

Emigration and Trade Creation in Pakistan



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A dissertation submitted to the Department of Economics, PIDE, at Islamabad in partial fulfillment of the requirement for the degree of Master of Philosophy in Economics.

**Pakistan Institute of Development Economics,
Islamabad**

February, 2012

Abstract

This study investigates the impact of emigration on exports of Pakistan for the period 1987-2008. The study is based on 21 selected countries where the Pakistani emigrants like to settle on the priority basis. More specifically, the study analyses whether the supply capacity variables (of home country), market capacity variables (host countries) and domestic economic performance variables (of home country) do affect the volume of export. An independent variable of total number of emigrants has also been included to assess the impact of emigration on export creation. In order to select between fixed effect and random effect models, after the estimation of the model Hausman test is applied. The results of the Hausman test, in this study, go in favor of the fixed effect model. The results reflect the fact that with one percent rise in the emigration from Pakistan, there is 0.2 percent rise in exports of Pakistan. The results also reveal that, it is of critical importance to maintain a high and sustainable economic growth rate. The study shows that the sustainable growth patterns promote exports. Widening of the net of communication facilities is also instrumental in exports growth. In addition to that, as Pakistan is a labor-exporting country, the results help to strengthen the idea that more opportunities for the Pakistani people exiting from the country can bring fruitful results in terms of export growth. Hence, the results and policy suggestions of this study are expected to benefit the policy makers in formulation of the export policy for Pakistan vis-a-vis the other 21 countries.

Acknowledgements

A thesis is seldom only one person's work. First praise is to Allah, s.w, the Almighty, on whom ultimately we depend for sustenance and guidance. Allah granted me the determination, potential and capability to complete this dissertation. I present my sincerest and profound thanks to Prophet Muhammad (SAW) who is source of guidance and blessing for the humanity. After that I offer my sincerest gratitude to my supervisor, Dr. Zafar Mahmood, who has supported me throughout my thesis with his patience and knowledge whilst allowing me the room to work in my own way. I also attribute the level of my M.Phil degree to his encouragement and effort and without him this thesis, too, would not have been completed or written. One simply could not wish for a better or friendlier supervisor. I have learnt a lot from our discussions.

I would like to thank my parents, whose love, affection and guidance are with me throughout my studies. I am thankful to my in-laws specially my mother-in-law, who never disturbed me during study. I am profoundly thankful to my husband, Muhammad Bilal Arshad, who motivated me in every hour of frustration. Without his attention and care, I would never have been able to complete my M.phill program. I am sincerely indebted to my younger sister, Ms. Saba Saeed, who gave me moral support to proceed. This graduate study contains a lot of her contributions. I am thankful to my friends Ms.Shabana Kishwar, Mr. Muhammad Javid, Mr. Muhammad Ramzan, Mr. Muhammad Adnan for their friendship and concern on the progress of the work and for technical help I view the years of graduate study as a family collective effort and the outcome as a shared achievement. Owing to the outstanding, superb and altruistic guidance of my parents that today I have a Master of Philosophy in Economics.

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Chapter 1

Introduction

Background and Motivation

While the international trade has increased sharply relative to the world GDP in the post World War II era, cross border trade flows remain at much lower levels than those that would prevail in a fully integrated freer world economy. Citing the example from Pakistan, manufacturers, for instance, supply about 25 percent for the domestic market¹. It is also the fact that Pakistan contributes in the total world GDP very nominally, hence Pakistani manufacturer's contribution towards international trade is not so remarkable. An important thing to mention here is that the barriers to international trade, like transportation and transaction costs emerge as principal hurdle for the low level of trade with international borders.

In this age of globalization, international trade has become an increasingly important determinant of economic prosperity in almost all countries of world. Trade expansions, movements in factors of production, employment expansion, etc, are the reasons for the globalization. These activities further improve the level of international trade.

International trade is strongly linked with international emigration (exit of people from the home country) as international emigration influence the international trade. The question arises as to how this linkage is possible! International migration affects trade flows through two possible channels². First, immigrants bring with them the preference for the home country products. So, they demand the products of the home country while residing abroad thus promoting exports from the home country. Second, emigrants can also reduce trade-related transaction cost, creating network knowledge of home country market, business contacts, and cultural ties such as common language, common preferences and knowledge of political and social institutions.

¹ Zaidi (2009).

² See, Head and Rise (1998) and Crima and Yu (2001).

The relationship between international migration and trade has only recently been investigated. Gould (1994) employs a gravity model to study U.S trade with forty-seven trading partners and finds that trade is positively influenced by immigration, with exports being more strongly affected than imports. Globerman (1995) discusses a number of mechanisms through which immigration might facilitate trade. He takes the case of emigration of skilled and educated Canadians to United States. He finds the causes for brain-drain which later on improves trade. He further describes that Canada-US free trade agreement (CUSTA), implemented on 1 January 1989, the North American Free trade Agreement (NAFTA), implemented on 1 January 1994, are seen as having promoted labor migration within North America with skilled Canadians primarily taking advantage of this increased migration.

Moreover, the increased migration has promoted trade volume of Canada; US through this agreement the flow of migrants as well as investment opportunities have increased in these countries. Resultantly, the contributions of exports and investment to GDP growth have increased substantially. Investment to GDP growth reached 3 percent points during 1996-2002 as the average growth rate of investment rose to more than 8.5 percent. Hence increased migration has contributed in the improved trade volume of these countries.

The Pakistan economy ranks forty-fourth in the world and fifty-fifth worldwide in manufactured output in (2008-09). Pakistan's industrial sector accounts for about 24percent of GDP. Clothing and textile production and apparel manufacturing are Pakistan's largest industries, accounting for about 66percent of the merchandise exports and almost 40 percent of the employed labor force. While manufacturing sector's growth declined for the third consecutive year mainly due to energy, capacity and input constraints³. State Bank of Pakistan's Annual Report states the poor performance of Large Scale Manufacturing (LSM) in FY 08-09 which is due to the structural weaknesses of the economy.

Over the last 15 years there has been a shift in the composition of exports with the share of primary commodities falling and that of manufacturing goods increasing. Primary

³ Zaheer (SBP).

sector contributes 20.8 percent to the Pakistan economy in 2009. Pakistan's principal exports are cotton yarn, cotton fabrics, readymade garments, synthetic textiles, carpets etc while the textile alone has been the backbone of the whole export sector. Pakistan's total exports are \$19.55 billion in 2010.

Pakistan has been making efforts to increase exports, realizing it is a key instrument in job creation, favorable balance of payments, fast economic growth and increase in the level of incomes and standard of living. The share of exports in GDP is less than 15 per cent recently as compared to 32.3 than 15 per cent for Indonesia, 44.4 than 15 per cent for Philippines, 56 than 15 per cent for Thailand, 39 than 15 per cent for Korea and 27 than 15 per cent for Sri Lanka. Although the country's exports have exceeded \$14 billion, it constitutes only 0.12 per cent of total world exports. Its share in world exports has declined from 0.26 than 15 per cent in 1960 to 0.12 than 15 per cent in 2004⁴. The export statistics on Pakistan indicate that exports have a narrow base; there is a lack of diversification with respect to both products and markets. Recently only 10 products made up 90 per cent of Pakistan's total exports. The government of Pakistan has offered many incentives like: the 6 than 15 per cent Research & Development Fund to the knitwear and garment industry offered in 2005, interest rates kept low for about three years that resulted in the inflow of heavy machinery worth \$5 billion in the sector and the agriculture sector is once again exempted from tax in 2010.

Migration has the potential to exert a significant influence on Pakistan economy in general and trade patterns in particular. Emigration is also a source of remittances inflow. By 2008, there were an estimated 700,000 – 1,000,000 Pakistanis in UAE and 600,410 – 1,000,000 Pakistanis are there in USA. These are the countries where the Pakistani emigrants are huge in number. These workers were remitting more than US\$3 billion every year to Pakistan. At its peak, this money accounted for almost half of Pakistan's export earnings.

