The Impacts of the Turkish Emigrants on Turkish Exports and Imports in Europe

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THE IMPACTS OF THE TURKISH EMIGRANTS ON TURKISH EXPORTS AND IMPORTS IN EUROPE

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Abstract

This paper examines the link between migration and trade, focusing on Turkey as a "sending" country and the selected trading partners, Austria, Belgium, Denmark, Finland, France, Germany, Holland, Italy, Norway, Spain, Sweden, Switzerland and the UK, as the "receiving" countries in Europe. The research question is: "Do Turkish emigrants have positive impacts on the exports and imports of Turkey through preference and/or network channels." The investigation methodology involves the fixed effect panel data analysis, and the estimation technique is the Least Squares under the assumption of the presence of cross section heteroskedasticity and the robust standard errors. This paper includes the 1980-2007 period, as well as two sub-periods, 1980-1995 and 1996-2007, in order to test the impact of the 1995 December Customs Union agreement between Turkey and EU countries. The trade function has been determined by the stock of Turkish population, per capita real income, real exchange rate, and the lagged dependent variable. It has been found that Turkish emigrants have significantly positive effect on trade mainly after the Custom Union Agreement, through the preference and network channels.

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1. Introduction

Turkey has served as an active centre for population movements in and out of the area due to its political and historical position. After 1960 Turkey became a "sending country" in terms of international labour migration flow. Subsequently family reunification became major channels of out-migration from Turkey. Recently, nearly four million Turkish citizens are living in Europe. It is estimated that, in average, Turkish migrants contribute to Turkish economy by sending remittances of 2 to 3 million dollars per year.

In the literature, there are significant studies about the Turkish migration experience. These studies are mainly focused on savings, remittances, transit migration, circular migration, asylum and refugee policies, and irregular migration. However, there is not any study –according to our knowledge- on the crucial role of Turkish emigrants on the growing volume of the trade between Turkey and the European countries.

 In this study, we investigate the link between emigration and trade, focusing on Turkey as a "sending" country and important trading partners (Austria, Belgium, Denmark, Finland, France, Germany, Holland, Italy, Norway, Spain, Sweden, Switzerland and the UK) as the "receiving" countries in Europe. The investigation methodology involves the fixed effect panel data analysis, and the estimation technique is Least Squares under the assumption of the presence of cross section heteroskedasticity and the robust standard errors for the period 1980 to 2007. The impact of the 1995 December Customs Union agreement on the trade flows between Turkey and EU has also been examined separately.

This paper emphasizes the significance of emigration on trade concerning the "sending" country perspective rather than "receiving" country. It verifies the impacts of the Turkish emigrants on the bilateral trade flows regarding the "home bias" and "network" effects.

The main findings of the paper are: Emigration increases the exports from and imports to Turkey, and supports both the preference and network channel hypotheses.

The paper is structured as follows: The second section gives a short literature survey on migration and trade relationship. The third section includes the empirical analysis with the data, model description, methodology, and estimation results. The last section gives the conclusion.

2. Literature Review

In this section, the literature on trade and migration relations has been discussed briefly. Greater emphasis could be given to the study of Gould (1991), in which he investigated how immigrant can play a role in creating bilateral trade linkages with their home country. In this study, Gould utilized Bilateral Trade Model and Gravity Equation between the US and Canada from 1970 to 1986 and found that exports appear to be influenced most by immigrant links, while imports are influenced the least. S. Girma and Z. Yu (2000) examined the link between immigration and trade. The main idea was to investigate the robustness of the immigrant-link effect using UK data, and second to identify a possible mechanism behind such linkage. In this paper, they used an augmented gravity approach between 1981 and 1993 periods, and found a positive connection between immigration and trade. In Bacarezza, Javier and Laura (2006), the impact of migration on foreign trade in a relatively closed small economy was tested using traditional gravity model for Bolivia over the period 1990 and 2003. The estimation results confirmed the existence of a statistically significant positive effect of both immigration and emigration on trade flows in a relatively closed economy of Bolivia. White (2007) analyzed the US immigrant-trade link using data from 1980 to 2001 on the US and 73 trading partners and the gravity model. He concluded that "immigration is a significant determinant of the US-home country trade with network and home bias effects." Ivanov (2008) investigated intermediary effect of migrants on trade using the data for Germany on immigrant labour market involvement, to disentangle alternative explanations for the correlation between migration and trade using censuses of 1996, 1997 and 1998 by utilizing a gravity model on Germany and their trading partners. In this study, it has been found out that while complex goods attract a stronger immigrant effect, the self-employed immigrants as a group have similar or lower influence on exports than blue-collar workers, most likely because large   proportion of self-employed immigrants work in non-exporting service industries.   Faustino and Leitao (2008) have examined Portugal and the EU15 in order to find a

