
Research

IMPACT OF PAKISTANI LABOR MIGRANT NETWORK ON PAKISTAN'S INTERNATIONAL TRADE WITH THE MIDDLE EAST

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Abstract

Emigrants possess knowledge of host and sending countries' cultures and social environments that can help strengthen the economic relationship between them. We find this to be true for Pakistan and its selected Middle East trading partners for whom the data are available. Gravity model estimates suggest that each Pakistani emigrant contributed \$422 to exports. This increase in exports can be attributed to Pakistani emigrants' superior knowledge of both countries environment as well as their help in reducing transaction costs in trade. This study should be helpful to policy makers, who generally consider migrants to be the source of remittances only, while our study showed that migrants help broaden our international trade as well.

Keywords: Migration, International Trade, Gravity Model of International Trade, South Asia.

JEL Classification: F 160

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Introduction

One of the major consequences of globalization is the greater movement of people across national boundaries. Improved transportation and communication infrastructure have made the movement of humans much easier. People move from one country to another in search of better incomes, social and political environment, higher education opportunities and so on. While emigration of people deprives a country of valuable human capital, it may also help improve the welfare of those left behind. Those who consider migration to be development enhancing phenomena, posits that remittances are second only after the FDI in the external financing of the development activities. Moreover, remittances are invested in the home countries thereby increasing the investment levels (Ratha, 2005). Besides, migrants by sending remittances have a beneficial role in the socio economic development of communities, for example poverty reduction and access to basic services (Chimhowu et. al, 2005). Migration may help improve the sending country's balance of payments due to workers' remittances and also reduce the unemployment rate in its labour markets. Although, other school of thought considers migration to be not always beneficial, for example brain drain of medical doctors is one of the major problems being faced by developing countries (Mullan, 2005). Moreover, there has been increased debate over the role of remittances which rather than creating business and trade opportunities in the home countries, create dependencies among those receiving the remittances (Ballard, 2003). One of the less studied benefits of migration is their impact on facilitating international trade between their home and host country which is the topic of present study.

Gould (1994) suggests that migration facilitates international trade between home and host country of migrants in three ways. First, since migrants prefer their home country products they could help increase the exports from their home country. Secondly, migrants are

aware of their home sending countries' cultures, languages and customs. Using this knowledge, they can facilitate information for both buyers and sellers residing in different countries. Third, they can be a good source of contract enforcement in a weak international trade contract enforcement environment.

Immigrant networks can help to promote trade between their countries of origin and destination by reducing transaction costs of trade. They are a source of market information for exporters in both the receiving and sending countries. Many developing countries have adopted several market and institutional reforms to enhance their volume of trade. Although these countries are major sources of immigrants in the developed world, the impact of their expatriate population on trade relationships between sending and receiving countries has received very little attention in their policy and academic circles. Most of the studies on this subject are within the context of migration between developing and developed countries. The present study is the first one to analyze the impact of migration on international trade between developing countries. Evidence is provided on Pakistan, which is among the major source countries of immigrants in the Middle East from South Asia. The gravity model approach has been used in this study as used in the studies of Gould (1994), Girma and Yu (2002), Dunlevy and Hutchinson (1999, 2001) and so forth. Lack of data availability restricted the analysis to only selected five Middle East countries which are the major destinations of Pakistani emigrants and for the period 1982-2013.

Literature Review

As noted above, migration is seen from different point of views, although mainly can be classified as beneficial or harmful to the development. De Haas (2010) has excellently reviewed the current literature on this subject. He noted that initially the researchers as well as policy makers were more optimistic about the impact of

migration on development. They considered remittances to be the main factor that could provide the necessary impetus to the economy's take off. This view was largely held till early seventies of the last century. However, later on the migration process made the researchers somehow skeptical of the perceived benefits as claimed earlier. Major issues like the brain drain and economic dependency of the communities led many thinkers to revise their thinking. Although, some other views were also presented by using the improved approaches to analyze the empirical data in the last decade of twentieth century. However, more or less, literature remained pessimist till the start of twenty first century.

