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Analysing the Turkey-Africa Relationship's Impact on the flow of Turkey's Exports

Author: Puruweti Siyakiya [1c]

Affiliation: [1] PhD Scholar, Department of Economics, Marmara University, Istanbul, Turkey.
[c] **Email:** siyakiya82@gmail.com

Analysing the Turkey-Africa Relationship's Impact on the Flow of Turkey's Exports

Puruweti Siyakiya[1]

Abstract

While there are scholars who have analysed factors that influence Turkey's bilateral exports, very few have examined the impact of cooperation/conflicts on Turkey's trade in general and with particular reference to Africa. In view of the above, this paper seeks to analyse and estimate the effect on exports from Turkey to 52 African countries of Turkey's relationship with the Africa Union for the period 1998-2015. Poisson Pseudo Maximum Likelihood (PPML) results suggest that Turkey's cooperation with Africa (TAR) is positive and statistically significant in inducing exports from Turkey to 52 selected African countries. Specifically, TAR increases Turkey's exports to selected African countries by 44.5%. Alternatively, due to TAR Turkey's exports to Africa are predicted to be 1.44 times higher than in the absence of cooperation. However, there is evidence that TAR's impact on exports vary across regions. Compared to countries in the Northern part of Africa, the effect of TAR with African countries in the East, South, and West is negative and statistically significant. Given these results, it is therefore prudent for Turkey to target countries or regional trading blocs in where export deficiency has been diagnosed so that more exports can be stimulated.

1. Introduction

International trade is not a new phenomenon as countries have been trading many centuries ago and as such its economic, political and social importance is unquestionable. For many countries, international trade represents a significant proportion of their gross

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[1] PhD Scholar, Department of Economics, Marmara University, Istanbul, Turkey. Email: siyakiya82@gmail.com

domestic product (GDP). Statistics from the World Bank website[2] reveal that, world merchandise trade as a proportion of GDP stood at approximately 50% in 2016.

The Ricardian model suggests that international trade takes place because of technological differences among countries (Feenstra, 2015). Contrariwise, the Heckscher-Ohlin model assumes that differences in factor endowments form the basis for trading internationally. Even if countries have the same factor endowments, there is still room for trade among them since it may be very costly to produce every type of good. Nevertheless, not only do basic market forces and rules regulate international trade but also political and cultural relations play an important role.

As a result, in order for the international trade to take place smoothly, some minimum level of peace, security and stability as well as less barriers should prevail. Thanks to the establishment of multilateral trade organizations like the World Trade Organization (WTO), which has seen most countries liberalizing trade and tariffs are no longer problematic, thus increasing the trade volumes substantially.

The fact that countries need to trade means increased need for interdependence and connection, hence trade is an important step towards cooperation. This view is shared by many scholars (Polachek, 1980, 1997, 1999; Mansfield & Pevehouse, 2000; Chang, Polachek, & Robst, 2004; Polachek & Seiglie, 2007; Massoud & Magee, 2012). However, due to simultaneity between trade and cooperation, it is also argued that cooperation promotes trade (Reuveny & Kang, 1996, 1998; Hegre, Oneal, & Russett, 2010; Massoud & Magee, 2012; Haim, 2016). Also, as a way of boosting international trade in the face of increased competition in today's globalized world, some countries have resorted to establishing diplomatic ties and bilateral trade agreements. However, according to Davis, Fuchs, and Johnson (2014) due to changes in rules of trading, some governments have less leeway to use trade as carrot and stick in their foreign policies.

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[2] https://data.worldbank.org/indicator/TG.VAL.TOTL.GD.ZS

Previous studies on the relationship between cooperation and trade emphasize that cooperation promotes trade hence governments should align their trade policies, taking into account the national interests since traders also take this into consideration when assessing risk. In sharp contrast, in the early 1920s, Turkey's foreign policy put much emphasis on security concerns (Civan Genc, Taser, & Atakul, 2013). However, in the 1980s during Turgut Özal's era in power, there was a renewed thinking whereby the foreign policy of Turkey emphasized on economics.

According to Özkan (2011) and Civan et al. (2013), when the Justice and Development Party (AKP) assumed power in 2002, it also embraced Özal's foreign policy framework. This was very instrumental in boosting Turkey's trade by opening the country to the world and it put much emphasis on bilateral relationship.

Pertaining to Turkey's foreign policy towards Africa, although it used to be concentrated in the Northern and Western part of Africa because of religious, cultural and historical links traced back to the Ottoman Empire, during the past decade there has been an inclusion of the Southern part (Akel, 2014; Habiyaremye & Oğuzlu, 2014; Dodo, 2016; Han & Bahadir, 2016). According to Enwere and Yilmaz (2014), the Ottoman Empire laid a foundation for an economic structure and trade partnership between Africa and the modern Turkey. For a long time, Africa has been a traditional trade hub for most Western countries due to their colonial links.