relation between immigration and Portuguese bilateral trade. In this paper, static and dynamic panel data analyses within a gravity model have been used for the 1995-2003 period. They stated that immigration leads to the reduction of trade transaction costs and increases all types of intra-industry trade, as well as exports and imports. Blanes, Martin-Montaner (2006) investigated immigration and trade relationship for Spain in relation with the non-EU foreign workers. They found that there is positive or negative significant impact of immigrants on trade depending on whether foreign workers are employees or self-employed, the duration of the work permits and the nature of job they work.

3. Empirical Analysis

3.1. Data

Trade data (exports and imports), in US dollar, have been obtained from the Turkish Statistical Institute (TUIK)[1]. Exports and imports of consumption goods, capital goods and intermediary goods are based on the BEC classification. Real Exchange rate series have been defined as the CPI based Real Effective Exchange rate index and obtained from Central Bank of Turkish Republic (CBRT)[2]. Per capita real Gross Domestic Product have been measured in US $ and obtained from the OECD data base.

The accessibility of the stock of Turkish population data was the only limitation in this research[3]. However, a novel data set has been compiled from OECD database starting from 1990 to 2007, and from Consortium for Applied Research on International Migration (CARIM) and International Labour Migration Statistics (ILO) and Bulutay (1995)[4] over the period 1980 to 1990.
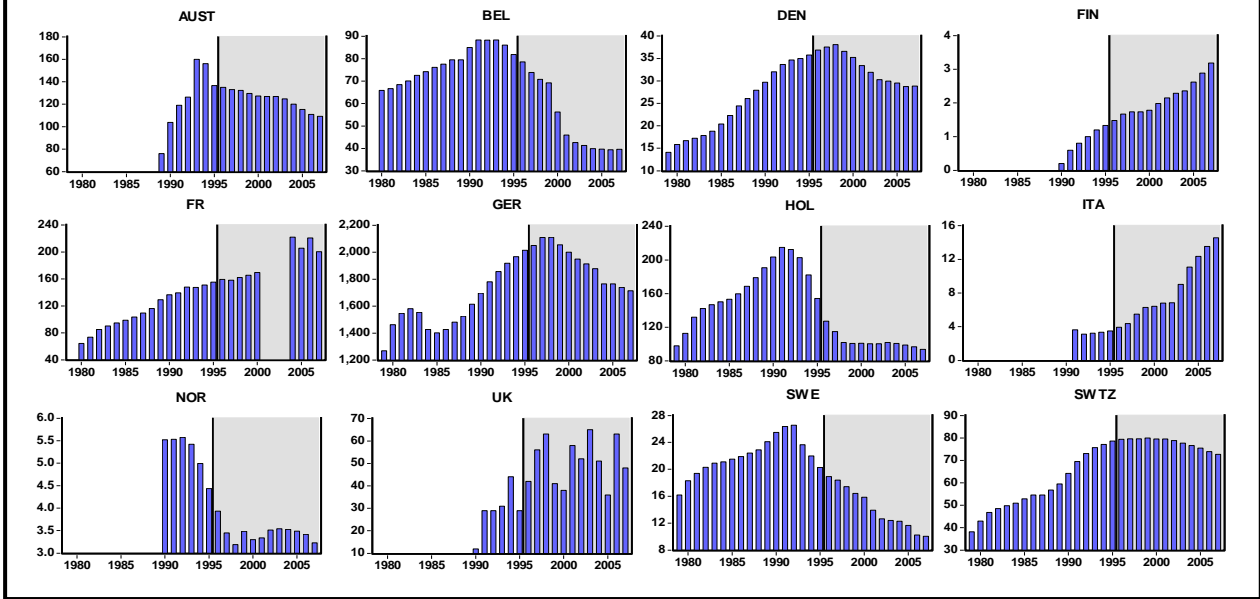
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[1] http://www.turkstat.gov.tr

[2] CPI based real effective exchange rate index calculated using the IMF weights for 19 countries including Germany, USA, Italy, France, United Kingdom, Japan, Netherlands, Belgium, Switzerland, Austria, Spain, Canada, Korea, Sweden, Taiwan, Iran, Brazil, China and Greece. (1995=100). An increase in the index denotes an appreciation of the Turkish Lira.

