |           |           |           |
| CD            | −0.3218*  | −0.1534   | −0.3603** | −0.3557** | −0.3192*  | −0.4061** | −0.2407   | −0.2877   |
| (0.090)       | (0.423)   | (0.063)   | (0.077)   | (0.026)   | (0.192)   | (0.125)   |           |           |
| LGDP          | 4.9041    | 6.5190*** | 5.3532    | 2.3182    | 4.0935    | 4.7350**  | 3.7052    | 3.7052    |
| (0.609)       | (0.346)   | (0.694)   | (0.308)   | (0.629)   | (0.403)   | (0.484)   |           |           |
| LDIFF         | 0.1543    | 1.5378*** | 0.5357**  | 0.5435**  | 0.5624*** | 0.4250**  | 0.3837**  | 0.3837**  |
| (0.093)       | (0.037)   | (0.037)   | (0.037)   | (0.037)   | (0.037)   |           |           |           |
| LGDPCAP       | 0.4047   | 0.5428**  | 0.3598    | 0.4700    | 0.6026**  | 0.6718**  | 0.4427*   | 0.4427*   |
| (0.134)       | (0.020)   | (0.176)   | (0.066)   | (0.023)   | (0.015)   | (0.093)   |           |           |
| LDPGR         | 0.3983    | 0.3713    | 0.3988    | 0.3073    | 0.3513    | 0.3386    | 0.3833    | 0.3833    |
| (0.122)       | (0.162)   | (0.122)   | (0.221)   | (0.163)   | (0.181)   | (0.135)   |           |           |
| Intercept     | 18.2828***| 18.1606***| 19.1344***| 18.7750***| 19.2628***| 19.8613***| 18.8085***| 18.5479***|
|               | (0.000)   | (0.000)   | (0.000)   | (0.000)   | (0.000)   | (0.000)   |           |           |
| n             | 224       | 224       | 224       | 224       | 224       | 224       | 224       | 224       |

Notes: The p-values are in parentheses; ***p < 0.01, **p < 0.05, *p < 0.1.

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In Model (1), the coefficient on the voice and accountability variable (VOICEACC) is positive yet nonsignificant. This finding shows that the distance between Turkey and host countries regarding participation in government selection, as well as freedom of expression, freedom of association, and a free media, is not a major determinant of TODI. In Model (2), the coefficient on the political stability variable (POLSTB) is positive and significant. This positive relation shows that the distance between Turkey and host countries regarding the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically‐motivated violence and terrorism, is a major factor that determines TODI. This is not surprising, given the history of both successful and attempted military coups in Turkey’s recent history. In Model (3), we see that the coefficient on the government effectiveness variable (GOVEFF) is positive and significant. This result indicates that the distance between Turkey and host countries regarding the quality of public services, the quality of civil service, and the degree of independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies is a major factor that determines TODI. This finding explains why the majority of TODI is hosted by countries more developed than
Turkey, such as the Netherlands, the United States, and Austria. In Model (4), we find that the coefficient on the regulatory quality variable (REGQUAL) is negative and nonsignificant. This finding shows that the distance between Turkey and host countries regarding perceptions of the government's ability to formulate and implement sound policies and regulations that permit and promote private sector development is not a major factor that determines TODI. This result is somewhat expected, given that the Turkish government has implemented many positive economic reforms based on sound macroeconomic principles, driven by a strong push to join the EU and recommendations by the World Bank and the International Monetary Fund. In Model (5), we see that the coefficient on the rule of law variable (RULELAW) is positive and significant. This indicates that the distance between Turkey and host countries regarding the quality of public services, the quality of civil service, and the degree of independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies is a major factor that determines TODI. This finding supports the notion that the declining rule of law in Turkey is pushing Turkish MNEs to invest in countries that are performing better in this regard. In Model (6), we document that the coefficient on the control of corruption variable (CONTCORRUPT) is positive and significant. This positive relation shows that the distance between Turkey and host countries regarding the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as “capture of the state” by elites and private interests, is a major factor that determines TODI. This result explains why the majority of TODI is hosted by countries perceived to be less corrupt than Turkey, such as the Netherlands, Luxembourg, and the United Kingdom. In all six models, we find that TODI is positively related to CD, exports, and the host country's infrastructure and negatively related to the host country's GDP and exchange rate.