The main factors behind the Turkey-Africa relationship are the internationalization of the Turkish economy and Africa's growth in recent decades as well as Africa's rich agricultural land and abundant untapped natural resources. These have attracted Turkey's interests in engaging with the continent (Shinn, 2015). In return, Africa has viewed Turkey as an economic partner not only a resource seeker, since a lot of Turkish investments have been established in African countries. As a way to strengthen and formalise its relationship with African, in 2005 Turkey incorporated the long neglected continent into her foreign policy in areas of economics, politics and humanitarianism (Sykes, 2013). The inception of the relationship between Turkey and Africa began in 1998 when the Africa Action Plan was developed and was later

adopted in 2005 (Özkan, 2008, 2011). According to Özkan (2011) and Shinn (2015), the adoption of the Africa Action Plan was a huge stepping stone for Turkey in her quest to cement economic relations with Africa and as a result she declared the year 2005 as the 'Year of Africa'.

Turkey's economy is much dependent on trade and during the period 2012-2014 trade accounted for 58.2% of total GDP (WTO, 2016). Under these new foreign policies, according to Civan, et al. (2013), Turkey's total trade with the world stood at $389 billion in 2012 and with Africa (Hruby, 2015) it increased ten times to US$23.4 billion between 2000 and 2014. As a way to boost her trade with Africa, it is imperative for Turkey to continuously promote her economic relations with Africa.

Various studies have analyzed Turkey's bilateral trade being affected by various factors namely export incentives and real exchange rate (Arslan & Van Wijnbergen, 1993), real effective exchange rate and investment (Şahinbeyoğlu & Ulasan, 1999), unit labor cost and consumer price index based real effective exchange rate (Aydın, Saygili, & Saygili, 2007), real effective exchange rate and transport costs (Nowak-Lehmann, Herzer, Martinez-Zarzoso, & Vollmer, 2007) and depreciation of the local currency and the 2001 economic crisis (Karagöz, 2016), but few have examined how Turkey's foreign policy impacts on her trade (Civan et al., 2013; Akel, 2014; Temurov & Kilicaslan, 2016). Within the context of Africa, only Akel (2014) attempted to analyse the impact of Turkey's cooperation with Africa. However, the author failed to empirically investigate this relationship. In addition to the above, despite Turkey's growing interests in Africa and various literature analyzed Turkey's engagement with Africa (Özkan, 2008, 2011; İpek & Biltekin, 2013; Bilgic & Nascimento, 2014; Shinn, 2015; Dodo, 2016), few analyzed its effect on Turkey's trade (Akel, 2014). It is in view of the above context and the scanty literature regarding the effect of Turkey's foreign policy (cooperation) with Africa (TAR) on Turkey's exports to Africa that this paper tries to make a contribution. This paper has two aims. Firstly, using the gravity model of trade approach, the paper examines the role of TAR on

Turkey's bilateral exports with 52[3] African countries that are part of the African Union. Secondly, the TAR impact on Turkey's exports to Africa is compared across regions, that is, Central, Eastern, Northern, Southern and Western Africa. In this way a multiplicative interaction dummies of TAR and regions are performed.

Through the application of the gravity model, this paper purposes to analyze to what extent the cooperation between Turkey and Africa has impacted on Turkey's bilateral exports to African countries for the period 1998-2015. In this context, an analysis is done to examine if there is a link between the cooperation of Turkey and Africa (TAR) and exports from Turkey destined to 52 African countries that have a membership with the African Union. The findings of this paper points to the fact that TAR in general is positive and significant in explaining Turkey's bilateral exports to the 52 African countries. However, interactive dummies of TAR and regions reveal a positive and statistically significant impact of TAR in countries in the Eastern, Northern and Southern, compared to those in the Western part of Africa on Turkey's exports.

Despite the distance barrier, the second highest response of Turkey's export is observable when TAR is between African countries that are in the southern region. As for the East African region, though positive, it is not evident that the cooperation increases Turkey's exports. Overall, Turkey's cooperation with African Union is a success as far as fostering Turkey's exports is concerned. However, compared to countries in the Northern part of Africa, the effect of TAR with African countries in the East, South, and West is negative and statistically significant. This is surprising despite 30 of the 52 African countries (which constitute about 57%) belong to regions where TAR's contribution to Turkey's exports to Africa is negative and statistically significant.