[3] The compiled data on the stock of Turkish population is available during the period 1980-2007 for BEL, DEN, GER, HOL, SWE, and SWTZ. Data is available for FR during the period 1980-2000, 2004-2007; for FIN, ITA, NOR, the UK during 1990-2007; and for AVUST during 1989-2007; and for SPA during 1998-2007.

[4] http://www.carim.org and http://laborsta.ilo.org, Tuncer Bulutay, *Employment unemployment and Wages in Turkey*, International Labor Organization and State Institute of Statistics, Ankara, 1995.

STOCK OF TURKISH POPULATION (000 person)

TURKISH IMPORTS (US $)

- CONSUMPTION GOODS
- CAPITAL GOODS
- INTERMEDIARY GOODS

TURKISH EXPORTS (US$)
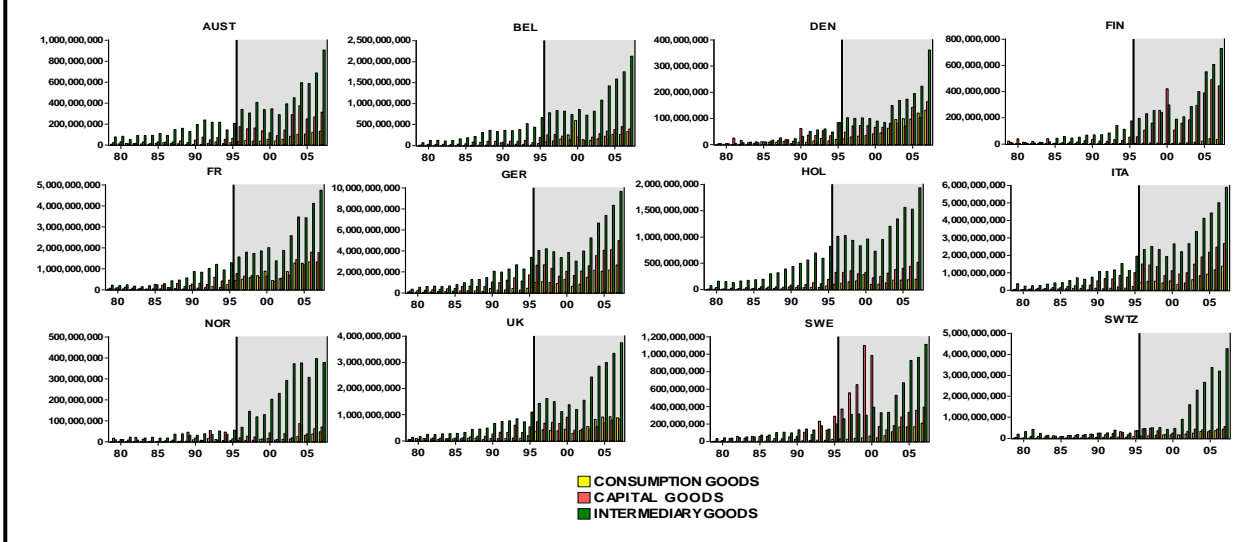
- CONSUMPTION GOODS
- CAPITAL GOODS
- INTERMEDIARY GOODS

3.2. Model Description:

This paper aims to highlight the link between Turkish trade and Turkish emigrants located in Austria, Belgium, Denmark, Finland, France, Germany, Italy, Holland, Norway, Spain, Sweden, Switzerland and United Kingdom, using annual data for the period 1980-2007.
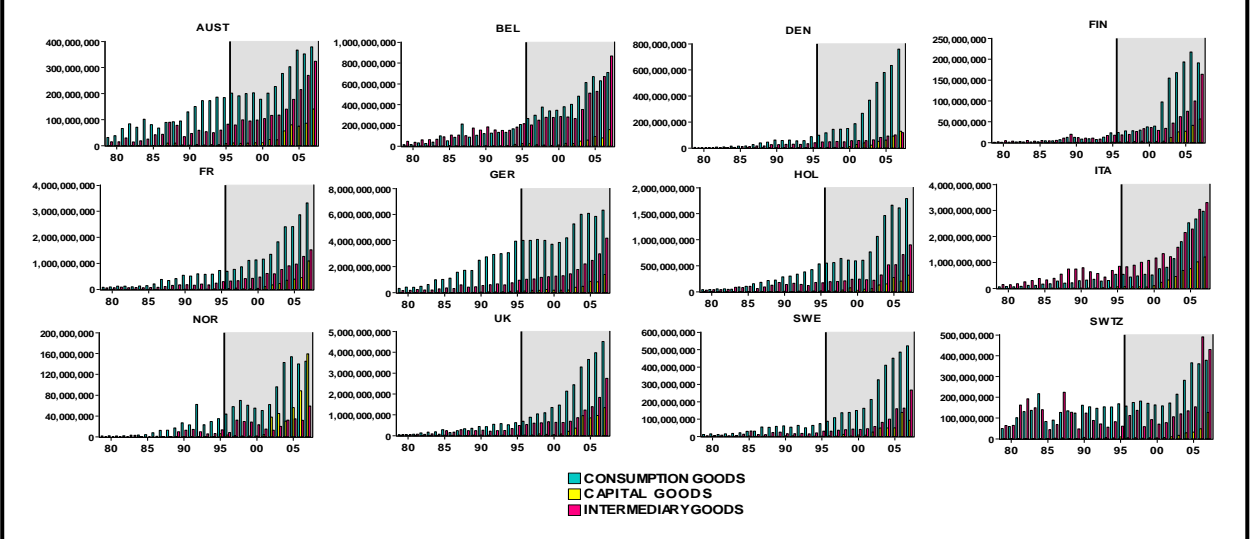
The empirical analysis is based on the conjecture that "Turkish emigrants in Europe have enhanced Turkish trade through the preference and/or network effects". In the analysis, Turkey is considered as the "home/sending country" and 13 selected European countries are as the "host/receiving country". Therefore, this analysis has focused on the trade and migration link from a sending country perspective. For that reason, the approach in this paper is different than most past studies on this topic that focussed on the trade and migration link from the receiving country perspective.

Table.1: The expected results and reasons		
The relationship	**Expected sign on the coefficient**	**Reason**
Total Trade and Migration	(+) and significant	Emigrants of a country promote bilateral trade between home and host countries through preference and network effects.