⁴ Shahid, (2009).

As Pakistan is a labor exporting country, its emigrants do contribute a lot towards Pakistan's export in the way that they demand Pakistani products like rice, mango, etc.

International Transaction and transportation costs are major hurdle for international trade. According to a study conducted for Pakistan, average logistic cost⁵ has decreased from 11percent in 1996 to 6percent in 2006 in Pakistan, as the average logistic cost shows the cost of the factors associated with the acquisition, storage, movement and disposition of goods, hence the reduction in average logistic cost shows that domestic commodities are relatively less costly, hence the foreign demand for the domestic products has increased, which indicates that trade volume has expanded. The study confirms that the major logistic challenges in Pakistan today are related to domestic transport and IT development. This finding indicates that transaction costs may be a significant impediment to cross boarder trade. If transaction costs inhibit international trading activity, emigrants may play a role as trade intermediaries. By virtue of links to their home countries, they may realize lower costs associated with foreign trade than non-emigrants (as they can reduce trade-related transaction cost by creating network of knowledge about their home country market, business contacts, cultural ties etc.) In addition to their superior information on market opportunities, emigrants also bring preferences for particular varieties of foreign products⁶ and thus may be a source to increase the demand for particular goods from the home country.

It thus becomes extremely important to explore the nature of the "exact" relationship existing between emigration and trade volume. This proposed thesis intends to explore the impact of emigration on trade flows for Pakistan for the period 1987-2008. In this regard, the augmented gravity model of international trade will be used to assess whether Pakistani emigrants residing in trading partner countries have assisted in trade creation, in terms of export expansion from Pakistan.

As an alternative to emigration, this thesis also intends to study the effect of remittances

⁵ The factors associated with the acquisition, storage, movement and disposition of goods.

⁶ Cristobal (2005).

originating from the partner countries on the export volume of Pakistan to the partner countries. Thus, the thesis intends to explore channels through which Pakistani emigrants in addition to remittances contribute towards export expansion.

Objective of the Study

The main objective of this thesis is to find out a nexus between emigration from Pakistan and its exports to the host countries. The specific objectives are to:

- Identify the effect of supply capacity (of Pakistan) and market capacity (of host country) variables on the export volume of Pakistan.
- Find out the importance of the demographic variables (distance, population and income) for the trade creation.
- Assess the effect of total number of Pakistani emigrants in the host country on the exports of Pakistan.
- Assess the effect of locational variables (adjacency, population density, language) on the export volume of Pakistan.
- Analyze the effect of domestic economic activity variables such as GDP, GDP growth, FDI, saving, real exchange rate, indirect taxes, manufacturing value added etc. (on the trading-partners through international trade)
- Find the effect of competitor's prices on the export volume of Pakistan.

Arrangement of the Study

Rest of the thesis is divided into six chapters. Chapter 2 reviews the literature regarding the effect of remittances, FDI, GDP, emigration etc. on the exports (or trade). Chapter 3 provides some background information regarding the Pakistan economy. Chapter 4 describes the theoretical and empirical models, data and their limitations, and the estimation procedure. Empirical results are discussed in chapter 5. Finally, chapter 6 concludes the thesis and recommends policies for improving the exports through emigration.

Chapter 2

Literature Review

This chapter provides literature review regarding the impact of migration and remittances on exports. The empirical studies on the relationship between migration and exports are quite helpful to understand the relationship between emigration and exports.

Girma and Yu (2002) using data from 1981 to 1991 and the gravity model analyze the bilateral trade impact of immigration from the Common Wealth and non-Common Wealth countries on bilateral trade with the United-Kingdom. By making use of augmented gravity model for estimation and OLS technique, they identify that the transaction cost of bilateral trade are reduced because of additional knowledge brought by immigrants about foreign markets and different social institutions. The results reflect there are fundamental differences among bilateral trade impact of immigration among common wealth and non-common wealth countries.

Davis and Nber (2009), using data from 1993 to 2008, state a robust, significant and stable trade creation effect of new immigrants for the case of Spain. They find that an increase of immigrant's community from a specific country in a province by 10percent increase the export of that province to the specific country of the origin by 0.5percent to 1percent. Moreover, such a trade creation effect is in general stronger for differentiated goods than for homogenous goods. Focusing on the intensive margin⁷ and extensive margin⁸ of trade, they use the OLS and 2SLS method to estimate coefficients, hence they find the result that migration networks decrease fixed bilateral trade cost and they only affect the extensive margin. The study also reveals the fact that the decrease in fixed trade costs should affect more the exports of more differentiated goods as compared to homogenous goods. The study also concludes that the trade creation effects are stronger in the provinces in which n the presence of immigrants was above a certain threshold, and

⁷ Where the already existing trade relation is developed.

⁸ Where the new bilateral trade relation is developed.

increased during the most recent period (2002-2008), when immigration reached a sizeable mass relative to the native population.

Blanes-Critobal (2005) have used the data from 1995-2003. They describe that immigration and trade are positively linked with each other. The mechanism behind this link is information effect as additional information about product and about social and political institutions brought by immigrants and the social and ethnic networks effect have positive effect on bilateral trade. Further he identifies that the effect of bilateral trade on differentiated products is greater than for homogenous goods. Testing for the impact of immigration stock on Spanish bilateral stock, he finds that 10percent increase in immigrants' stock would increase exports between 2.8percent and 3.8percent, while in imports, the range is between 1.8percent and 2.6percent. This supports the fact described above that trade and immigration are positively linked. Important finding is that Blanes-Critobal does not find evidence for the preference effect since the impact on imports is greater than exports. Hence it means that in Spain, the preferences of the immigrants for their home country products do not contribute a lot towards exports.

Bettin and Turco (2009) use the panel data techniques for the period 1990-2000 to find if there is substitutionability or complementarity between migration and bilateral trade. They consider the cross country case on North-South. Being interested in South and North of the world, they have considered reporters/destination OECD countries excluding the ones that may not be considered as advanced industrial countries like Hungary, Mexico, Poland, Slovenia, Korea and Turkey. They keep these countries with other developing countries as partners/ origin. The results indicate that an increase in migration from the South is related to a decrease in total Northern exports towards Southern countries. The surprising result is that imports, in general are not affected by the presence of migrants. The negative effect of migration on Northern total exports towards the South is still significant at 1 percent level of significance. These results can be interpreted as more substitutionability than complementarity between migration and bilateral trade.

Head and Rise (1998) use the gravity model of trade to relate the volume of bilateral trade (between Canada and 136 trading partners) to the level of immigration. They identify that there are three categories of immigrants, i.e., family, refugees and independent. They investigate whether immigrants admitted because of skills or plans to establish a new business have a greater effect on trade than those admitted because of family connections or as refugees. Testing this proposition using Canadian trade data with 136 partners from 1980 to 1992, the augmented gravity equation result that a 10percent increase in immigrants' is associated with a 1 percent increase in Canadian exports to the immigrants home country and a 3 percent increase in imports. They claim that these findings are consistent with the hypothesis that immigrants' knowledge and connections to the home country lower the transaction cost associated with international trade. The increase in the number of imports suggests that preferences for home country goods also play a vital role.

Traditional gravity model of migration was developed and adjusted to include political and economic characteristics of origin and destination countries. Using the cross-section and time-series technique, the formulation is considered by Karemera and Davis (2000) to evaluate the factors affecting migration flow to North America using data from 1976-86. They use the augmented gravity model and data pooling technique for estimation. They identify four variables involving, i.e., the set of gravitational demographic variables, set of variables involving domestic economic activities, set of variables in model to show financial performance of the host country and a variable related to domestic politics. The results indicate that continues population growth in countries of origin will lead to increased migrant flows. Moreover, the elasticity coefficient for USA and Canada is greater than 1 indicating migration flows are sensitive to inflation rate in the host country.