The remaining parts of the paper are outlined in this way. Next, literature regarding the foreign policy-trade relationship in general and that of Turkey and Africa in particular is reviewed. This is followed by a brief history of the Turkey-Africa relationship as well as Turkey's trade flow. Thereafter, the study's methodology

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[3] A detailed list of countries used is in Table 1

and its findings are presented. Finally, concluding comments and policy recommendations are made.

2. Literature Review

Examining the link between foreign policy and international trade is not new since there is ample literature on this topic. For many decades the economists and political scientists have come up with varying conclusions on how trade and cooperation/conflict are related. Empirical studies on the connection between international trade and cooperation/conflict often use the two variables as dependent and independent variables or vice-versa based on assumptions.

On one hand, a body of literature confirms that a country's trade flow is significantly determined by the level of cooperation/conflict with its trading partners (Polachek, 1980, 1999; Mansfield & Pevehouse, 2000; Chang et al., 2004; Polachek & Seiglie, 2007). However, on the other hand, some authors establish that trade affects conflict/cooperation. According to Reuveny and Kang (1996), it is not clear on the direction of causality between these two variables. As cited in Pollins (1989), Reuveny and Kang (1996), Zhang, Van Witteloostuijn, and Elhorst (2011) and Hirschman (1945) was among the first modern economists to conceptualize and interrelate the politics and international trade nexus. Empirical analysis establishes that cooperation between countries promote their trade flows (Reuveny & Kang, 1996, 1998; Hegre et al., 2010; Massoud & Magee, 2012; Haim, 2016). Kim, Kim, and Han (2008) argue that countries craft their foreign trade policies mindful of security relations with their trading partners.

The theoretical ground for the relationship between political cooperation and bilateral trade is coined in Polachek (1980) and Pollins (1989). The model developed by Polachek and Pollins assume that individuals, groups and countries are rational and they behave like agents who always want to maximize their utility or welfare as possible as they can. This is done by avoiding risks and outsourcing the commodities they cannot find locally. Hence, decisions which these agents make, have an influence on whom they trade with. Pollins (1989) empirically tested the impact of interstate diplomatic ties on intra trade flows among 25 countries during 1960-

1975 and found that cooperation was positive and meaningfully significant.

Generally, literature found trade and conflict/cooperation to simultaneously affect each other. As an exception to this, Reuveny (2001) applied an action reaction to trading partners and find that trade may reduce or increase conflict/cooperation, an increase in conflicts reduces quantity of bilateral trade but can either reduces or increases the value of bilateral trade.

Keshk, Pollins, and Reuveny (2004) establish that lack of cooperation is harmful for trade. However, they could not find evidence of trade reducing conflicts between countries. Reanalysing the Keshk et al. (2004) model which applied 1950-1992 data, Hegre et al. (2010) controlled for distance in the conflict equation and their findings indicated a negative association between conflict and trade when these two variables are interchangeably used as independent and dependent variable. Also analysing bilateral relationship between China and 78 trading partners between 1950 and 2002, Zhang et al. (2011) established that foreign cooperation shaped up their international.

Departing from the application of the use of force as the generally agreed measure of conflict, Massoud and Magee (2012) found political and economic cooperation to be statistically significant in promoting bilateral trade. Their argument was that relations between countries is not only based on the absence of disputes but is also inclusive of wider perspective such as political links and improved economic policy coordination. Also taking into account simultaneity concerning cooperation and trade, they found cooperation to have an estimated higher impact on trade opposed to that of trade on cooperation. Haim (2016) also find that countries bilaterally trade to one another when they exude greater cooperation and belong to the same alliance community.

Within the context of Turkey and applying gravity model, Civan et al. (2013) found the impact of Turkey's foreign policy, particularly diplomatic visits by the then Prime Minister Erdoğan, and they established that these visits positively influence Turkey's bilateral trade with all her trading partners. However, Akel (2014) suggested that Turkey's strategy to Africa only managed to create

awareness to exporters but in terms of stimulating exports it is weak. Using a generalized method of moments, Temurov and Kilicaslan (2016) found security conflicts to be statistically trade inhibiting on Turkey's bilateral trade with 60 trading partners for the period 1990-2013.

Contrary to the above, a second body of literature argues that trade unites countries. Evidence from 30 countries examined by Polachek (1980) suggests that if countries engage in trade among each other they are less likely to be involved in hostility. Specifically, holding all other things constant and for different sample, Polachek (1980), and Polachek and Seiglie (2007) find that doubling of trade between countries reduces their hostility by 20%. Polachek (1997) also argue that, it is through trade that countries engage in bilateral cooperation and arrangements. The idea is that countries cooperate to protect their gained wealth from trade as well as to avoid welfare loss (Polachek, 1999). The more the gains are realised by countries from bilateral trade the lesser they are involved in conflicts.