Total Exports and Migration	(+) and significant	The home biased preferences of the Turkish emigrants could affect exports of Turkey positively.
Total Imports and Migration	(+) and significant	The imports of Turkey could be affected through the network effects.
Type of the exported goods and Migration	(+) and significant	Turkish emigrants could have a greater positive impact on the home country exports of consumption goods than the exports of intermediary and capital goods.
Type of the imported good and Migration	(+) and significant	The strong network effects of the Turkish emigrant with the home country could increase import of different goods from Turkey.
Trade and Real Per capita Gross Domestic Product	(+) and significant	Measures the wealth of countries and reflects the export supply and the import demand of a country. Thus the amount of trade must increase with the size of the economy.
Trade and Real Exchange Rate	(+) and significant	RER index affects the trade performance of a country depending on the fixed or flexible regimes and also the volatility of RER.
Exports and Real Exchange Rate	(-) and significant	An increase in the RER index means appreciation of the domestic currency. Thus increase the cost of exports.
Imports and Real Exchange Rate	(+) and significant	An appreciation of the domestic country decreases the cost of imports.
Lagged value of Trade	Less than 1	Measures the persistence in trade. A stable dynamic relationship requires being less than 1.

Table.2: The estimated models

$LTT_{i,t} = f_1[LMIGTUR_{i,t}, LPCRGDPEU_{it}, LPCRGDPTR_t, LRER_t, LTT_{i,t-1}]$
$LTX_{i,t} = f_2[LMIGTUR_{i,t}, LPCRGDPEU_{it}, LPCRGDPTR_t, LRER_t, LTX_{i,t-1}]$
$LTM_{i,t} = f_3[LMIGTUR_{i,t}, LPCRGDPEU_{it}, LPCRGDPTR_t, LRER_t, LTM_{i,t-1}]$
$LX_{i,k,t} = f_4[LMIGTUR_{i,t}, LPCRGDPEU_{it}, LPCRGDPTR_t, LRER_t, LX_{i,k,t-1}]$
$LM_{i,k,t} = f_5[LMIGTUR_{i,t}, LPCRGDPEU_{it}, LPCRGDPTR_t, LRER_t, LM_{i,k,t-1}]$

where **k**=consumption goods, capital goods, intermediary goods;
i= AUST, BEL, DEN, FIN, FR, GER, HOL, ITA, NOR, SPA, SWE, SWTZ, UK.

