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Migration and Trade: An Empirical Analysis

Dr. Shaista Alam
Applied Economics Research Centre (AERC), University of Karachi, Pakistan

Dr. Shabib ul Hassan
Department of Public Administration, University of Karachi, Pakistan

Abdul Aleem Qureshi
Applied Economics Research Centre (AERC), University of Karachi, Pakistan

Shoaib Ali
Applied Economics Research Centre (AERC), University of Karachi, Pakistan

Abstract
The fundamental idea behind the study is to inspect and analyze the trade ornamental effects of migration following the network of migrants stocks in origin and destination countries because these migrants are always serve useful to enhance and construct the flow of trade among countries. Both migration and trade are always being the topic of great concern between different countries and among different regions. The results show the entire variable and their signs are according to the theory with significance at different levels while Distance is also effecting inversely and found significant as according to the theory of gravity model.
Keywords: migration, trade, gravity model

1. Introduction

In the ancient times people use to travel from one place to another for the purpose of trade and finding new markets to sale their products. They not only travel with bearing their goods but also with their culture, religion and traditions. So they not only trade their goods and services in other countries but also exchange their qualitative things. But after the division of states into nation migration and trade become most discussing elements of modern world today. The issue of trade and migration become a matter of concern between and among the different states. Trade liberalization and trade barriers emerge as the core of policy making.

People from developing countries mostly move due to differences in income and in living standards in country of their destination. People from developing countries migrate to developed countries a number of reason better job opportunities, better education, large family size and on the run from violence. People often migrate for a combination of these and other reasons. But still the higher income in the developed countries is the main reason of migration from developing to develop countries. Gravity model is the most applied model that empirically analyze available factor of movements. As with trade movements, the model always fits well for developed to developed country migration. But, in contrast to the developing countries and at the glimpse of their economic structural and their movement to destination countries, there have been a little misleading result in building a theoretical foundation by taking gravity model. The model is mostly best in the developed countries.

Since last past few decades the international migration has risen largely. The process of such large migration between countries within a region and from other region has led the interest of people to analyze the effects of trade between the origin and destination countries. The reason behind this is migration not only affects the labour demand and supply condition but also the consumption of goods and services. It argues that there are elements in the existing system and in the region, which will lead to the continuation and enhancement of international migration in the developing region to some extent due to the political and economic development and the interventions of government.

The objective of the study is to analyze the impacts and effects of migration on trade within a region and to migration on cross region countries. It is considered that the gravity holds true only when we analyze the effect of migration of the Asian region countries to developed countries as the people mostly migrate to these countries. The paper will discuss some of the major issue which are emerging in the two regions (developing &developed) in relation to migration between nations and finally addresses some important policy issues.

The further paper follows the literature review in the section 2 and then model specification in section 3. The further sections 4, 5 and 6 will follow data and methodology, analysis and conclusion of the study respectively.

2. Literature Review

SourafelGirma, Zhihao Yu (March 2002) investigates the link between immigration and trade using data of the Great Britain. Migration from non-Commonwealth countries is shown the significant export enhancing effect.

By comparing the migration from Commonwealth countries is found to have not greater impacts on exports. The study also provides a pro-imports effect of immigration from the non-Commonwealth countries, whereas immigration from the Commonwealth appears to be reducing imports, perhaps reflecting trade-substituting activities by immigrants. They inferred that this could be due immigrants from the UK's former colonies do not bring with them any new information that can help substantially reduce the transaction or transportation cost of trade between their home countries and the host nation.

Kusum Mundra (2005) examines the effect of immigration on the US trade flows. The model mainly hypothesizes that immigration facilitates international trade with origin countries by lower transaction costs. Immigrants also demand products from their country of origin which influence and motivate trade. By using panel data author estimate a fixed-effect model. The immigrant stock, a proxy for transaction costs, enters the model non-parametrically, while other variables are used in the model log-linearly, as the requirement the gravity model of international trade. The results of the study point out that the immigration has positive effect on imports in case of both finished and intermediate goods, but the effect on exports is positive only for final goods. The result supports the hypothesis that for finished goods where country specific information is crucial for trading, immigrants have a pro trade effect for both US imports and US exports.

Monica Ioana, SubrataGhatak, Pop Silaghi & Vince Daly (2009) the study assess the possibility that some of these consequences make themselves felt in the trade flows between migrants' countries of origin and destination. The study use a panel data taking into account a number of CEE countries during the period of 1996 and 2003, they take up an augmented gravity model to examine the effects of immigration from these transition countries on their bilateral trade flows with the United Kingdom. They pointed out to many problems that have been found within the previous studies regarding gravity models. The study supports that migration found to have positively enhances the mutual trade flows of the migrants' origin country; however, there is less (but some) evidence that the imports from their destination country are also enhanced.