Ram and Prasad (2010) use the augmented gravity model equation to first analyze international trade flows and then estimate the trade potential of Fiji with all its trading partners using OLS technique for estimation. They use cross section data for the year 2005. The results revealed that magnitude of Fiji's trade potential is maximum in the

Asian and Pacific regions. Furthermore, the growth in imports significantly higher than growth in exports creating an expansion in Fiji's trade imbalance the result may not be aberrantly useful, but it gives deep insight about the countries with which Fiji can consider more involvement through trade agreement.

Bruder (2004) consider the case of Germany, using the data from 1970-98 with the help of OLS estimation technique. He wanted to identify that whether factor movements and trade are substitutes or complements. The results are in favor of the traditional theory which states that trade and labor force are substitutes. There is no significant impact of labor migration on trade but an increasing trade volume negatively effect on labor migration.

Martin ez-Zarzoso (2003) estimate a gravity equation for bilateral trade flows among 47 countries using the data from 1980-99, in order to analyze determinants and estimate trade potential for certain economic countries. The dependent variable is volume of trade in log-linear form. The results indicate that the variable traditionally included in gravity equation present expected sign. Income elasticities are positive and are close to unity according to the theory. The results give an important indication that income elasticity of exports is higher than that corresponding to imports indicating the importance of the countries' production capacity in enhancing exports. The estimated coefficient for the exporter's population variable is negative which shows an absorption effect. Hence, the greater the size of exporting countries, the lower the exports.

Redding and Venables (2003) focus the role of geographical location. They have estimated its effects using a fully Specified model of economic geography and cross-country data including per capita income, bilateral trade and the relative price of manufacturing goods .Geographical location may affect per capita income in a number of ways through its influence on flows of goods, factors of production and ideas.. Consequently firms in these countries can only afford to pay relatively low wages even if, for example, their technologies are the same as that elsewhere. Their model formalizes

the role of economic geography in determining equilibrium factor price, and the exact specifications suggested by theory, are used to estimate the magnitude of these effects.

Redding and Venables have taken data on bilateral trade flows for a cross-section of 101 countries obtained from World Bank's COMTRADE data base. They have combined the trade data with information on geographical characteristics (e.g., bilateral distance, existence of a common border) and data on GDP and population from the World Bank. By using OLS estimation technique using data of 1994. Finally, they conclude that distance between capital cities and common border variable are significant at the 1percent level.

Melkumian (2001) develops a traditional gravity model of migration and expand it to include political and economic characteristics of source and destination countries. According to him, there has been considerable debate about decreasing quality of US immigrants between the 1950s and the 1980s, as well as a number of studies on the determinants of immigration by the source country. Economists believe that individuals compare potential income in the United States with their home countries and make the migration decision based on the income differentials. Income inequality is also considered to be an important factor affecting the decision to emigrate from the source country. The major objective of Melkumian's study to examine the determinants of migrant flows to the United States and the specific objectives of the study are to analyze the effect of demographic economic and political factors on the propensity to migrate. The time period of his study is from 1996-2000 and 101 countries are covered for a total of 505 observations of migration flows to the United States. He utilizes a modified version of the gravity model used by Karemera et al, (2000) in their empirical investigation of emigrants into the United States. He uses the pull and push factors, and the factors aiding or restricting flows of migrants from the source country to the U.S.A such as cost of information on the alternative host countries.

By using panel data for immigration to the United States by source country for 101 countries across 5 years from 1996-2000 and the pooled OLS model the application of

Houseman test declares that the results obtained from the one way random-effects model are superior to those obtained from the one way fixed-effects model. The elasticity of immigrant stock is significant at the 1.0percent level. In addition, the result of this study shows that an increase in the source country in income opportunities has a positive net effect on migration flows. The gravity model is used and it is evident that a lower level of economic freedom in the source country is associated with increased migration to U.S. has certain policy applications. Countries with lower levels of economic freedom, such as china and India, should be especially interested in policies that increase economic freedom.

Literature review related to Pakistan

Only few attempts have been made to find out the factors that affect the exports in Pakistan. These include Rashid Amjad (1986), Majeed and Eatzaz (2006), Ghafoor, Mustafa, Zafar and Mushtaq (2010), Zia and Mahmood (2011), Hisaya (2009), Mahmood (1990). The first two studies specially focus the determinant of exports, while the other studies focus the migration aspect of the economy.

Rashid Amjad (1986) has analysed the impact of remittances from the Middle East on Pakistan's GNP growth, domestic savings and the balance of payments. Ha has shown that: (i) If, in future, the amount of remittances continue to fall, other things remaining the same, not only will the GNP growth be lower than that of the GDP but it will also be difficult to maintain a high rate of growth. (ii) The decline in the domestic saving rate is due to the accounting procedure and does not necessarily reflect a shift in the domestic saving behavior. (iii) The foreign exchange which has been made available because of the workers' remittances from the Middle East has not only helped in reducing the current account deficit, but has also reduced the external debt burden, has improved debt-servicing ability, and has decreased the need for additional foreign loans. (iv) With the slowing down of economic activity in the Middle East, Pakistan is likely to face balance of payments problems not only because of the reduced amount of remittances but also

because of the decline in the demand for its exports in the Middle East.

Majeed and Ahmad (2006) have explored the effect of various factors on exports in developing countries by taking a large sample of 75 developing countries. They aim to find out the internal and external determinants of exports promotion. On the one hand, developing countries are facing twin deficit; namely, fiscal and trade deficits. While, on the other hand, external debt crisis also creates further financial crisis. They have employed the “External Factors” for the export determination, i.e., FDI and real exchange rate. The external factors for export promotion are those factors which are heavily affected by the policies in foreign countries. Exports are also affected by domestic factors. The internal factors, which they have identified, incorporate GDP, GDP Growth rate, indirect taxes, communication facilities, savings, industrialization and labor force.

By taking data from World Development Indicators (WDI) 2005, from 1970-2004, they have reported the results based on pooled data. They have used the fixed effect model. They concluded that a stable exchange rate policy has to be ensured in order to avoid the exchange rate risks associated with assets; import prices and profit consideration of direct investment in developing countries. They further conclude that the developing countries need to replace agriculture exports by the industrial exports, which command reasonable and stable prices in the world markets; moreover, they have an important view point that the industrialization will reduce dependence on imports by initiating the process of import substitution.

Their study by Majeed and Ahmad depicts that for the developing countries, the internal and external both factors are important for the determination of exports. The factors affecting exports of Pakistan which this thesis has focused, are in line with the study of Majeed and Ahmad. Hence, this study is for very important in the estimation of the econometric model discussed in this thesis.

Ghafoor, Mustafa, Zafar and Mushtaq (2010) state that mango is second important fruit crop in Pakistan after citrus. Pakistan stands fourth in the list of mango producing and

exporting countries. Major focus of their study is to explore the effect of those variables, which affect mango exports from Pakistan. A regression model is estimated in this context to drive the impact of some micro valuables on the export of mango from Pakistan. The dependent variable is the quantity of mango exports (tones) for each respective exporter for exporting year 2005-06. Major independent variables they focus are the experience including education of respective exporters. Other independent variables are, professional experience (Years), average purchase prices of mango (Rupees per ton), average marketing costs and average sale prices for exported mangos.

The regression equation is estimated using the ordinary least square (OLS) method. Double log form of the regression model is found as the most appropriate. F-value was 40.81, which is highly significant. Data collected from sampled mango exporters revealed that 90 percent of total exporters in their sample got education up to bachelor level. The good performance of highly educated exporters was a good example and proof to justify a positive relation between education and better performance in the mango business and this performance is also consistent with economic logic. The findings of the study highlight many issues responsible for the poor performance of mango export sectors. There are also certain suggestions, which are proposed to improve the export economy of mango in Pakistan. “Efforts should be made to capitalize the experience of senior mango exporters to nurture the budding mango exporters.