Table.3: List of variables

$LTT_{i,t}$: Total trade flows of Turkey with the country i in US$.
$LTT_{i,t-1}$: First lagged value of bilateral total trade flows of Turkey with the country i in US$. .
$LTX_{i,t}$: Total exports of Turkey to the country i in US$.
$LTX_{i,t-1}$: First lagged value bilateral total exports of Turkey to the country i in US$..
$LTM_{i,t}$: Total imports of Turkey from country i in US$..
$LTM_{i,t-1}$: First lagged value bilateral total imports of Turkey from the country i.
$LX_{i,k,t}$: Exports of Turkey to the country i in US$..
$LX_{i,k,t-1}$: First lagged value of Turkish Exports to the country i in US$. .
$LM_{i,k,t}$: Imports of Turkey from the country i in US$. .
$LM_{i,k,t-1}$: First lagged value of Turkish imports from the country i.
$LMIGTUR_{i,t}$: Stock of Turkish emigrants in the country i.
$LPCRGDPEU_{it}$: Per capita real GDP of the country i in US $.
$LPCRGDPTR_t$: Per capita real GDP of Turkey in US $.
$LRER_t$: Consumer price index real effective exchange rate of Turkish Lira..
where **t** denotes time and the index **k** refers to the type of goods. The index **i** refer to the particular European country. L denotes the log forms.

Table.1 shows the expected sign of the coefficients and the reasons considering the trade literature and the case of Turkish economy. Table.2 presents the estimated models and Table.3 lists the description of the variables. It is expected that Turkish emigrants stimulate Turkish trade by demanding home country products and/or participate in international networks to enhance Turkish trade with Europe. In other terms, Turkish emigrants affect Turkish exports through home biased effect channel as well as they affect Turkish exports and imports through the network effect channels. It is assumed that per capita real GDP reflects the wealth of countries and a positive relationship is expected between per capita real GDP and trade. The coefficient on per capita real GDP measures the income elasticity of trade, exports and imports. It is assumed that real exchange rate has a negative relationship with exports, but positive relation with imports since an increase in LRER reflects the appreciation of the Turkish Lira.

The estimated models do not include distance variable as in the gravity models since the geographical distance between Turkey and the trading partners is short enough. In addition, it is believed that, nowadays, the cost of transport is related to the technological developments in transportation

and infrastructure facilities rather than distance. Turkish and foreign populations are not included in the models due to multicolinearity. Initially, a linear trend is included in each of the model, and then eliminated since it was statistically insignificant.

3.3. Model Methodology:

This empirical paper examines the impacts of Turkish emigrants on the Turkish trade performance with Austria, Belgium, Denmark, Finland, France, Germany, Italy, Holland, Norway, Spain, Sweden, Switzerland and United Kingdom throughout nine specifications and three sample periods. The entire period covers 28 years, starting from 1980 and ending at 2007. The 1980-1995 periods, covering 16 years; and the 1996-2007 periods, covering 12 years, have been defined with the purpose of analyzing the effect of the Customs Union Agreement between Turkey and EU countries, started in December 1995.

The models are the fixed effects models since the main interest is on estimating trade flows between Turkey and the 13 pre-selected European countries. All the variables are used in logarithms. All models include the lagged dependent variable to reduce/eliminate serial correlation. Modelling approach is the "General to Specific" approach. Each statistically insignificant variable is eliminated from model successively, if the p-value is greater than 10%, except intercept term. All models are estimated by the Least Squares (LS) and Generalized Method of Moments (GMM) techniques. However, the LS estimation results are reported since most of the models estimated by the LS satisfy the residual normality assumption and reduce/eliminate the serial correlation problem better than the GMM models.

3.4. Estimation Results

Specific model estimation results have been reported in Table.1 to Table.9 in appendix. Coefficient column shows the statistically significant coefficient, next column gives the robust standard error and P-value in parenthesis. $\overline{R}^2$, DW and F statistics with the total (un)balanced panel observations (N) and the number of cross sections are also reported for the each specification.

The fixed effect models panel estimation results are generally in line with the expectations. In addition, all of the models satisfy the stability condition, having a coefficient less than one on the lagged dependent variables.

Focusing on the whole period 1980-2007, a positive and statistically significant coefficient on Turkish migrant stock has been found all for total trade, total exports, total imports, exports of consumption goods, exports of intermediary goods, imports of capital goods. However, these results can be considered as general. More specific results have been obtained from focusing on two sub-period analyses. It can be stated that: (i) Throughout the 1980-1995 periods, there is a positive impact of Turkish emigrants on total trade and total exports, which comes from the exports of consumption and intermediary goods. However, there is not any relationship between Turkish emigrants and Turkish imports during this period. (ii) Throughout 1996-2007 periods, there is a positive effect between Turkish emigrants and total exports of Turkey, which derived from positive impacts of emigrants on the exports of consumption and intermediary goods. In addition, in this period there is a positive relationship between Turkish emigrants and total imports of Turkey, which comes from the imports of capital and intermediary goods.