Mansfield and Pevehouse (2000) also take into account countries that share the same trade arrangements and found that countries that do not belong to the same trade arrangement are less cooperative and likely to be more conflictive than those in the same trade agreement. They found little evidence of bilateral trade having an effect on conflict for countries that are in the same trade agreement. Chang et al. (2004) also establish that, through diminishing trade, countries that are geographically further apart are likely to get involved into a lot of conflicts and have less cooperation than those that are closer in distance. In this case the distance-conflict relationship is substantiated by trade. Countries maybe closer to one another, but if there is less trade between them there is likely effect of them being involved into conflict.

3. Brief History of the Turkey – Africa Relationship

For many years, Turkey's ties with Africa were only concentrated in the Northern part of Africa and the Western part due to Ottoman Empire's influence. According to Özkan (2010a) and Dodo (2016), the inception of the Turkey-Africa relationship began in 1998 when the Action Plan for Africa was first developed. This was however,

reinvigorated in 2002 after the Justice and Development Party (AKP) assumed office (Özkan, 2010b).

In 2005, redevelopment of the Action Plan for Africa was done to incorporate Turkey's cultural, economic and political relations with African countries by declaring this historical moment as the Year of Africa (Sykes, 2013). In return, during the same year 2005, an observer status was accorded to Turkey by the African Union. In showing solidarity and seriousness to the relationship, series of high powered goodwill visits were conducted in several notable African countries by Messrs Recep Tayyip Erdoğan and Abdullah Gül, then Prime Minister and President respectively.

However, İpek and Biltekin (2013) suggested that involvement of the private sector not only state in promoting trade is also important since the private sector is less affected by bureaucracy. Moreover, the relationship came into fruition in 2008 when Africa confirmed Turkey a strategic partner hence formalizing Turkey-Africa Relationship. Also, most African countries rendered invaluable support to Turkey by voting for her when she attempted to secure a non-permanent seat in the United Nations Security Council between 2009 and 2010 (Sykes, 2013). Since 2008, series of meetings and conferences aimed at strengthening and reviewing the relationship have been held in 2008, 2010 and 2016 in Istanbul, 2011 in Addis Ababa and 2014 in Malabo.

Statistics from Foreign Economic Relations Board (DEİK) website[4] and Ministry of Foreign Affairs[5] show that Turkey did a number of initiatives to ease the doing of business and facilitate her trading with Africa. In 2003 Turkey had 23 Trade and Economic Cooperation Agreements (TECA) in Africa but by 2015 these increased to 39. Also in 2015, Turkey had 39 Embassies in African countries compared to 7 in 2003. A detailed list of initiatives and indicators of progress made by Turkey towards improving her relationship with Africa are in Table 2. As a result Turkey's trade with Africa substantially increased annually with the highest exports value reported in 2014 (see Figure 1).

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[4] http://www.turkeyafricaforum.org/about-tabef/turkey-africa-relations/
[5] http://www.mfa.gov.tr/turkey_africa_-solidarity-and-partnership.en.mfa

Table 1: Legal and Institutional Indicators

|	**2003**	**2015**
Free Trade Agreements	0	4
Trade and Economic Cooperation Agreements	23	39
Reciprocal Protection of Investment Agreements	6	22
Prevention of Double Taxation Agreements	4	11
Turkish Embassies and Trade Counsellors in Africa	7 (4)	39 (26)
Turkish Airline (destination and country)	Only North Africa	48 (31)

Source: Data from DEİK

3.1. Turkey's Exports to Afrıca

According to statistics from the International Monetary Fund (IMF), in 2014 Turkey was the 27th largest exporting economy in the world, with $165 billion worth of exports of goods. Her main exports included vehicles, machinery, gems, clothing, electrical machinery and iron and steel. On the other hand as cited by Özkan and Akgün (2010) Turkey's exports are almost in tandem to what most African countries import. Since 2000 up to 2008, exports from Turkey to Africa were on an increasing trend with a sharp increase observed in 2005.

However, because of the 2008 global financial crisis trade between Turkey and Africa (exports) declined in 2009 and 2010. Forunately, as depicted in Figure 1, the value of exports rebounded to a record of approximately US$ 6.8 billion in 2011. From the figure it is evident that since Turkey started to make engagements with Africa, her exports increased significantly.

Similarly, when compared to other countries' exports that have relationship with Africa, the percentage change of exports from Turkey to Africa on average had a fair share. The highest percentage increase realised was during the period 2000-2004. Of the selected countries that have engagements with Africa, China and India on average had the highest percentage increase during the period shown in Figure 2.