Zia and Mahmood (2011) are of the view that export price competitiveness assessment is a vital component in evaluating a country’s macroeconomic performance and sustainability of its policies. It is generally argued that exchange rate depreciation stimulates exports and curtails imports, while exchange rate appreciation harms exports and stimulates imports. At times favorable factors (such as depreciation of currency), however, may not result into increased exports. This is because exchange rate movements affect exports not only by means of its depreciation but also through its variability (risk). Whereas currency depreciation raises exports but the associated exchange rate risk could offset it. Greater exchange rate risk increases the riskiness of export profits and the risk-averse exporters reduce exports. Therefore, they find it extremely important to analyze

the combined effect of currency depreciation and its variability. In their paper, the above prediction has been assessed by considering the co-existence of import content in the production of exportables and dynamic productivity gains.

Zia and Mahmood have analyzed the export-price competitiveness of Pakistan's manufacturing sector. More specifically, they assessed Pakistan's trade position in the world market, and empirically tested the importance of price of imported raw materials, productivity improvements, business costs, export subsidies and the changing impacts of exchange rate for export-price competitiveness, and investigated the effects of exchange rate risk on export-price competitiveness. Findings of GARCH (1, 2)-M analysis reveal that exchange rate risk has positive and significant compensation, effecting export-price competitiveness. Moreover, they find that in the manufacturing sector of Pakistan, given the exchange rate depreciation, the exchange rate volatility partially offset the positive effect of depreciation on exports, that is, volatility in exchange rate has resulted into a decrease in export price competitiveness despite currency depreciation and hence the country experienced a slow growth in manufacture. They argue that exporters maintain competitiveness in the world market by reducing their profit margin in case of an appreciating currency. It needs to be underscored here that exporters react differently to the exchange rate and its associated risk. This shows that in case of Pakistan the traditional theoretical view (Mundell-Flemming model) about exchange rate adjustment holds true when studied in isolation, i.e., exchange rate depreciation stimulates exports and curtails imports. At the same time they find that the exchange rate risk deteriorates export competitiveness. The net effect on export-price competitiveness thus includes both the exchange rate depreciation and its risk/volatility. The exchange rate depreciation stimulates exports but the exchange rate risk plays a significant role in adversely influencing export-price competitiveness, which results into slow export growth

The study by Zia and Mahmood tells interesting story about the relationship of exports with the exchange rate and its volatility. It gives strong basis for this thesis. The know-how about the exchange rate and the risks associated with it are helpful in finding the way in which exchanges are linked with the exports of Pakistan.

Hisaya (2009) goes through the 9/11 attack on the United States through a set of changes in overseas migration from Pakistan. One such change is the sharp increase in remittance sent from the United States. He finds that remittances flow from the United States is rising but not much academic attention has been paid to this issue because of a lack of data. He has also identified the factors that help to explain the increasing trend of remittances from the United States such as:

- (i) The crackdown on informal mechanism of money transfer
- (ii) The shift of wealth from America to Pakistan
- (iii) The rapid economic growth under the Musharaf regime

Hisaya is also of the view that if the motivation of American remittances to Pakistan is purely economic, we may conclude that a slowdown in the Pakistan economy would affect the inflow negatively. But what is happening is in fact the opposite. After achieving 9.0percent GDP growth in 2004-05, Pakistan's economy slowed down slightly, with GDP growth rate falling from 6.6percent in 2006-07 to 5.8percent in 2007-08. Despite decreasing trend, remittances from the US are increasing. This is a contradiction. If we consider the migrants to America, from the poor classes in Pakistan, they would have a stranger incentive to send money back home to support their families or relatives but it seems that they are not from such classes. Rather they came from the relatively well off social status therefore it is not necessarily the cause that the amount of remittances increase when the national economy is experiencing a slowdown in economic growth. But still the paradox of the slowing economy and the increase of the remittances need further investigations.

Mahmood (1990) studies the substitutability between emigrants and non-emigrants in the construction sector of Pakistan. Given the large pool of unskilled workers, it is easy to replace unskilled emigrants with unskilled non-migrants. He, however, argues that migration of large number of skilled workers, in the short run, can create imbalances in the domestic labor market, resulting in some economic losses. Knowledge of elasticities

of substitution and factor prices is, therefore, essential for assessing the impact of any migration policy. He uses a Translog Production Function to estimate relationship in the production of construction activities. Elasticities of factor complementarity, by using the estimated parameters and mean values of factor shares reveal that both skilled and unskilled emigrants are substitutes. This implies that skilled labor is preferred over unskilled labor in international job market, when there is an excess demand for jobs at given wages.

On the basis of the above described results, he predicts, for the short-run displacement of unskilled non-emigrants, as they are complementary to skilled emigrants. However, the magnitude of the elasticity suggests that emigration does not pose a serious displacement threat to unskilled non-emigrants. On the other hand, skilled emigrants are substitutes for skilled non-emigrants and capital. This finding rejects the hypothesis of labor displacement or economic loss. Due to the insignificant relationship between unskilled emigrants and unskilled non-emigrants, he can not predict a direct impact of unskilled emigration on the wage of unskilled- non emigrants, yet cross-relationship does show an increase in the wage of unskilled non-emigrants. Concludingly, according to him, a liberal migration policy and comprehensive training programmes for the non-migrants would enable the country not only to minimize the determinant effects of emigration, but would also help in improving the income distribution.

The main finding of the reviewed papers is that the main factors behind migration are the political and economic characteristics of origin and destination countries. Four variables are identified involving, i.e., the set of gravitational demographic variables, set of variables involving domestic economic activities, set of variables in model to show financial performance of the host country and a variable related to domestic politics. Most of the literature also studies the substitutability between emigrants and non-emigrants or between trade and migration. All the studies give the consistent results that common language, adjacent borders, remittances; Gross Domestic Product etc. affect the exports positively while FDI, growth in population etc. affect it negatively.

The review of literature related to Pakistan studies the substitutability between emigrants and non-emigrants in the construction sector of Pakistan. It finds that for the given large pool of unskilled workers, it is easy to replace unskilled emigrants with unskilled non-migrants but migration of large number of skilled workers, in the short run, can create imbalances in the domestic labor market, resulting in some economic losses. Knowledge of elasticities of substitution and factor prices is, therefore, essential for assessing the impact of any migration policy. Further, the studies aim to find out the internal and external determinants of exports promotion. They have employed the “External Factors” for the export determination, i.e., FDI and real exchange rate. The external factors for export promotion are those factors which are heavily affected by the policies in foreign countries. The internal factors incorporating GDP, GDP Growth rate, indirect taxes, communication facilities, savings, industrialization and labor force also have significant impact on exports.

Majeed and Ahmad (2008) analyze the determinants of exports in developing countries using panel data of 75 countries for the period 1970-2004. Export promotion strategies have a great deal in trade liberalization regime. On one hand, as developing countries are facing twin deficits, namely, fiscal deficit and trade deficit. On the other hand, external debt crises create further financial problems. In such sorry state of financial crises, the sole inflow of FDI is not sufficient. But the expansion of export sector for the improvement of financial disturbance also needs to be addressed. In this respect, we identify various determinants of exports. Export growth is basically determined by external factors, for this we employ two variables FDI and real exchange rate. However, exports are also affected by domestic factors. Export growth is basically determined by external factors, for this they have employed two variables FDI and real exchange rate. However, exports are also affected by domestic factors. In this respect they incorporate GDP, GDP growth rate, indirect taxes, communication facilities, savings, industrialization, labor force and official development assistance. Specified equation, they used for export promotion is as follow:

$$EXP_{it} = g(FDI_{it}, Z_{it} \dots Z_m, \xi_{it})$$

$$EX_{it} = f(FDI_{it}, GDP_{it}, GROW_{it}, SAV_{it}, OD_{it}, IT)$$

Where EXP_{it} represents the endogenous variables, exports, while Z_{it} , are the vectors of exogenous variables. The subscript $I (=1 \dots n)$ represents country and $t (= 1 \dots T)$ period of time (years).