4.4. Normative and regulative distances and TODI

Table 6, Model (7) examine the relation between combined normative distance WGI measures (voice and accountability, political stability, government effectiveness, control of corruption) and TODI. We call this variable NORMDIST. We find that TODI is positively and significantly related to NORMDIST. Table 6, Model (8) examine the relation between regulative distance measures (regulatory quality and rule of law) and TODI. We call this variable REGDIST. We see that TODI is not significantly related to REGDIST.

Overall, we conclude that the normative distance between Turkey and the host country is more important for Turkish MNEs than regulative distance is. This finding supports the proposition developed by Xu and Shenkar (2002), that MNEs prefer FDI when the normative distance is greater.

5. Sensitivity analysis

In this section, we conduct several sensitivity analyses to ensure that our main results are valid. Accordingly, first, we employ fixed effects (FEs) models to control for time and country FEs. Second, in all our main models, we control for the economic development distance between Turkey and the host country. Finally, we report additional untabulated robustness results.

5.1. Country and time FEs

Our main results could be affected by the unobserved country and time effects. The presence of these effects results in endogeneity and inconsistent ordinary least squares estimates. Accordingly, we employ the FEs model, which takes into account both unobserved country and time effects, comparable to recent FDI literature (e.g., Buckley et al., 2007; Mina, 2020). Of course, this analysis results in time-invariant factors, such as geographic distance and CD, to drop from the model.

Table 7 presents the estimates of the coefficients of the FEs gravity equation model estimates, accounting for both country and time effects. We run a unit root test and reject the null hypothesis for each variable and conclude that the variables are stationary (Levin et al., 2002; Pesaran and Shin, 2002). We also find that the F-statistics specification is significant at the 1% level. The FEs method yields a coefficient of 0.7311 for ID, significant at the 1% level. This result suggests that, after controlling for both unobserved country and year FEs, we find ID to still be positive and statistically and economically associated with a higher level of TODI.

5.2. Economic distance

The ID could be correlated with economic development. Hence, if we fail to control for economic development distance, we could fail to account for the potential of Turkish FDI being attracted to higher-institutional quality countries simply because they are wealthier. Ghemawat (2001) characterizes the level of economic development of the host country relative to that of the home country as the economic distance. Following Tsang and Yip (2007), we measure the economic distance as the difference, in US dollars, in the GDP per capita between Turkey and a host country, in natural logarithm form. We label this variable in our models as EDIST. Accordingly, we include EDIST as the proxy for economic development distance between Turkey and host countries and rerun our model.

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18 See https://www.state.gov/e/eb/rls/othr/ics/2015/241775.htm.
19 See https://worldjusticeproject.org/sites/default/files/documents/WJP-ROLI-2018-June-Online-Edition_0.pdf.
20 See https://www.transparency.org/news/feature/corruption_perceptions_index_2017.
21 We run a Breush–Pagan test and normality tests to check heteroskedasticity and normality. Since our results indicate heteroskedasticity, we use heteroskedasticity-consistent covariance estimates of standard errors in the FEs models.
Table 8 presents our results considering the economic development distance. Similar to our analysis so far, we run POLS and FEs models. We do not include LGDPcap, since it is highly correlated with EDIST, as reported in Table 4. We see that, in both the models, our variable of interest ID is still positive and significant. We therefore conclude that Turkish MNEs are not just attracted to countries with higher institutional quality simply because they are wealthier. In all the models, we find that EDIST is negative and significant. Consequently, we can conclude that economic development (i.e., the host country’s wealth) is not by itself a sufficiently strong factor to pull TODI. The coefficients and directions of the other control variables do not show any significant changes. In untabulated analysis, we run all our models in Table 6, controlling for EDIST. Our results are qualitatively similar and available upon request.

5.3. Untabulated robustness checks

In further robustness analysis, we perform more checks but do not tabulate the results.²² It is possible to argue that greater ID does not equate with stronger institutional governance. In other words, ID does not capture the direction of the distance. For instance, in Table 2, we see that Italy and Iran have similar ID values. However, Italy has much stronger institutional quality, whereas Iran has much weaker institutional quality relative to Turkey. Accordingly, to check the robustness of our findings, we control for alternative measures of ID. Hence, we include a dummy variable that equals one for countries with institutional quality higher than that of Turkey in a given year, and zero otherwise.²³ A similar dummy variable is also tested, but with the average institutional quality value of each country. However, we continue to find qualitatively comparable results for the ID and the other control variables. Finally, we include a dichotomous EU dummy variable (EU member = 1, Non-EU member = 0) in all our models in Tables 5 and 6, since Aybar (2016) argues that Turkey’s membership to the EU Customs Union can impact the determinants of TODI. In all models, we find qualitatively similar results for ID and the individual ID measures. Overall, we conclude that better institutional quality in the host countries is a major pull factor for TODI, regardless of EU membership.