Figure 1: Turkey's Exports to Africa (US$) (1990-2015)
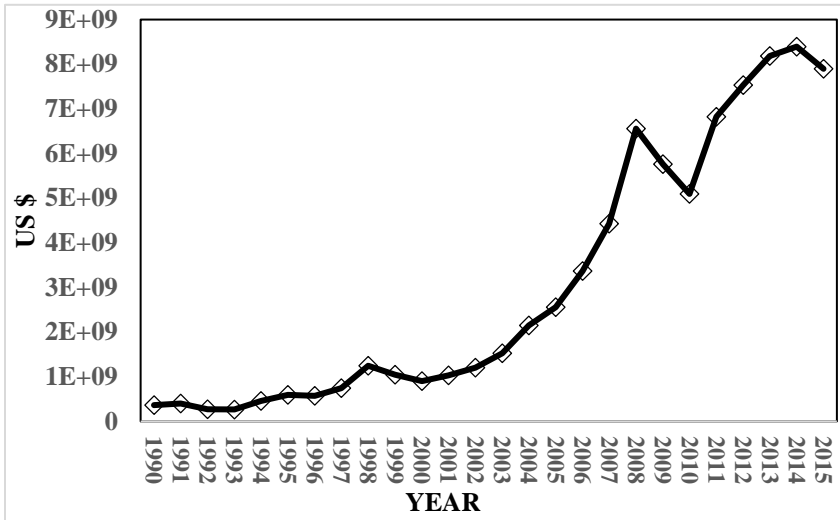
Source: Author's calculation of Data from IMF.

Figure 2: Average Exports to Africa (%) (1990-2014)
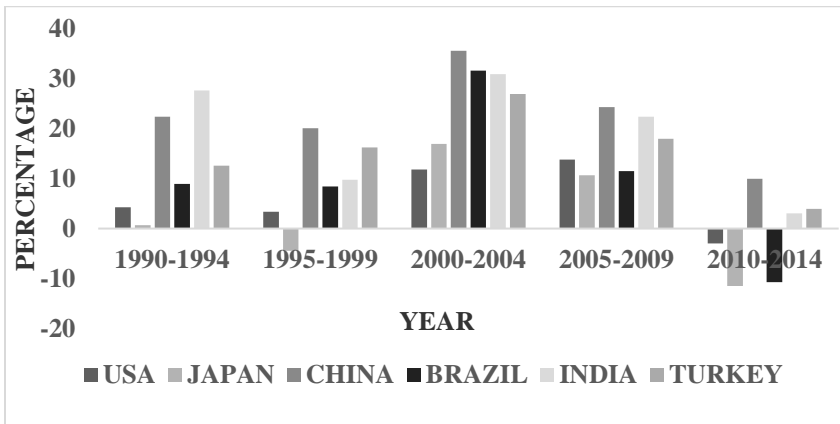
Source: Calculations based on IMF Data.
Note: The five bars from left are for USA, Japan, China, Brazil and Turkey respectively.

4. Methodology and Data Sources

The gravity model is extensively used in modelling and analysing bilateral trade flows. Since the work pioneered by Tinbergen (1962) and Pöyhönen (1963), other several authors including Bergstrand (1985), Deardorff (1998), Rose (2000), Frankel and Rose (2002) and

Anderson and Van Wincoop (2003) applied gravity model as a workhorse to estimate bilateral international trade flow. This paper assesses how Turkey's relationship with African countries impacts on her bilateral export performance with these African countries

In order to estimate the regression the variable measuring Turkey's relationship with Africa alongside other common determinants of export are included in the standard gravity regression model. The general expression of the model depicts that trade between countries is determined by countries' economic size (GDP or their GDP per capitas) and their in-between distances. According to Anderson and Van Wincoop (2003) and Armstrong (2012), weighted distance between their capitals or big cities is mostly used because it is a better measure of remoteness since trade flow in most cases is determined by economic distance not geographical distance.

The general form of gravity model expressing trade flow between countries as a function of economic size and distance is as follows;

$$X_{ijt} = \beta_0 \left(\frac{GDP_{it} * GDP_{jt}}{DIS_{ij}} \right) \tag{1}$$

However, because the data had some zeros, Poisson Pseudo Maximum Likelihood (PPML) regression model is used. The argument for using PPML follows mainly the work of Silva and Tenreyro (2006) and partly that of Westerlund and Wilhelmsson (2011). Precisely, Silva and Tenreyro (2006) argued in favour of PPML basing on the log linearity of the gravity equation and existence of zeros in data set which poses serious econometric problems resulting in biased estimates.