Fixed effects (country specific intercepts) model is estimated for panel pooled data. The effects of GDP and GDP growth rates are significant with positive signs in explaining exports. Higher the production level of a country is the main source of exports. While higher the growth rates show sustainability and future potential of the economy. The effect of savings and labor force is also significant. Both facilitate investment tendencies that determine exports. It is not necessary that investment take place in export sector. But it is generally observed that trade sector is providing more investment opportunities due to trade liberalization at domestic and international level.

The policy implications that they are offer is to maintain a high and sustainable economic growth rate. The net of communication facilities should be widened in host countries. Subsidies may be provided in communication sector for the sake of lower prices of such facilities. Developing countries should replace the agriculture exports by the industrial exports, which command reasonable and stable prices in the world markets. Moreover, the industrialization will reduce the dependence on imports.

There are some important findings that can be drawn from the above review of literature:

- Emigrants bring along with them the knowledge about culture of their origin countries hence emigrants are instrumental in promoting trade between home and host countries.
- Emigrants can reduce the trading transaction costs. This second channel is two-fold: emigrants can create the networks-knowledge of home-country markets and business contacts-and cultural ties-as common languages and common preferences-can reduces trading transaction costs. The reduction in trade costs and

creation of additional demand for goods from their source countries helps to reduce the balance of payment deficit of the origin countries.

According to the best of my knowledge, none of the studies in Pakistan have tried to establish relationship between emigration and exports for Pakistan. This thesis is expected to make a contribution for policy making and will be an addition to the literature focusing on migration and trade-related issues. This study also analyzes the effect of remittances for trade and the economy. The complete knowledge of the major countries receiving Pakistani migrants and the effect of migration on trade volume of Pakistan is indeed the guideline for policy making in the future. As my thesis intends to analyze the impact of emigration on trade creation in Pakistan, these findings from literature mentioned above, provide sound basis for the analysis.

Chapter 3

Overview of Pakistan Economy

This chapter provides some facts and figures about the Pakistan's economic situation. This chapter is divided into three sections.

- 3.1 Domestic economy
- 3.2 External sector
- 3.3 Trade policy of Pakistan
- 3.4 National emigration policy

3.1 Domestic Economy

Pakistan got independence in 1947, and since its inception its economy has undergone a lot of changes. A number of approaches have been followed to upgrade its status and a variety of policies have been adopted by its authorities giving rise to different outcomes. As in 1949-50, the size of GDP was Rs.12.40 billion which rose to Rs.16.83 billion in 1959-60. In 1949-50, GDP growth rate was 3.9percent while in 1959-60, it was just .9percent, this different outcome is the result of different polices.

The history of any country affects it present as well as future. As far as Pakistan is concerned, it was more dependent on agriculture in its earlier years of independence. After two years of its independence, during 1949-50, the proportion of agriculture in its GDP was 53.2 percent which fell to 45.8 percent in 1959-60 while the share of manufacturing in GDP was 7.8 percent in 1949-50 which increased 12 percent to 1959-60. In 1949-50, the value of exports was \$171 million, which fell to \$160 million in 1959-60. The imports were of the value of \$276 million in 1949-50 which rose to \$379 million in 1959-60. There were no worker's remittances during both above said periods. Hence, the Pakistan economy was more dependent on the internal resources. The total monetary assets in 1949-50, were Rs.4256 million which rose to 7769 million in 1959-60.

The inflation rate measured through Consumer Price Index (1975-76 as base year) was 4.9 percent in 1959-60⁹.

The above mentioned facts are also linked with the two salient features of the Pakistan economy at the time of independence: (1) non-existence of the industrial sector and trade was owned and controlled by non-muslims and (2) majority of the population directly or indirectly was attached with agriculture. In that very initial period, our trade was mainly to India. It was thought that the foreign trade sector would play an important role in the development of the country. Being agriculture in nature, the Pakistani exports were in bulks amounts of jute.

Table: 3.1

Average GDP, Exports, Gross Savings and Remittances growth rate

Years	Average growth rate of GDP	Average growth rate of Exports	Average Growth Rate of gross Savings	Average growth rate of Remittances
1970-74	0.020	-2.42	0.023	0
1974-78	0.050	0.72	0.164	0.174
1978-82	0.073	11.56	0.058	7.860
1982-86	0.063	9.46	-0.030	0.018
1986-90	0.058	11.08	-0.002	-0.086
1990-94	0.045	10.56	0.032	-0.165
1994-98	0.031	-2.04	0.012	-0.039
1998-02	0.031	5.92	0.069	0.253
2002-06	0.059	11.28	0.059	0.252

Source: WDI (2009).

In order to promote industrial sector in the country, Pakistan Industrial Development Corporation (PIDC) was set up. The purpose of PIDC was to setup those industries where

⁹ Zaidi (2005).

private investors hesitated to invest. In short, in the early periods of independence the industrial development, took place because of higher profits, higher industrial investment, provision of incentives by the Government, restrictions on imports. Monopolies on the part of investors reduced prices of agriculture goods (cotton, sugar-cane, wheat etc) and suppressed inflation. Table 3.1 helps to get the economic history of Pakistan at a glance from 1970-74 to 2002-06.

The workers were reluctant to migrate from Pakistan towards any destination country in the earlier periods of Pakistan’s independence so the inflow of remittances was very low in that periods. The low status of remittances reflected high level of poverty which was although fluctuating in later years but on average it reduced. The following table gives the poverty status of the economy since 1980-81 to 2000-01.

Table: 3.2

Ratio and Percentage of Poverty

Year	Poverty Ratio	Poverty (percent of GDP)
1980-81	21.20	66.46
1986-87	28.60	64.71
1992-93	35.90	48.14
1999-00	40	35.87
2000-01	35	35

Source: GOP (2002 and 2009).

The External Environment

The Trade Sector

Trade sector of a country is backbone for its economic structure. Pakistan’s trade witnessed unprecedented upsurge during the initial years of 2000s, as it increased from 25.5 percent of GDP in FY00 to 33.1 percent of GDP in FY07 due to wider trade & tariff

reforms of the 1990s and the turn around in the economic activity in recent years¹⁰. But, this increase in overall trade seems to be more pronounced in; (1) imports rather than exports and; (2) the exports tend to be more flowing towards the traditional markets and concentrated in traditional products. Both were the unfavorable objects for Pakistan.. As a result, our share in the world exports not remained dismally low (0.14 percent) in FY06 and also declined over the period. This compares unfavorably with India (1.02 percent), China (8.22 percent) and overall Asian regional counterparts (27.8 percent).the following table gives states the exports of the world and of Pakistan in merchandise exports in selected years.

Table: 3.3

Share of Merchandise Exports by World and Pakistan

Year	World's Share (billion US\$)	Pakistan's Share (billion US\$)
1948	59	0.27
1953	84	0.53
1963	157	0.3
1973	579	0.14
1983	1838	0.15
1993	3675	0.19
2003	7371	0.15
2006	11783	0.14

Source: WTO (2007).

Aside from the issue of low exports share in the global, Pakistan's exports to the countries closer to Pakistan's border are also minimal when compared to the percentage of the total trade with the rest of the world. Of Pakistan's total exports of US \$ 17 billion inFY07, 3.4 percent (US\$ 575.9 million) went to China and just 2 percent (US\$ 342.9 million) to India. It is needles to mention that exports with these countries seem to be

¹⁰ Zaidi (2005).

much lower keeping in view the natural advantageous factors such as proximity, transportation costs, common border, cultural and language characteristic.

The Process of Migration from Pakistan

Migration from Pakistan has an interesting story. People living in one part of the world basically move to other parts for their livelihood and Pakistan is no exception. There are also, a number of other reasons for emigration, for instance, war and lawlessness in the home country. The important consideration is fetching higher income through the process of emigration. There are also other factors that affect the decision to emigrate, such as family and friendship networks; these are called the push factor to emigrate¹¹.

On the other hand, the pull factors include the attraction from the host country for the residents of the home country, for example, when a Pakistani doctor is offered a higher wage rate in Saudi Arabia and he moves there, then this will be called a pull factor for emigration. Emigrants of any type, whether documented or undocumented, forced or voluntarily, can be explained in terms of push factors.