The elasticity coefficients of migration show that 10% increase in the stock of Turkish population would increase total trade by 0.76%; total exports 1.02%; and total imports by 0.47% over the 1980-2007 periods. During 1980-1995 periods, 10% increase in the stock of Turkish emigrants would increase total trade by 1.24% and total exports by 2.30%. A 10% increase in the stock of Turkish emigrants would increase total trade by 1.12%; total exports by 0.97%; and total imports 1.09% after 1996.

After 1996, in general, the elasticity of exports is almost the same as that of imports revealing that home biased preferences and the market knowledge of emigrants has similar impacts on Turkish trade. However, a further examination of exports and imports in relation to the type of traded goods reveals different size of elasticities as seen in the Table.4 below. Turkish emigrants have significantly positive effects on exports of consumption and intermediary goods during all three periods; whereas they have positive effects on imports of capital and intermediary goods only after 1996.

Table.4: A 10% increase in the stock of Turkish emigrants would increase

	1980-2007	1980-1995	1996-2007
exports of consumption goods by	1.21%	2.62%	1.39%
exports of intermediary goods by	1.08%	2.19%	0.97%
imports of capital goods by	0.85%	-	2.85%
imports of intermediary goods by	-	-	0.56%

Therefore, the above results support both the preference for home country products and the network hypotheses for the Turkish emigrants in Europe mainly after 1996.

The estimated coefficients on per capita real GDP confirm the trade potential with the European countries. The European countries income elasticity of Turkish goods is significant and higher than 1 throughout all of the estimation periods. In addition, the Turkish income elasticity of European goods is significantly positive and higher than 1 for all the estimation periods. These outcomes are consistent with the trade theory.

It is assumed that real exchange rate has a negative relationship with exports, but positive relation with imports since an increase in LRER reflects the appreciation of the Turkish Lira. The estimation results reveal that real exchange rate has not significant effect on total trade and total exports over the three sample periods, but has a positive effect on total imports during 1980-1995. The real exchange rate has not any effect on imports of intermediary and capital goods in all of the estimation periods, but in the 1996-2007 periods the imports of consumption goods are affected by real exchange rate positively. On the other hand, the exports of capital goods are negatively affected during the 1980-2007 and 1980-1995 periods; the exports of intermediary goods are negatively affected in 1980-1995.

These results provide consistent evidence with respect to the Turkish economy. The reason is as follows: Starting from 1980 liberalization process, exchange rate was one of the most important instruments used in order to promote exports of Turkey. In addition, many restrictions such as custom duties and number of commodities subject to tariffs were reduced particularly on imports of raw materials and intermediate goods. On the other hand, since the beginning of 1990s, mainly after the 1989 capital liberalization, the policy shift from exports promotion to capital inflow promotion brought about the appreciation of the Turkish Lira and decreased the cost of imports. However, during this period, both the Turkish exports and imports have still continued to increase. Turkish producers have changed the direction of import driven production from domestic market to foreign market during the currency crisis. In addition, after 1996, The Customs Union agreement contributed to the Turkish industries to strengthen their positions in European markets. These facts resulted in the increasing import dependency of Turkish exports and weakened the relationship of the Turkish exports and imports with real exchange rate.

4. Conclusion

This study investigates the link between emigration and trade, focusing on Turkey as a "sending" country and specific trading European partners, namely Austria, Belgium, Denmark, Finland, France, Germany, Holland, Italy, Norway, Spain, Sweden, Switzerland and the UK, as the receiving countries in Europe. The fixed effect panel data analysis and the Least Squares method have been used under the assumption of the presence of cross section heteroskedasticity and the robust standard errors for the period 1980 to 2007. In addition, the effect of the 1995 December Customs Union on trade between Turkey and EU has been examined pre and post 1996 periods.

The contributions of this paper are: First, it verifies the significance of emigration on trade concerning the "sending" country perspective rather than "receiving" country. Second, it tracks the importance of the Turkish emigrants in the dynamic trade process in connection with the "home bias" and "network" effects. The trade figures illustrate that Turkey exports to the European partners mainly consumption goods, intermediary goods and capital goods; whereas imports mostly intermediate goods, capital goods and consumption goods, respectively. In addition, a large amount of imported goods are used for producing either domestic consumption goods or exporting by the Turkish industries.