However, if the zeros are to be dropped as in the ordinary least square (OLS) technique, this results in losing some important information due to sample selection bias (Eichengree & Irwin, 1998), especially when the zeros are not randomly distributed (Burger, Van Oort, & Linders, 2009; Westerlund & Wilhelmsson, 2011). Since PPML can handle the problem of presence of zeros, this renders its suitability for empirical gravity model analysis.

However, this does not imply that PPML does not have its own weaknesses. As propounded by Pollins (1989), as two countries cooperate, the trade flow between them is expected to increase. The reduced form of PPML that incorporates Turkey's cooperation with Africa is given as:

$$EX_{ijt} = \exp\left(\alpha + \beta_1 \ln GDP_{it} + \beta_2 \ln GDP_{jt} + \beta_3 \ln DIS_{ij} + \right.$$
$$\beta_4 \ln PIS_{jt} + \beta_5 \ln REER_{it} + \beta_6 NTB_{jt} + \beta_7 REL_{ij} + \beta_8 EMB_{ijt} + \beta_9 LL_j$$
$$\left. + \beta_{10} TAR_t\right) + \mu_{ij,t} \tag{2}$$

Furthermore, the impact of TAR is analysed at regional basis. This is done by adding the multiplicative interactions of TAR and the 4 regions of Africa to equation 2. The 4 regions are Eastern, Northern, Southern and Western Africa. In this case the Northern Africa region is the reference group because from time immemorial Turkey had already strong trade links before the inception of TAR. Egypt, Libya and Tunisia were once colonized by Turkey hence more Turkish exports are expected in the region.

$$EX_{ijt} = \exp\left(\alpha + \beta_1 \ln GDP_{it} + \beta_2 \ln GDP_{jt} + \beta_3 \ln DIS_{ij} + \right.$$
$$\beta_4 \ln PIS_{jt} + \beta_5 \ln REER_{it} + \beta_6 NTB_{jt} + \beta_7 REL_{ij} + \beta_8 EMB_{ijt} +$$
$$\left. \beta_9 LL_j + \beta_{10} TAREA_{jt} + \beta_{11} TARSA_{jt} + \beta_{12} TARWA_{jt}\right) + \mu_{ij,t} \tag{3}$$

A detailed description and explanation of variables, their sources of data as well as expected signs of their estimated coefficients are in Table 3.

4.1. Discussion of Results

To analyse the impact of the Turkey – Africa Relationship (TAR) on Turkey's exports to African countries, PPML approach was used. Parameter estimates are reported in Table 4. STATA 12, econometric software was used to compute the regression results. Column 1 and 2 of Table 4 reports the results of equation 2 and 3 respectively. Key parameter estimate, that is the coefficients of TAR, in equation 2, is implicitly positive at 5% level.

Specifically, the presence of TAR increases Turkey's exports to Africa by 1.44 times higher than in the absence of

cooperation. Alternatively, Turkey's cooperation with Africa increases her exports by an estimated 44.5% compared to trading without the cooperation in place.

The coefficients of GDP which measure the elasticity of supply and demand, that is for the exporting and importing countries respectively, are both highly significant and positive. The coefficient of GDP of exporter is greater than that of the importer, signifying that Turkey's exports to Africa are more responsive to supply than demand. A 10% increase in Turkey's and importing countries' GDP have an estimated effect of increasing Turkey's exports to Africa by 8.1% and 6.5% respectively.

According to Shepherd (2013) although the dependent variable is in level while independent variables are in logarithm form for continuous variables, their coefficients under PPML regression are interpreted as elasticities, that is, the same interpretation as coefficients under OLS in log-log form. Coefficients of the other variables in column 1 are significant, have anticipated signs and these results conform to theory as well. Also political stability and absence of violence positively stimulates exports. The coefficients of distance, non-tariff barriers (NTBs) and landlockedness are consistent with previous literature that employed gravity model.

The results too, establish that distance, NTBs and landlockedness are export reducing. Likewise, the distance parameter is consistent with studies by Disdier and Head (2008), Mayer (2014) and Yotov, Piermartini, Monteiro, and Larch (2016) who highlight that its coefficient should have a benchmark of -1 and also being the most trade reducing variable.

According to theory predictions a rise in the value of real exchange rate of any currency discourages exports since they become expensive compared to other countries' exports making them less competitive. Although the sign of real effective exchange rate is as anticipated, it is not evident from the data that appreciation of the Turkish lira discourages her exports.