Pakistani workers are found in a number of countries of the world. The flow of migrant workers from Pakistan into different selected countries is given in Table 3.4. It is very important to mention here that Bureau of Emigration and Overseas Employment Corporation is the source of getting the data for the Pakistani “workers” who leave the country in search of better jobs. There are Community Welfare Attaches (CWAs, grade 19 and above officers selected by the Ministry of Overseas Pakistanis) who obtain the demand for Overseas Employment promoters (OEPs) and charge heavily on it. So the above mentioned data does not include the number of workers sent abroad by the OEPs

Another thing very important to mention here is that the term “Emigrants” includes all working, studying, visiting and living abroad.

¹¹ Ahmad et al. (2008).

Table: 3.4**The Flow of Workers from Pakistan: 1971-2009**

Years/ Countries	1971-75	1976-80	1981-85	1986-90	1991-95	1996-00	2000-05	2006-09
Saudi Arabia	1062.4	15299.6	70515	49320	97606	59731.4	86903	117570
Spain	0	0		9.666667	-----	32.5	299.4	115
U.K	2.8	8.4	9.4	10.6	110.8	69.8	1078.2	1041
South Africa	0	0	----	-----	1	3.25	23	129.25
USA	0	0.2	2.75	3	-----	194.5	321.2	228.75
Italy	0	0	----	----	4.5	115.6667	426.4	2872
UAE	4046.4	22696.4	17849.2	18893.4	24073.2	38021	50658.2	150566.5
Bahrain	1018.8	2837.4	3042	2356.2	2257	1471.8	1094.2	4316
Greece	7	47.6	23.25	7.6	4	4.333333	11.5	17
Kuwait	59.6	2885	2800.2	1772.6	9262.2	4087.4	8282.8	8220.25
Malaysia	60	5	1	1	217.6	117.2	1598.4	2534.5
Oman	2817.2	2890	9253	7631	8218.2	3593.6	5561.8	29154.5

Source: GOP (2010).

According to the latest figures from the Human Rights Commission of Pakistan (2001), at least 450,000 people migrate from the country each year. The statistic of 2011, from the Ministry of Overseas Pakistanis reveals that there are approximately 5 million Pakistani workers in various foreign countries.

Table 3.5 shows the statistics regarding the total number of emigrants from Pakistan since 1971.

Table: 3.5

Total Emigrants: 1971-2009

Year	Emigrants
1971-75	11953.8
1976-80	106112.2
1981-85	125684.4
1986-90	86260.6
1991-95	147568.4
1996-00	115277.8
2000-05	162322
2006-09	326016.5

Source: GOP (2009).

The above table shows that the emigrants are increasing over the time. One main reason may be the rise in inflow of remittances. People work for money. Hence when the persons feel that they are better paid, better educated, better facilitated abroad, they start leaving Pakistan. Another reason for it is that the construction boom in the Middle East in 80's (which slowed down in the early 1990s) forced the workers to migrate abroad¹². So the temporary changes in the internal and external environment also affect the emigration.

¹² GOP (2001 and 2002).

Remittances inflow in Pakistan

The Government friendly policies like lenient legislative process, facilitates the emigration process. This also results in inflow of remittance which the migrant workers send remittances to their left behind families. We can not separate emigration from remittances. In Pakistan, remittances have increased almost seven-fold from \$1.075 billion in 2000 to \$7.811 billion in 2008 and are still rising. The persistent rise in worker's remittances has convinced policy makers that, if properly managed, this kind of financial flows, apart from multiplying foreign exchange reserves, can promote economic self-reliance¹³.

The following table gives the \$ value of remittances received in from 1976 to 2009.

Table: 3.6

Remittances received: 1976 to 2009

Year	Value (Million US \$)
1976-80	1228.47
1981-85	2542.67
1986-90	2104.49
1991-95	1606.02
1996-00	1246.87
2001-05	3440.80
2005-09	6231.00

Source: World Bank (2010).

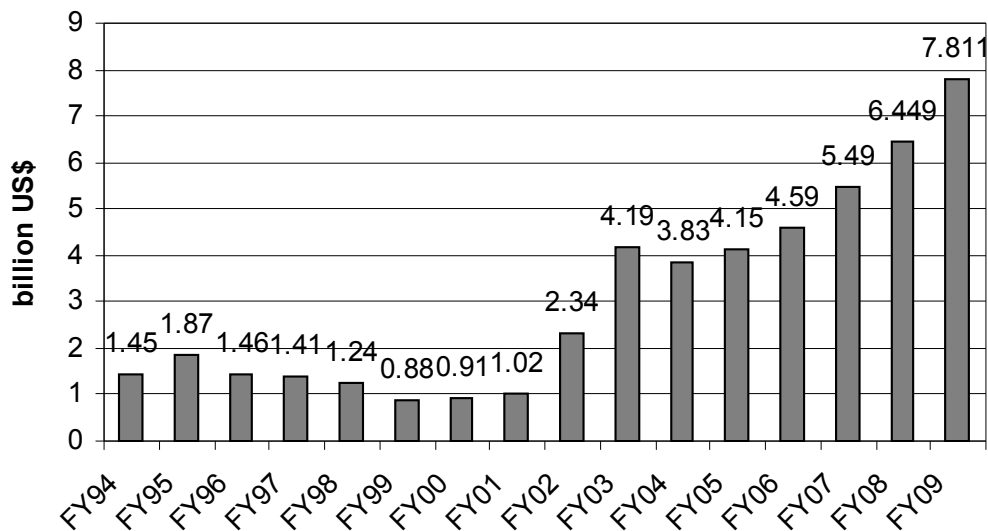
In case of Pakistan, workers' remittances have grown from US\$ 1.5 billion in FY94 to US\$ 7.8 billion in FY09 (see Figure 3.1). The reason behind it is the construction boom in Middle East in that period. The Major jump in remittances was observed after 9/11,

¹³ SBP (2009).

when remittances increased to US\$ 4.2 billion in FY03 from US\$ 1.0 billion registered in FY01. Major cause of this shift was the strict stance of US government on money laundering. Further, after 9/11 many Pakistanis were not feeling safe in the United States and they preferred to transfer their money in Pakistan. However, consistent rise in remittances inflows suggests that now the shock of 9/11 is over and this growth will pertain in the future. The following figure shows the inflow of remittances since FY94 to FY09.

Figure: 3.1

Inflow of remittances: FY94 to FY09



In the same connection, Table 3.7 shows the detail of the remittances in the year of 1970's to 2008.

Table: 3.7

Worker's Remittances: 1970 to 2008

Year	Worker's Remittances (percent of GDP)
1976-80	6.48
1981-85	8.48
1986-90	5.82
1991-95	3.12
1996-00	1.94
2001-05	3.92
2006-08	4.13

Source: World Bank (2009).

While the Table 3.8 gives the detail of the trend of remittances in the late 1990s and early 2000's.

Table 3.8

Trends in Remittances: 1997-98 to 2003-04

Year	Remittances (Million US \$)
1997-98	1490
1998-99	1060
1999-00	983
2000-01	1086.57
2001-02	2389.05
2002-03	4236.85
2003-04	3871.58

Source: SBP (2005).