Julian di Giovanni , Andrei A. Levchenko and Francesc Ortega (2014) evaluates the effects of migration and remittances on the welfare level of origin and destination states, the study used an quantitative multi-sector framework of the global economic calibrated to collective and firm-level data on around 60 developed and developing countries. Their model accounts combine affects for origin and destination characteristics, not only that but as well is account multi-state for migration and his effects on international trade and remittances. The study suggest that in the presence larger countries enjoy a greater number of varieties higher welfare due to of firm heterogeneity and imperfect competition, taking all else equal Because of this effect, citizens in countries that received a lot of migration – such as Canada or Australia – are mostly better off. The remaining citizens in countries with greater number of emigration flows such as Jamaica or El Salvador – are also better off because of migration, but for a different reason: remittances. The quantitative results show that the welfare impact of observed level of migration is substantial, at about 5% to 10% for the major receiving states and about 10% for the main sending states.

Paolo,Rodolfoet'alin (2013) their paper developed methodology to analyze and judge several worldwide networks. The paper focused on the association between flow of human migration and trade. The study identifies the separate products for which the presence of a community of migrants significantly increases trade intensity. This assures comparability across networks and which identify links that migration and trade intensity are both significantly higher than expected. On the whole, it was found that migration significantly boosts trade across countries.

3. Model Specification

3.1 Trade and Migration Developing to Developed Countries:

Ln(Trdvij) = Ln(β1+ β2gdpo+ β3gdpd+β4gdpcapo+β5gdpcapd+β6dist+β7coml+ ĕ

Trdvij = volume of trade between ith and jth country
Gdpo = GDP of country of origin
Gdpd = GDP of country of destination
Gdpcapo= GDP per capita of origin country
Gdpcapd= GDP per capita of destination country
Dist = weighted distance origin to destination country
Coml = dummy using 1 for common language and 0 otherwise
ĕ = error term

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Gdpcapd= GDP per capita of destination country
Dist = weighted distance origin to destination country
Coml = dummy using 1 for common language and 0 otherwise
Brdr= dummy using 1 for common borderand 0 otherwise
ĕ = error term

4. Data and Methodology

The data of is constructed by using the different sources. The data on the trade volume is taken from the IFS (IMF sources of direction of trade statistics). The database has complete information about bilateral trade formulas about imports and exports between origin and destination countries. We added both imports and exports and to generate variable of trade volume. The collection of most correct and most actual data about the migration is not easy as illegal migration is now one the most serious issues among countries. The source of migration dataset is World Bank migration database. The dataset migration of within developed region and from developing to developed region. The yearly data was available online on flow of migration. The other data is collected from CEPII on common border, distance and common language (dummy variable). The data is collected GDP and GDP per capita about 7 Asian and their flow of trade and migration to countries to 10 different developed regions. The other data is on bilateral migration and trade on 15 different developed countries. The data is cross sectional and regression are run on a single year wise and region wise for developing to developed migration and trade and for developed to developed to developed countries trade and migration separately on 1990 and 2000.

According to the theoretical background of the gravity model which put forward that "bilateral trade flows in international economics were based on the economic size (often using the country's GDP measurements) and distance between two countries or units. The estimates show all the signs are according to the theory with significance at different levels.

Models were also a little different for developing and developed countries migration and trade as the common border are not taken in the estimation of developing to developed migration.

5. Empirical Analysis

Table:1 - RESULTS DEVELOPING TO DEVELOPED MIGRATION AND TRADE
YEAR OF ESTIMATION: 1990

Ltrd	Coefficient	t-statistics	P>t
_cons	-3.677	-2.67	0.008
Lgdpo*	0.651	12.90	0.0000
Lgdpd*	0.5955	9.37	0.0000
Gdpcapo*	0.5803	6.42	0.0000
Gdpcapd**	0.264	2.24	0.026
Lmig*	0.1910	4.73	0.0000
Dist*	-0.00014	-12.69	0.0000
Comlang_off	0.222	1.22	0.224
F-stats	138.71	F>p	0.0000
R-Squared	0.875		

*The results of gravity model describes above are estimated through OLS regression using the Stata-12. Common language is a dummy variable (dummy using 1 for common language and 0 otherwise). *,** =defines significance at 1%,5% level respectively.*

TABLE: 1.1- RESULTS DEVELOPING TO DEVELOPED MIGRATION AND TRADE
YEAR OF ESTIMATION: 2000

Ltrd	Coefficient	T-statistics	P>t
Cons	12.44	1.60	0.115
Lgdpo*	0.768	5.80	0.000
Lgdpd*	0.9153	6.61	0.000
Gdpcapo*	0.5094	3.27	0.002
Gdpcapd*	1.63	2.11	0.040
Lmig***	-0.077	-0.92	0.363
Dist	0.063	0.16	0.873
F-statistics	19.89	F>p	0.000
R-squared	0.73		