Results from PPML are considered not less preferable if their data exhibits non-equality of the conditional mean and variance

(Cameron & Trivedi, 2013). This is the case with this data hence negative binomial regression (NBREG) which belongs to the Poisson family is further applied. However, for NBREG results to hold the probability of chibar2 (which is a measure of the likelihood ratio test of the natural logarithm of either delta or alpha) should be highly significant. Since the probability of delta is significant it therefore follows that NBREG is more appropriate than PPML.

The significance of the results from NBREG are not much different from those from PPML except for the dummy variables capturing regions. As illustrated in Table 5, column 1, Turkey's exports destined to an African country where there is a Turkish Embassy and where it shares a common religious background with are found to be 1.13 times and 1.23 times higher than exporting to an African country where there is no Turkish Embassy and where Turkey does not share a common religion with that country respectively.

Turning to the effect of TAR on Turkey's exports by region, there is overwhelming evidence that compared to North Africa Turkey's trade with Eastern, Southern and Western regions of Africa is export reducing. Despite TAR being largely positive, disintegrated results of TAR by region do not reveal the same case. Disintegrated results are useful in formulating foreign policies that have a regional focus in stimulating trade. It is therefore imperative for Turkey to improve her outreach to these three regions either through making bilateral trade agreements with countries in these regions or through engaging their regional trade groupings.

The findings of this paper closely confirm to the results by Akel (2014) who found the success of Turkey's Africa Strategy in creating awareness as well as conscientizing the operations of Turkey's small and medium enterprises (SMEs) in Africa. Civan et al. (2013) as well found Turkey's foreign policy to be good in general as it has managed to create a positive benefit to her economy.

Given the positive and significance of the parameter estimate of TAR the High Level Meetings held in 2008, 2013, 2014 and 2016 between Turkey and Africa might have helped in promoting Turkey's exports to the continent.

Table 2: PPML Regression Results for Turkey's Bilateral Exports with Africa.

Variables	(1) EX_{ijt}	(2) EX_{ijt}
lnGDPit	0.805***	1.224***
	(0.178)	(0.120)
lnGDPjt	0.653***	0.659***
	(0.049)	(0.042)
lnDISij	-1.255***	-1.013***
	(0.116)	(0.108)
lnPSIjt	0.143***	0.138***
	(0.049)	(0.049)
lnREERijt	-0.003	-0.071
	(0.145)	(0.153)
NTBjt	-0.367***	-0.302***
	(0.090)	(0.082)
RELij	0.253**	0.391***
	(0.106)	(0.099)
EMBij	0.417***	0.281*
	(0.157)	(0.147)
LLj	-1.026***	-0.970***
	(0.153)	(0.150)
TAREAj		-0.256*
		(0.139)
TARSAj		-0.125
		(0.212)
TARWAj		-0.611***
		(0.125)
TARt	0.368**	
	(0.162)	
Constant	-9.572**	-22.660***
	(4.826)	(3.238)
Observations	936	936
R-squared	0.856	0.876

Standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

Table 3: NBREG Regression Results for Turkey's Bilateral Exports with Africa

Variables	(1) EX_{ijt}	(2) EX_{ijt}
lnGDPit	0.594***	1.074***
	(0.082)	(0.061)
lnGDPjt	0.519***	0.543***
	(0.019)	(0.021)
lnDISij	-1.238***	-1.021***
	(0.049)	(0.055)
lnPSIjt	0.098***	0.116***
	(0.021)	(0.020)
lnREERijt	-0.050	-0.104**
	(0.051)	(0.051)
NTBjt	-0.155***	-0.127***
	(0.048)	(0.046)
RELij	0.209***	0.264***
	(0.058)	(0.061)
EMBij	0.123*	0.062
	(0.074)	(0.074)
LLj	-0.770***	-0.736***
	(0.065)	(0.068)
TAREAj		-0.397***
		(0.081)
TARSAj		-0.389***
		(0.103)
TARWAj		-0.493***
		(0.069)
TARt	0.334***	
	(0.074)	
lndelta	17.78***	17.73***
	(0.061)	(0.060)
Constant	-0.255	-15.32***
	(2.165)	(1.744)
Observations	936	936

Standard errors in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0$

5. Conclusion

Turkey's relationship with Africa has been growing over time, from humanitarian to economic issues. The building block of the relationship is traced back from the Ottoman Empire era. As a way to strengthen the relationship, in 2005 Turkey joined other economic powerhouse such as India, China, and the United States of America in incorporating Africa in her foreign policy in areas of economic, political and humanitarian.

During the same year, Turkey was accorded an observer status by the Africa Union and later in 2008, the Union declared Turkey as strategic partner. This marked the official cooperation between Turkey and Africa. Accordingly, trade between Turkey and Africa also increased on an annual basis. It is against this background that this study aims to critically analyse and estimate the impact on exports from Turkey to Africa of Turkey's cooperation with Africa (TAR) alongside other variables during the period 1998 - 2015.