6. Conclusions

In this study, we aim to establish the impact of institutional distance on TODI decisions of Turkish MNEs. We believe that our

²² These results are available upon request.
²³ Alternatively, we also create a dummy variable for countries with institutional quality lower than Turkey’s to work as a “negative ID” and we ran the applicable models with it. Our results are qualitatively similar.
empirical analysis represents a significant contribution to understanding the dynamics of TODI. We specifically examine the impact of ID on TODI using the World Bank’s World Governance Indicators (WGI). Our results illustrate that ID is positive and significantly related to TODI. This means that ID has a direct effect on the entry strategies of Turkish MNEs and the greater the ID between a host country and Turkey, the more TODI can be expected. Considering that Turkey has a poor institutional environment, according to WGI, a higher ID means that Turkish MNEs target locations with better institutional environments. This finding is similar to previous studies examining the relations between emerging country OFDI and ID (Aleksynska and Havrylchyk, 2013; Tomio and Amal, 2015; Zhang and Xu, 2017). These findings highlight the fact that poor governance (i.e. high distance between home and host countries) pushes Turkish MNEs to invest in countries with better institutional environments. These results support the literature (Erdilek, 2008; Sauvant et al., 2011; Yildirim, 2017), that argues that a poor domestic institutional/governance environment motivates Turkish firms to invest abroad. Moreover, Turkish MNEs prefer locations where levels of uncertainty are lower, allowing them to take advantage of political stability, market efficiency, and better property rights. Our results, also support Ilhan-Nas et al. (2018), who recommend that Turkish MNEs should take ID into consideration to successfully manage the risk of their foreign investment. Our finding that TODI is directed towards countries with better institutional quality specifically supports Yildirim (2017)’s argument of “institutional escapism” a major motive to avoid a poor domestic institutional environment. Based on these findings, we recommend policymakers in Turkey to improve political stability, government effectiveness, rule of law, and lower the level of corruption. Sensitivity analyses ensure that our main results are robust to time and country fixed effects, and economic distance. Our results also illustrate that TODI is positively related to CD, openness, exports, and the host country’s infrastructure; however, it is negatively related to the exchange rate level and the host country’s GDP. Moreover, the empirical results provide evidence that TODI is not sensitive to market size, geographical distance, Turkey’s imports from the host country, host country inflation, and the host country’s

Table 8
Economic development distance.

| Variables     | POLS          | FEs           |
|---------------|---------------|---------------|
|               | (1)           | (2)           |
| ID            | 0.7861 ***    | 1.0048 ***    |
|               | (0.000)       | (0.000)       |
| CD            | 0.3172 ***    | 0.3127 ***    |
|               | (0.008)       | (0.009)       |
| LGDP          | 0.0042        | 0.2925 **     |
|               | (0.983)       | (0.021)       |
| LORE          | 5.4240        | 5.1023        |
|               | (0.068)       | (0.111)       |
| LERATE        | −0.9292 **    | −0.5171 **    |
|               | (0.029)       | (0.277)       |
| LOPEN         | 1.2368 ***    | 1.4126 ***    |
|               | (0.002)       | (0.001)       |
| LDIST         | 0.3138        | 0.3056        |
|               | (0.193)       | (0.193)       |
| LXPRT         | 0.2549        | 0.1129        |
|               | (0.097)       | (0.468)       |
| LIMPRT        | −0.3025       | −0.3591 **    |
|               | (0.081)       | (0.045)       |
| LINF          | 3.0721        | 5.8387        |
|               | (0.271)       | (0.055)       |
| LINFR         | 5.8365 ***    | 7.3480 ***    |
|               | (0.000)       | (0.000)       |
| LTECH         | −2.2714       | −2.3679 *     |
|               | (0.074)       | (0.073)       |
| EDIST         | −1.4435 ***   | −2.0166 ***   |
|               | (0.000)       | (0.000)       |
| LGDPGR        | 0.0919        | 0.3694        |
|               | (0.720)       | (0.234)       |
| TODI_{t-1}    |               |               |
| Intercept     | 14.6106 ***   | 11.5849       |
|               | (0.000)       | (0.000)       |
| Time FEs      | Yes           | Yes           |
| Country FEs   | Yes           | Yes           |
| R²            | 0.5550        | 0.5603        |
| N             | 224           | 224           |