Literature took turn with the start of new century as publications that were optimistic about developmental effects of the migration outnumbered pessimistic ones. Studies seem to be focused on the developmental issues of migration such as brain gain, Diasporas' or migrants networks involvement in the developmental activity under the boom of remittances to the developing countries. Of the various issues that were discussed by De Haas (2010), one of the relatively new research areas is migrant networks effect on international trade. Before moving on to the discussion of migrants networks, it is appropriate to define it properly.

Migrants form new social relationships with their co-nationals in their host countries and also keep their contacts with those left behind in their country of origin. Hence, they can form an international social network that can facilitate trade between their host country and country of origin. Massey et. al. (1993) describes migrant network as follows:

“Migrant networks are sets of interpersonal ties that connect migrants, former migrants, and non-migrants in origin and destination areas through ties of kinship, friendship, and shared community origin.”

Migrant networks' impact on facilitation of international trade is rather a new subject in economic literature. It was Gould (1994) who first studied the empirical relationship between the two in case of United States (US). He found that immigrants have been instrumental in facilitating trade between their home and host countries. McCallum (1995) study raised the question that if distance is one of the barriers in the international trade, then why Canadian provinces are trading twenty times more than with the equidistant US states. In response Head and Reis (1998) suggested that in the same country there is easy and free flow of information between agents but in case of trade between two different countries the information flow is not much easier and due to this obstacle trade between two different countries is low as compared to trade within a country after controlling for distance. Head and Reis (1998) suggested that these information costs can be reduced by migrants' networks.

Historical reasons such as past history of colonization among trade partners can also be important in trade. For example, Girma and Yu (2002) studied the trade relations between the United Kingdom (UK) and her past colonies, now called commonwealth countries, and found strong effect of migrants from commonwealth countries than non-commonwealth countries in facilitating international trade. Similarly two studies by Dunlevy and Hutchinson (1999, 2001) investigated the historical trade between US and her trade partners and found significant effect of migrants on trade flows. Results also indicated that migrants, from countries having similar languages and level of development like the US, have stronger effects on international trade than that of their counterparts from countries having different languages and level of development. These studies analyzed the migrants' impact on the country's aggregate exports/imports, in an interesting study Peri and Requena-Silvent (2010), analyzed the immigrants impact on exports of the provinces of Spain at disaggregated level. Study noted the significant exports enhancing

effects of immigrants, which seem to be the effect of reduced transaction cost because of those migrant networks.

Migrant networks living in other countries than their home country also facilitates trade between the host countries. For example, Chinese networks are instrumental in increasing trade among countries where they reside (Rauch and Trindade, 2002). This is because they prefer to trade with each other. The effects of migrants networks are not only felt on the international trade but their impacts could also be seen on the per capita income in the long run, for example, Ortega et. al. (2013). This effect is seen to be transmitted through total factor productivity (TFP), i.e. migrants seem to increase the TFP, whereby this effect is transferred to the per capita income. The effect of migrants networks are not limited to international trade, rather, these networks also facilitate FDI. For example, Docquier and Lodigiani (2010) have shown that business networks have strong impact on FDI. Study further noted that this effect seems to be working thorough the skills levels, i.e. the higher skilled the migrants the higher is the FDI flows. This effect seems to be much stronger in the long run as compared to short run. There seem to be much interest in assessing the effects of migrants on international trade. Since most of the studies are based on gravity model, with more or less similar types of variables, Genc et. al. (2011) made a meta analysis of the literature and found that migration seems to be complementing the trade and is not substituting. Elasticity among different countries varies considerably. In general, migrant's exports elasticity was found to be slightly higher than imports elasticity, after making adjustments for publication bias and heterogeneity.

Econometric Model

The data used are for Pakistan's five major emigration and trading partners namely, Bahrain, Kuwait, Oman, Saudi Arabia and United Arab Emirates (UAE) for the period 1982-2013. Economic model to be used in this study is the gravity model of international trade

(hereafter referred to as gravity model). Gould (1994) was the first to use gravity model to assess the impact of migrants on international trade and afterwards various studies have adopted this model, for example: Girma and Yu (2002) and Rauch and Trindade (2002).