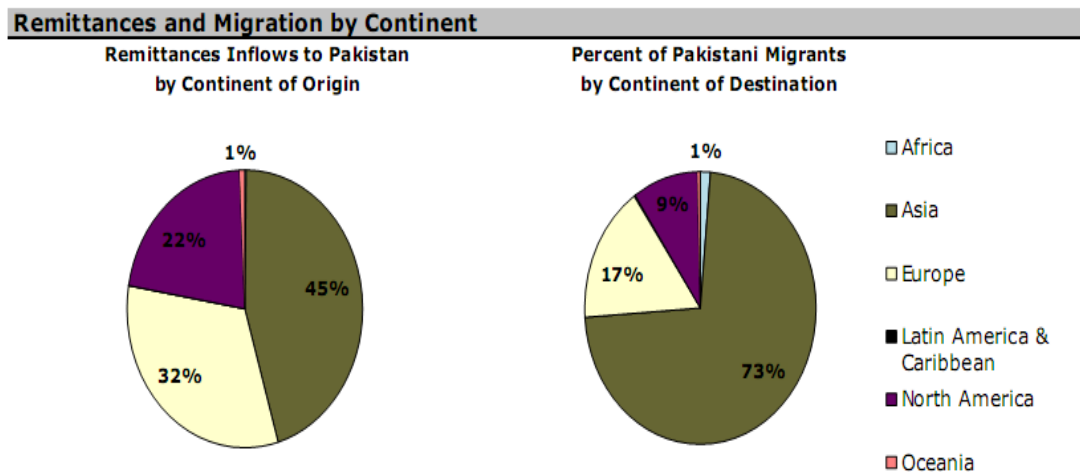
The above table indicates that the remittances inflow was the lowest in 1999-2000 and it was the highest in 2002-2003. The Economist belongs to the Pakistan Institute of Development Economics (PIDE) are of the view that if informal channels are eliminated,

the Pakistan may earn approximately about 20 billion dollars per year and there is a dire need to guide properly for the utilization of those remittances for the development purposes.

The following pie chart shows the Remittances inflows to Pakistan by Continent of origin and percentage of Pakistani Migrants by Continent of Destination.

Figure: 3.2

Remittances inflows to Pakistan by Continent of origin and percentage of Pakistani Migrants by Continent of Destination



Source: UNDP (2009).

Coming towards the number of emigrated workers by the mid-1980s, when the temporary migration was at its height, there were an estimated 2 million Pakistanis in the Persian Gulf states making up the largest group of foreign workers. These men were remitting more than US\$3 billion every year to Pakistan. At its peak, this money accounted for almost half of Pakistan's foreign-exchange earnings. By 1990, new employment

opportunities were decreasing and in the 1990-91 Persian Gulf War forced many workers to return quickly to Pakistan¹⁴. Workers have only slowly returned to the Gulf since the war ended.

There is an increase in remittances inflow after 9/11. For Pakistan's economy, which had been in a deep recession for many years, this increase in inflows was 'manna from heaven'. The rupee exchange rate against the US dollar was depreciating in the late 1990s due to an unfavorable balance of payments situation and a decline in aid inflows following the 1998 nuclear explosion. To prevent rupee resources from flowing into dollars during this period, which was possible as controls on nationals keeping foreign exchange accounts, were considerably relaxed, thus leading to a further depreciation of the rupee the rate of interest on domestic savings was kept very high. This had a dampening affect on investment. Interestingly, after the large increase in remittances post September 2001, the dilemma was reversed as the government now endeavored to prevent the rupee from appreciating sharply against the dollar which would reduce competitiveness of the country's major exports. Once the exchange rate was stabilized the State Bank of Pakistan (SBP) was able to reduce drastically the rate of interest which was an important factor in both increasing consumer borrowing and new investment hence exports which helped turn around the economy.

Hence, emigration creates remittances inflow, besides that emigrants do have that tastes for the home country product which encourages the home country exports. Remittances improve the house holds living standard and improve investment.

The Effect of Remittances on the Economy of Pakistan

Remittances also have a positive effect on the economy of Pakistan in terms of aggregate consumption, investment, reduction in current account deficit, external debt burden and improve education/skills of the household¹⁵. In Pakistan, during the 1980s migration and remittances inflows were perhaps the most important factor in reducing poverty¹⁶. These

¹⁴ Ahmad et al. (2008).

¹⁵ Mustafa and Nishat (2004).

¹⁶ Amjad (2004).

inflows are treated as unrequited current private transfers in the balance of payment accounts which curtails the current account deficit of receiving country¹⁷. Labor migration is considered to be a useful source of foreign exchange earning. The remitted amount of money increase growth and investment through the reduction in poverty and unemployment levels.

The World Bank simulation indicates that an increase in the share of remittances in a country's GDP by one tenth would result in a 1.6percent reduction in poverty. While based on the district wise data from Bureau of Emigration and overseas employment, it is concluded that the correlation between overseas migrants and the percentage of population below the poverty line also demonstrate that overseas migration is making its contribution in achieving the objective of poverty alleviation and improving the standard of living of citizens. This process is also linked with the pattern of emigration.

The best outcomes, in the context of Pakistan, in terms of poverty impact, are if the increase in remittances is the result of an increase in the outflow of Emigrant workers from the Pakistan and to the extent that these workers are mainly semi-skilled or unskilled and come from poor households, the money they send back has an immediate impact on the living standards of the families left behind. This is clearly what happened in Pakistan during the 1980s when the major migration took place to the Middle-East, mainly of skilled, semi-skilled and unskilled workers.

Moreover, the data for 1990-1991 to 1993-1994 indicates that average gross fixed capital formation (as percent of GDP) during 1965-66 to 1969-1990 was 18.137 percent while it was 17 percent during 1965-66 to 1969-1990. Hence these statistics support the fact that outflow of migrants is a source of inflow of remittance and hence it encourages the capital formation process.

¹⁷ Rehman (2010).

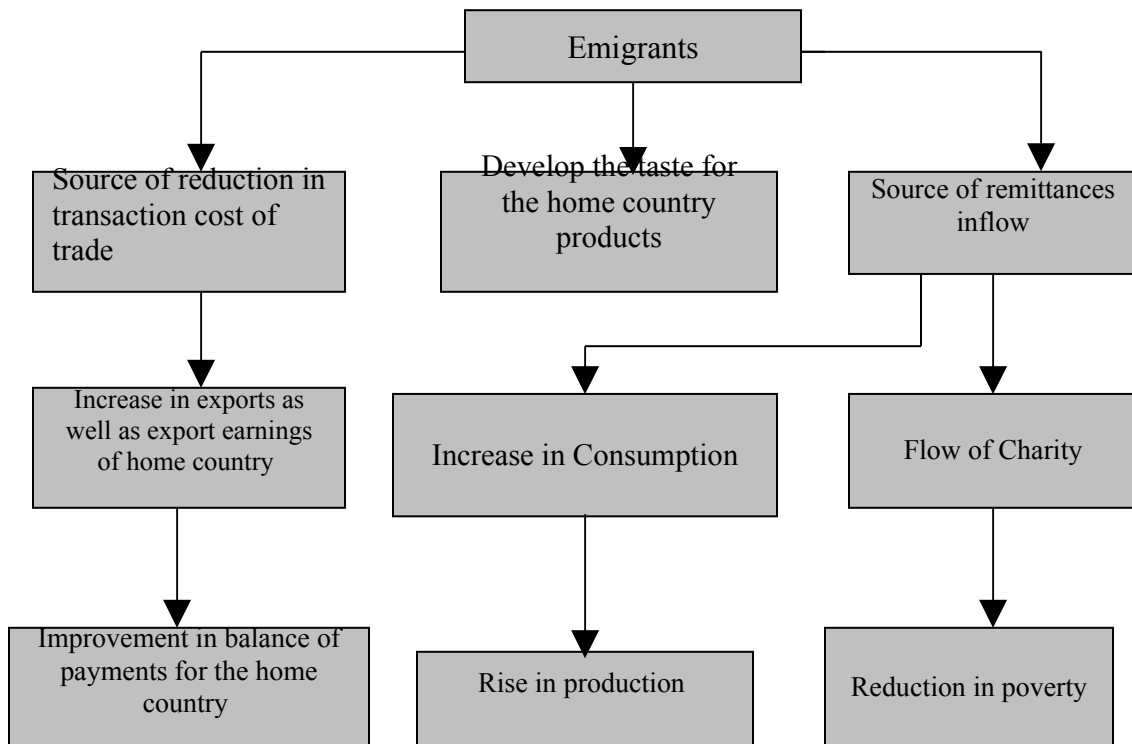
Effect of emigration on the exports sector of Pakistan

As Pakistan is a labor exporting country, having significant number of emigrants contributing a lot towards the Pakistan's export by demanding Pakistani products like rice, mango etc. Hence, emigration has the potential to exert a significant influence on Pakistani economy as a whole and trade patterns particularly.