Notes: The p-values are in parentheses; ***p < 0.01, **p < 0.05, *p < 0.1.
technological endowments. Overall, these findings document that Turkish MNEs' main FDI strategies are efficiency and resource-seeking and not market-seeking. Hence, we argue that the FDI strategy of Turkish MNEs is more oriented to create capabilities and ownership advantages in the host markets and is less focused on growth opportunities. We also examine the interaction between ID and CD. We do not find sufficient evidence to support the hypothesis that ID is moderated by culture. Hence, we conclude that culture and institutions do not act as substitutes or complements. This finding suggests that Turkish MNEs are neither quicker nor slower to invest in culturally distant countries that present better institutional quality than Turkey. These results contrast the findings of Tomio and Amal (2015) that Brazilian MNEs are quicker to invest in culturally distant countries that present better institutional performances than Brazil, which suggests a complementary relationship between culture and institutions.

In closing, the results presented here are subject to some limitations that need to be addressed. First, our study focuses on country-level analysis. Further research can examine decisions at the industry and firm levels to better understand TODI behavior. Second, the most recent economic crisis that started in 2018 (worsened due to COVID-19 related shutdown of the economy) in Turkey provides a possible laboratory to examine the impact of governance on the level of TODI as institutional reform is pursued. An economic downfall often exposes weaknesses in institutional infrastructure that may have previously been masked during an economic boom. Third, we focus solely on governance indicators from the World Bank to calculate ID. However, there are other measures to calculate ID. Fourth, the lack of availability of Hofstede’s national culture values limits our sample. Finally, the role of bilateral IDs between emerging markets could be more comprehensively examined to understand the role of ID measures in south–south FDI since MNEs from emerging countries face similar challenges, such as a weak knowledge infrastructure, the liability of emergingness, and a capability gap (Wilkinson et al., 2014).

CRediT authorship contribution statement

Jason Heavilin: Data curation, Software, Writing - review & editing, Visualization. Hilmi Songur: Conceptualization, Methodology, Investigation, Visualization, Writing - original draft.

Appendix A

See .

Table A1
Model variables, explanations, and data sources.

| Variables | Explanations | Data source |
|-----------|--------------|-------------|
| TODI      | FDI stock of Turkish firms in each of the host countries | CBRT |
| CD        | Cultural dimensions | Geert Hofstede's website |
| LGDP      | Natural log of the host country’s GDP (in current USD) | World Development Indicators |
| LGDPcap   | Natural log of the host country’s GDP (in current USD) per capita | World Development Indicators |
| LGDPgrw   | Natural log of the host country’s GDP (in current USD) growth | World Development Indicators |
| LARE      | Natural log of the host country’s ratio of ore and metal exports to merchandise exports | World Development Indicators |
| LINF      | Natural log of the host country’s inflation rate (consumer price index) | World Development Indicators |
| OPEN      | Natural log of the host country’s openness to FDI (annual inward FDI flows, scaled by the GDP) | World Development Indicators |
| LINFR     | Natural log of the host country’s Internet access (number of Internet users scaled by the population) | World Development Indicators |
| LTECH     | Natural log of the host country’s high-technology exports (% of manufactured exports) | World Development Indicators |
| LXPRT     | Natural log of exports to the host country from Turkey | Turkish Statistical Institute |
| LIMPRT    | Natural log of imports to Turkey from the host country | Turkish Statistical Institute |
| LERATE    | Natural log of the annual exchange rate between host country currencies and the Turkish lira | United Nations Conference on Trade and Development |
| LDIST     | Natural log of the geographic distance (distance between the host country’s capital and Ankara, the capital of Turkey) | Centre des Etudes Prospectives et d’Informations Internationales |
| EDIST     | Absolute difference between the natural log of the host country’s GDP per capita and the natural log of Turkey’s GDP per capita | World Development Indicators and authors’ calculations |

Appendix B. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.ribaf.2020.101299.

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