According to the gravity model, the bilateral trade between two countries depends on the economic masses of the two countries, which are usually proxied by their relative GDP's or GNP's. Distance between the two trade partners is usually measured by the distance between the capitals of the trade partners. Following Girma and Yu (2002), the present study will augment the gravity model by including for Pakistan and its trading partner, the product of per capita GDP's, and GDP deflator ratio. A separate variable for Pakistani migrant stock in the Middle East is included to capture the emigrants effect on Pakistan's trade⁶. To analyze the impact of international trade environment, lagged value of tariff is included. A double log version of the gravity model is used to study the impact of Pakistani labor migrants on the international trade as follows:

$$\ln T_{ijt} = \beta_0 + \beta_1 \ln M_{jt} + \beta_3 \ln(GDP * GDP)_{ijt} + \beta_2 \ln GDPD_{ijt} + \beta_4 \ln(PGDP * PGDP)_{ijt} + \beta_5 \ln DIS_{ijt} + \beta_6 TRF_{it} + \mu_{ijt} \quad (1)$$

Where subscript j denotes Pakistan's trading partner and t denotes the time period. T shows the trade flows (export (EXP) and import (IMP) equations are estimated separately), M shows the stock of Pakistani emigrants residing in country j , $GDPD$ denotes the ratio of GDP deflators of Pakistan and its trading partner, $GDP * GDP$ shows the product of Gross domestic products of Pakistan and of its trade partner, $PGDP * PGDP$ denotes the product of per capita GDP of Pakistan and of its trading partner, DIS denotes the distance between the capital cities of Pakistan and its trading partner, TRF shows the Pakistan's tariff rate and μ is error term. The data on Pakistani emigrants

⁶ Stock of Pakistani migrants living in Pakistan's trade partner is proxied by the cumulative sum of Pakistani emigrants flows to those countries.

are obtained from Government of Pakistan (2014), while the data on other variables are obtained from World Bank's World Development Indicators and International Financial Statistics.

The structural gravity model is stated in multiplicative form. Its logarithmic form provides a linear equation in which the coefficient of each variable is the elasticity of trade with respect to that variable.

Results

Our results are provided in table 1. Although, for panel data the first choice would be to use fixed effects model for estimation. However, Santos and Tenreyro, (2006) have criticized the fixed effect model for having heteroskedasticity between the error term and independent variables. To account for this form of heteroskedasticity, we used generalized least squares method (GLS). The GLS method takes into account the effect of correlation between error term and independent variables, which results in heteroskedasticity. Besides, the static model, we also included the lagged export and import variables to have a dynamic model. The estimated results of both models (static and dynamic) are given in the following table.

As reported in Table 1 (static model), the coefficient of the migrant stock variable is statistically significant in case of exports and for imports it was insignificant. Hence, Pakistani expatriates in Middle East help to enhance Pakistani exports to their host countries, their impact on imports seem not of much importance. A 10 per cent increase in the stock of Pakistani emigrants' increases Pakistani exports to the Middle East by about 7 per cent. These results are consistent with those Girma and Yu (2002) and Dunlevy and Hutchinson (1999, 2001). These studies considered the export enhancing effect to be the reduction in transaction costs in case of exports. One additional aspect specifically in this study's context is that Pakistani migrants living abroad prefer their home country products while living in their host country, thus increasing Pakistani exports to their host country. The

Table 1.
Econometric Results of Augmented Gravity Model

Variables	Static		Dynamic	
	Exp	Imp	Exp	Imp
$EXP_{(t-1)}, IMP_{(t-1)}$			0.79* (0.03)	0.55* (0.06)
Constant	-0.95* [†] (3.49) †	-52.93* (8.94)	-0.68 (2.07)	-19.72* (8.07)
M	0.68* (0.09)	-0.04 (0.13)	0.27* (0.07)	-0.02 (0.16)
GDP*GDP	0.07 (0.11)	0.90* (0.25)	-0.12 (0.07)	0.35* (0.20)
PGDP*PGDP	0.67* (0.12)	0.71* (0.29)	0.34* (0.07)	0.26 (0.25)
GDPD (Home/Host)	-1.00* (0.16)	0.68* (0.40)	0.26* (0.11)	0.29 (0.32)
DIS	-0.40 (0.40)	1.47 (1.02)	0.08 (0.21)	0.58 (0.92)
TRF	-0.93 (0.18)	1.61* (0.44)	-0.03* (0.11)	0.71* (0.36)
No. of Observations	160	160	155	155
R ²	0.83	0.65	0.96	0.75

*denotes the coefficient values significant at 5 percent level of significance.