*The results of gravity model describes above are estimated through OLS regression using the Stata-12. Common language is a dummy variable (dummy using 1 for common language and 0 otherwise). *,** =defines significance at 1%,5% level respectively.*

According to the theoretical background of the gravity model which put forward that "bilateral trade flows in international economics were based on the economic size (often using the country's GDP measurements) and distance between two countries or units. The estimates show all the signs are according to the theory with significance at different levels. All the variables are positive and found significant as according to theory. Distance is also effect negative and found significant as according to the theory. The dummy for common border is not included because it is not required or not a significant factor in defining the trade and migration flows between developing to developed trade and migration. The variable of the main interest is also effecting positively and found significant. The elasticity of migration was not high but the other variable of interest have greatly elasticised between developing and developed countries in the year 1990.

Now considering the estimation result of developing to developed migration and trade in the year 2000 shows similar to 1990. All the variables are found significant and positive but the variable of interest (migration) and distance are not according to the theory. The estimation of the year 2000 is provided at the end of the paper.

Table 2: Results DEVELOPED TO DEVELOPED MIGRATION AND TRADE
YEAR OF ESTIMATION: 1990

Ltrd	Coefficient	T-statistics	P>(t)	Conf.Itrvl
_cons	-3.677	-2.687	0.008	-0.953
Lgdpo*	0.6513	12.90	0.0000	0.7511
Lgdpd*	0.5955	09.37	0.0000	0.7210
Gdpcapo*	0.5803	6.42	0.000	0.7588
Gdpcapd*	0.2642	2.24	0.026	0.4969
Lmig*	0.1910	4.73	0.0000	0.2708
Brdr*	0.6287	2.93	0.005	1.067
Dist*	-.0.0014	-12.69	0.0000	-0.000
Comlang-of**	0.222	1.22	0.224	0.5832
F-statistics	138.71	P>F	0.0000	
R-squared	0.875			

*The results of gravity model describes above are estimated through OLS regression using the Stata-12. Common language is a dummy variable(dummy using 1 for common language and 0 otherwise) .Common border also a dummy (dummy using 1 for common borderand 0 otherwise). *,** =defines significance at 1%,5% level respectively.*

Table2.1- Results DEVELOPED TO DEVELOPRED MIGRATION AND TRADE
YEAR OF ESTIMATION: 2000

Ltrd	Coefficient	t-statistics	P>t
Cons	5.922	4.30	0.0000
Lgdpo*	0.5533	11.72	0.0000
Lgdpd*	0.5632	11.69	0.0000
Gdpcapo*	0.2596	3.60	0.0000
Gdpcapd**	0.137	1.62.	0.208
Lmig*	0.146	4.13	0.0000
Contig*	0.8609	4.48	0.0000
Dist*	-0.000	-13.82	0.0000
Comlang_off**	0.2315	1.45	0.834
F-statistics	115.03	F>p	0.000
R-Squared	0.825		

*The results of gravity model describes above are estimated through OLS regression using the Stata-12. Common language is a dummy variable(dummy using 1 for common language and 0 otherwise).Common border also a dummy (dummy using 1 for common border and 0 otherwise). *,** =defines significance at 1%,5% level respectively*

The results show the entire variable and their signs are according to the theory with significance at different levels Distance is also effecting negatively and found significant as according to the theory of gravity model. The dummy for common border is included and found significant factor in defining the trade and migration flows between developed to developed countries trade and migration. The variable of the main interest is also effecting positively and found significant. The elasticity of migration was not high but the other variable

of interest have greatly elasticised between developing and developed countries in the year 1990 and in the 2000.the result of developed to developed shows less variability due to reason that the European member states motivate to converge towards each other through the policies among them.

6. Conclusion

Both migration and trade are always being the matter of great concern between different countries and among different regions. If we analyse the variable which is core interest of the study found positive when significant. Together we have found many things in common when we estimate the results either for developing to developed region or either developed to developed region. Especially if we take up the case of developed to developed countries the bonding of European member states has largely affected not only on trade but also on migration. But the interesting factor is the results of distance in developing to developed which is according to the gravity model as we are expecting different results because it was uncertain for us before the estimation especially in the case of developing to developed migration and trade.

The basic idea behind the study is to investigate and analyze the trade enhancing effects of migration following the network of migrants stocks in origin and destination countries because these migrants are always found useful to enhance the flow of trade among countries. The result suggest that the migrants serves as the informal ambassador or informal middle man between home and destination country and helps in creating the opportunity to exchange good and services. These not only have a positive welfare effect but helps in increasing employment opportunities not in destination country but in the origin country. Thus, the overall result shows the migration from developing region and among developed countries has a strong impact on flows of trade.

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