It has been found that: (1) Emigration increases the Turkish exports and imports with Europe, and supports both the preference channel and network channel hypotheses. Turkish emigrants have positive impacts on the Turkish exports of consumption and intermediary goods through the first channel; whereas they have positive impacts on the Turkish imports of intermediary and capital goods through the second channel. (2) The estimated elasticity coefficients on per capita real income are significant and higher one. (3) The real exchange rate has positive effects on imports, and negative effects on exports supporting the view of high imports dependency of exports in Turkey mainly after 1989 capital liberalisation.

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APPENDIX: SPECIFIC MODELS

Table.1: Total Trade

Dependent Variable LTT	1980-2007		1980-1995		1996 - 2007	
	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value
intercept	-11.614	2.073 (0.000)	-22.244	10.855 (0.043)	-8.145	3.885 (0.038)
LMIGTUR	**0.076**	**0.022 (0.001)**	**0.124**	**0.045 (0.007)**	**0.126**	**0.047 (0.009)**
LPCRGDPTR	1.532	0.435 (0.001)	2.293	0.882 (0.010)	1.870	0.846 (0.029)
LPCRGDPEU	0.653	0.289 (0.025)	1.206	0.452 (0.009)		
LRER						
LTT(-1)	0.568	0.078 (0.000)	0.507	0.047 (0.000)	0.566	0.195 (0.004)
$\overline{R}^2$	0.985		0.979		0981	
DW statistic	1.788		1.929		1.555	
F statistic	1177.25		410.27		519.63	
N	294		142		152	
Cross Sections	13		12		13	

Table.2: Total Exports

Dependent Variable LTX	1980-2007		1980-1995		1996 - 2007	
	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value
intercept	-9.377	3.914 (0.017)	-15.961	5.206 (0.003)	-12.857	5.643 (0.024)
LMIGTUR	**0.102**	**0.029 (0.001)**	**0.230**	**0.0592 (0.000)**	**0.097**	**0.046 (0.035)**
LPCRGDPTR					0.586	0.325 (0.074)
LPCRGDPEU	1.294	0.514 (0.012)	2.298	0.682 (0.001)	1.113	0.660 (0.094)
LRER						
LTX(-1)	0.798	0.072 (0.000)	0.5862	0.097 (0.000)	0.799	0.123 (0.000)
$\overline{R}^2$	0.983		0.973		0.990	
DW statistic	2.071		2.128		1.811	
F statistic	1180.17		360.447		958.68	
N	294		142		152	
Cross Sections	13		12		13	

Table.3: Total Imports

Dependent Variable LTM	1980-2007		1980-1995		1996 - 2007	
	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value
intercept	-10.728	2.191 (0.000)	-15.946	2.398 (0.000)	-7.510	3.579 (0.038)
LMIGTUR	**0.047**	**0.028 (0.094)**			**0.109**	**0.038 (0.006)**
LPCRGDPTR	2.344	0.428 (0.000)	2.982	0.317 (0.000)	2.088	0.778 (0.008)
LPCRGDPEU						
LRER			0.357	0.102 (0.001)		
LTM(-1)	0.484	0.089 (0.000)	0.382	0.057 (0.000)	0.434	0.182 (0.019)
$\overline{R}^2$	0.976		0.969		0.970	
DW statistic	1.751		1.854		1.567	
F statistic	807.32		435.17		329.07	
N	294		208		152	
Cross Sections	13		13		13	

Table.4: Exports of Consumption Goods

Dependent Variable LXCONS	1980-2007		1980-1995		1996 - 2007	
	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value
intercept	-9.143	4.814 (0.058)	-23.346	8.408 (0.006)	-6.915	4.237 (0.105)
LMIGTUR	**0.121**	**0.031 (0.000)**	**0.262**	**0.097 (0.008)**	**0.139**	**0.054 (0.012)**
LPCRGDPTR						
LPCRGDPEU	1.278	0.608 (0.037)	3.148	1.042 (0.003)	0.881	0.537 (0.104)
LRER						
LXCONS(-1)	0.785	0.078 (0.000)	0.508	0.129 (0.000)	0.877	0.076 (0.000)
$\overline{R}^2$	0.979		0.968		0.987	
DW statistic	2.201		2.215		1.635	
F statistic	946.47		312.23		780.29	
N	294		142		152	
Cross Sections	13		12		13	