† Values in parenthesis denote standard errors. White heteroskedasticity robust standard errors and period weights are used in the estimation.

product of the GDP of Pakistan with its trading partners has statistically significant impact on imports, however its impact is insignificant in case of exports. The positive sign of the coefficient of product of per capita GDP in both export and import models indicates that bilateral trade is enhanced by the joint wealth level of Pakistan and its Middle Eastern trade partner. Our results are consistent with Rauch and Trindade (2002). Their results indicate that wealthy trade partners are more likely to have more trade and our results are just confirming their findings. The ratio of GDP deflators is statistically significant in both the imports and exports models,. The distance variable also has expected negative sign in case of exports but it is statistically insignificant, in case of imports it is also statistically significant and shows a positive sign, which may indicate that Pakistan is importing more from nearer countries. These results are consistent with Girma and Yu (2002) and Rauch and Trindade (2002). Tariff rate shows a negative impact on exports; however, its impact is positive on imports, indicating that more trade openness has resulted in more imports.

This is because over time Pakistan's various custom duties on imports have been gradually reduced.

The dynamic model shows that lagged value of both the exports and imports variables are statistically significant. Thus it can be inferred from the dynamic model that migrants have a long run influence on exports as well as imports.

Conclusion

It is concluded on the basis of the present study that networks of Pakistani migrants residing in the Middle East countries have been instrumental in increasing Pakistan's international trade with their host countries by promoting its exports. Based on the elasticity values of exports with respect to the migrant stock, we calculate that each additional migrant who arrived in the Middle East during the study period, contributed about \$422 to Pakistan's annual exports⁷. The amount of the exports increase for each additional migrant living in Middle East, is although lower as compared to Pakistani migrant living in OECD countries (Akbari and Hyder, 2011).

Policy Implications and Areas of Future Research

These findings can have important policy implications. Usually, policy makers consider migrants as a source of foreign exchange only. However, as our results indicate that their export enhancing should also be considered important in future planning of policies. It is suggested that government efforts should be more focused on facilitation of expatriates' businesses. Although, Pakistani

⁷ The elasticity of exports with respect to migrant stock is 0.68. Hence, from the elasticity formula, we get: $dT/dM = \text{Export or Import Elasticity} \times (T/M)$. The term dT/dM is the additional value of exports attributable to an additional migrant. Using the average values of exports and migrant stock during the study period, we get a value of \$422 as the additional value of exports attributable to each additional migrant.

embassies and consulates are providing other necessary services, however, their roles can be enhanced to facilitate their migrant countrymen in establishment of businesses internationally. This aim can be achieved by providing counseling programs, making the networks of local and migrants' networks broader by facilitating their contacts. Facilitation in the movement of human as well as financial capital in this respect can also be included in those policy measures to enhance and improve Pakistan's international trade.

Like other studies, this study has its own limitations. Firstly, our analysis is limited by the availability of data, therefore the results should be interpreted cautiously. More and up to data may reveal interesting results. Secondly, like any other quantitative study, this study also looks at the problem in breadth while neglecting the depth of the issue. It is suggested that future study could use qualitative research methods to look deeply into the matter. Our study is limited not only in terms of data but also in the number of variables. Thus a qualitative study not only can account for the depth of the issue but also new dimensions can be added that could enhance our current state of knowledge in this area.

Thirdly, our analysis considered all the emigrants as homogenous due to data availability issue, which is certainly not the case. Emigrants from Pakistan have different skills and knowledge levels. It would be interesting if some future study could look into the emigrants' impact on Pakistan trade, while taking into account the heterogeneity in their academic, and skills level. Fourthly, the trade data at the more disaggregated level can help us understand the migrants' networks effect at a disaggregated level of trade. Therefore, trade data at the disaggregated level, coupled with disaggregated level data of migrants according to their skills level can provide much deeper level of understanding.

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