The study unravels that all the variables in the traditional gravity model of trade except real exchange rate of Turkey are statistically significant in explaining Turkey's exports to African countries. As a measure of the exporting country's supply capacity and importing country's demand potential, both exporter's and importer's GDP have positive impacts on Turkey's exports while distances between them and landlockedness are export reducing. Additionally, the study also establishes that, the presence of Turkish embassies in Africa and having a common religion are found to be export enhancing for Turkey.

As for the key variable, TAR, it is clear that, in general TAR is export promoting for the case of Turkey. Disintegrating the effect of TAR on Turkey's exports to Africa by region, it is observed that Turkey's engagement with countries in the Eastern, Southern and Western regions of Africa compared to those in the Northern region does not pay dividends to her exports.

In view of the above and based on the results, it is imperative for Turkey to target regional trade blocs namely the Common Market for Eastern and Southern Africa (COMESA), East African

Community (EAC), Economic Community of West African States (ECOWAS) and Southern African Development Community (SADC), so that more exports can be realized. These variations in the impact of Turkey's cooperation with Africa by region are necessary in informing policymakers on countries and regional trade arrangements that have to be targeted to improve export flow.

The African Union's focus and foundation is based more on politics than trade, targeting regional trade blocs is pertinent since they can facilitate trade through harmonisation, standardization and modernization of procedures and regulations. This is also an important step towards increasing exports share to Africa in the face of competition from other countries like China, India, Brazil and United States who are also scrambling to get a pie of trade from the continent.

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Annexure A

Table A1: List of Countries

East African	North African	South African	West African
Burundi	Algeria	Angola	Benin
Congo, Democratic Republic of	Egypt	Botswana	Burkina Faso
Congo, Republic of	Libya	Lesotho	Cabo Verde
Comoros	Sudan	Malawi	Cameroon
Djibouti	Tunisia	Mozambique	Central African Republic
Ethiopia		Namibia	Chad
Eritrea		South Africa	Cote d'Ivoire
Kenya		Swaziland	Equatorial Guinea
Madagascar		Zambia	Gabon
Mauritius		Zimbabwe	Gambia, The
Rwanda			Ghana
Seychelles			Guinea
Somalia			Guinea-Bissau
Tanzania			Liberia
Uganda			Mali
			Mauritania
			Niger
			Nigeria
			Senegal
			Sao Tome and Principe
			Sierra Leone
			Togo

Table A2: Variables and Data Sources

Variable	Description	Data Source	Expected Sign
Dependent Variable EX_{ijt}	Total exports from Turkey to an African country at a given year. (in US$)	IMF's Direction of Trade Database.	
Independent Variables $\ln GDP_{it/jt}$	Natural log of GDP per capita of exporter and importer (current US$).	World Bank's World Development Indicators.	Positive
$\ln DIS_{ij}$	Natural log of the weighted distance between capital cities of the exporter and importer (kilometres).	CEPII[6]	Negative
$\ln PIS_{jt}$	Natural log of the importing country's political stability or absence of violence ranking index. It ranges from 0-100, with 0 implying unstable and 100 meaning highly stable.	World Governance.	Negative
$\ln REER_{ijt}$	Natural log of exporting country's nominal effective exchange rate divided by that of the importing country.	The Bruegel organization[7]	Negative
NTB_{jt}	A dummy variable where 1 denotes the presence of non-tariff barriers at a given time or 0 otherwise.	World Trade Organization.	Negative

[6] http://www.cepii.fr/cepii/en/bdd_modele/bdd.asp
[7] http://bruegel.org/2012/03/real-effective-exchange-rates-for-178-countries-a-new-database/

Variable	Description	Data Source	Expected Sign
REL_{ij}	A dummy with 1 denoting common religion between importer and exporter or 0 for the other case.	World Religion Database	Positive
EMB_{ijt}	1 if Turkey has an embassy in an African country.	Republic of Turkey's Ministry of Foreign Affairs.	Positive
LL_j	1 if the importer is landlocked.	CEPII database.	Negative
Variables of Interest TAR_t	1 if Turkey-Africa Relationship (TAR) is in existence at a particular year.	Republic of Turkey's Ministry of Foreign Affairs[8].	Positive
$TAREA_{jt}$, $TARNA_{jt}$, $TARSA_{jt}$ $TARWA_{jt}$	1 if TAR exist and the importer is East African, North African, South African and West African respectively.	African Union.	Positive

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[8] http://www.mfa.gov.tr/turkey-africa-relations.en.mfa