Table.5: Exports of Capital Goods

Dependent Variable LXCAPT	1980-2007		1980-1995		1996 – 2007	
	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value
intercept	-79.117	10.378 (0.000)	-97.182	13.047 (0.000)	-49.689	11.033 (0.000)
LMIGTUR						
LPCRGDPTR	4.605	1.176 (0.000)	13.644	1.096 (0.000)		
LPCRGDPEU	5.378	0.940 (0.000)			5.416	1.154 (0.000)
LRER	-1.087	0.493 (0.028)	-1.995	0.895 (0.027)		
LXCAPT(-1)	0.291	0.087 (0.001)			0.688	0.053 (0.000)
$\overline{R}^2$		0.852		0.709		0.924
DW statistic		1.918		1.595		2.247
F statistic		121.93		33.817		136.64
N		336		189		156
Cross Sections		13		13		13

Table.6: Exports of Intermediary Goods

Dependent Variable LXINTER	1980-2007		1980-1995		1996 - 2007	
	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value
intercept	-14.889	3.065 (0.000)	-8.493	6.592 (0.200)	-26.982	4.081 (0.000)
LMIGTUR	**0.108**	**0.044 (0.015)**	**0.219**	**0.109 (0.047)**	**0.097**	**0.057 (0.089)**
LPCRGDPTR					2.212	0.296 (0.000)
LPCRGDPEU	2.158	0.409 (0.000)	1.976	0.668 (0.004)	1.887	0.461 (0.000)
LRER			-0.496	0.302 (0.102		
LXINTER(-1)	0.609	0.073 (0.000)	0.457	0.094 (0.000)	0.331	0.117 (0.006)
$\overline{R}^2$		0.967		0.945		0.983
DW statistic		1.958		1.950		2.099
F statistic		568.38		165.55		558.59
N		294		142		152
Cross Sections		13		12		13

Table.7: Imports of Consumption Goods

Dependent Variable LMCONS	1980-2007		1980-1995		1996 - 2007	
	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value
intercept	-18.434	1.763 (0.000)	-22.124	3.238 (0.000)	-6.156	3.078 (0.047)
LMIGTUR						
LPCRGDPTR	2.958	0.256 (0.000)	3.631	0.427 (0.000)	1.512	0.477 (0.002)
LPCRGDPEU						
LRER					0.857	0.303 (0.005)
LMCONS(-1)	0.543	0.036 (0.000)	0.405	0.056 (0.000)	0.372	0.061 (0.000)
$\overline{R}^2$		0.939		0.887		0.972
DW statistic		2.142		2.125		1.492
F statistic		406.92		117.10		356.72
N		364		208		156
Cross Sections		13		13		13

Table.8: Imports of Capital Goods

Dependent Variable LMCAPT	1980-2007		1980-1995		1996 - 2007	
	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value
intercept	-13.325	2.306 (0.000)	-23.984	2.949 (0.000)	3.192	3.277 (0.332)
LMIGTUR	**0.085**	**0.053 (0.107)**			**0.285**	**0.089 (0.002)**
LPCRGDPTR	2.947	0.414 (0.000)	4.758	0.334 (0.000)	3.055	1.029 (0.004)
LPCRGDPEU					-1.696	0.937 (0.072)
LRER						
LMCAPT(-1)	0.288	0.087 (0.001)			0.246	0.147 (0.097)
$\overline{R}^2$		0.913		0.864		0.927
DW statistic		2.128		1.744		1.962
F statistic		207.32		102.14		121.01
N		294		208		152
Cross Sections		13		13		13

Table.9: Imports of Intermediary Goods						
Dependent Variable LMINTER	1980-2007		1980-1995		1996 - 2007	
	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value	Coefficient	Std. Error and P value
intercept	-7.016	1.488 (0.000)	-8.857	2.719 (0.001)	-6.221	2.811 (0.028)
LMIGTUR					**0.056**	**0.026 (0.033)**
LPCRGDPTR	1.456	0.289 (0.000)	1.814	0.454 (0.000)	1.349	0.489 (0.007)
LPCRGDPEU						
LRER						
LMINTER(-1)	0.697	0.059 (0.000)	0.627	0.086 (0.000)	0.696	0.095 (0.000)
$\overline{R}^2$		0.978		0.968		0.976
DW statistic		1.809		1.856		1.720
F statistic		1176.89		451.85		409.83
N		364		208		152
Cross Sections		13		13		13