It is also important to mention that migration and development are inseparable and interdependent processes in a globalizing world. Migration cannot be a substitute for development, and development is not necessarily dependent on migration, but each of these two processes can profoundly enforce each other. Besides the increase in remittances and capital formation due to migration, another very significant impact of emigration is the rise in exports hence economic development.

Figure: 3.3

Creation of Exports through Emigration



The above figure depicts that exports creation is the major outcome of emigration. Emigration basically brings three different effects:

- It reduces the transaction cost of trade. Diasporas¹⁸ develop their relationships with the community of the destination country. It helps to widen the business links also. They get familiar about the tastes of the people of the destination country, explores the markets and try to obtain the demands for the home country products .in this way, these diasporas are quite meaningful resource of information and business for the producers as well as the exporters of the home country.
- Every nation has affiliation with its homeland. In the same way, national have the preferences for their home country products. So, while residing there in destination countries, Diasporas like to demand their own country products. Pakistani Diasporas like to demand Pakistani mango, dresses, rice, leather jackets etc.
- Third and the very obvious is the inflow of remitted amount of money which the emigrants send to there relatives in the home country.

Remittances may be utilized for many purposes. It may used for charity or consumption of different items. If used for the charity purposes, it reduces the poverty. The rise in consumption is also a motivation for production. Hence, overall, remittances results in increase in production. Production generates the exportable surplus, so it gives a push to exports. In this way, emigration generally, tends to increase the exports of the home country. Shortly, the figure reveals that emigrants contribute a lot in the growth of an economy.

Transaction cost of trade is very important with respect to exports of any nation. The major logistic challenges in Pakistan today are related to domestic transport and IT development¹⁹. This finding indicates that transaction costs may be a significant impediment to cross boarder trade. If transaction costs inhibit international trading

¹⁸ Greek word, meaning seeds sown in different parts of land.

¹⁹ Shahid, (2009).

activity, Pakistani emigrants may serve a role as trade intermediaries. By virtue of links to their home countries, they may realize lower costs associated with foreign trade than non-emigrants. In addition to their superior information on market opportunities in host countries, these emigrants also prove as the main channel of information for the Pakistani exporters. Furthermore Pakistani emigrants also bring preferences for particular varieties of domestic products and thus increase the demand for particular for Pakistani products.

As transaction and transportation cost are the major hurdles for international trade, a study conducted for Pakistan reveals that the average logistic cost has decreased from 11percent in 1996 to 6percent in 2006 in Pakistan, which indicates that trade volume has expanded. The average rise in remittance (as percent of GDP) from 1996-1997 to 2000-2001 was 1.94 while the average rise in trade (as percent of GDP) was 33.93, with the average expansion of 4.72 percent in the remittance from 2001-2002 to 2005-2006, the rise in trade (as percent of GDP) was 34.02. These statistical values reflect that remittances indeed increase trade.

Exchange Rates

Competitiveness in the context of international trade refers to a nation's competitive advantage in comparison with the rest of the world²⁰. It reveals an improvement in the ability of a country to expand its trade share in the world market. The long-term survival is thus dependent on country's ability to compete in the international market and Pakistan is no exception

In context of Pakistan, the exporters maintain competitiveness in the world market by reducing their profit margin in case of competitiveness in the world market by reducing their profit margin in case of an appreciating currency. Similarly, if there is high import content in the production of exports then exports are not adversely affected by currency appreciation because low imported input prices due to appreciation of currency reduce the cost of production of exportable. Alternatively, with depreciation of the currency, the cost of production of exportable increases to the extent of the import content of exports.

²⁰ SDPI (2008).

At the same time export price in local currency increases with depreciation of currency. The net impact would depend on whether the effect of depreciation on export price offset the effect of increase in cost of production due to the use of now expensive imported inputs.

Until 1982 Pakistan adopted fixed exchange rate regime and devalued its currency twice. After the adoption of managed float of the currency in 1982, it kept on depreciating in real terms. On average the currency depreciated by 7.61 percent per annum between 1972 and 2008. Exports in the whole period grew by 5.27 percent per annum, a fairly slow growth by international standards. What ever growth in export was achieved, it was made possible by an increase in export price (10.64 percent per annum) and a fall in unit business cost (-7.53 percent per annum). At the same time, import prices also increased by 10.02 percent but we note later that due to lower import content this increase in import price did not offset the effect of increase in export price on export growth.

Table: 3.9

Growth Rates of various statistics

Period	GDP	Total manufacturing GDP	CPI	Manufacture d Exports	Nominal Exchange Rate
1972-75	4.2	3.2	20.48	-1.13	34.02
1975-80	4.9	6.8	9.2	3.7	0
1980-85	5.4	9.4	6.28	6.28	8.89
1985-90	4.8	6.94	7.61	9.31	6.79
1990-95	4	5.74	11.04	4.8	7.85
1995-97	4.4	3.04	9.77	4.66	11.91
1999-03	3.4	5.55	7.77	8.83	4.45
2003-08	6.6	10.26	7.59	5.83	1.36

Source: WDI (2009).

For Pakistan, the relationship between export-price and import-price needs a special mention. This is because the lower import content in the production of exportable allows

exchange rate depreciation to significantly and favorably impact the export-price competitiveness. In addition to favorable effect of exchange rate changes, productivity gains also contribute in enhancing export competitiveness. Thus positive changes in domestic value added in the presence of exchange rate adjustment play important role in improving export-price competitiveness²¹. The analysis thus shows that exchange rate adjustments have direct impact on Pakistan's export prices and it is an important component that reflects international competitiveness of the domestic export-oriented manufacturing industries.

There is, therefore, a need to create a synergy between trade policy and exchange rate policy. Reduction in exchange rate fluctuations (i.e., stabilized exchange rate) and reducing anti-export bias by removing tariff and non-tariff barriers on imported raw materials should be considered as desirable policy instruments for making exports more competitive in the international market.

Exchange rate volatility affects exports through exporter's responses to perceived risk in it. Policymakers need to consider prudent foreign exchange market interventions since exchange rate volatility offsets positive effects of depreciation since exporters are risk averse.

3.2.7 The Trade Policy of Pakistan (2009 to 2012)

Pakistan has been facing many difficulties on the non-economic front, which have led to further deterioration of the business climate. The issues created due the problems which this economy inherited such as energy crises, business closures, declining long term foreign investment have been worsened by the war on terror in which Pakistan is a frontline state. The direct and indirect costs of this war do not only include the loss of life, property and business assets, but also the deterioration of country's image as a result of which the business to business interaction becomes more difficult. However after a critical phase of weak domestic macroeconomic situation and reduced external demand

²¹ SDPI (2008).

owing to the global financial crisis, Pakistan economy is now undergoing a recovery phase.

Coming to the trade performance of Pakistan, the year 2008-09 witnessed unprecedented economic downturn especially in our major markets of export i.e. USA & EU. Consumption decreased in the developed world and the global trade shrank by 9 percent. Global recession adversely affected exporting countries and Pakistan is no exception to it. Exports from Pakistan declined to US\$ 17.8 billion as compared to previous year's exports of US\$ 19.1 billion. Imports also witnessed a relative decline and fell by 13 percent as Pakistan's imports during 2008-09 stood at US\$ 34.9 billion as compared to US\$ 40.4 billion in 2007-08.

During 2008-9, the export of Textiles, which account for around 54 percent of Pakistan's total exports, dropped from US\$ 10.6 billion to US\$ 9.6 billion. The major losers in this regard were Readymade Garments, which dropped by 21.7 percent, Cotton Yarn, which dropped by 15 percent, Bed linen, which dropped by 10.2 percent, Art Silk & Synthetic Textiles, which dropped by 22.1 percent and Cotton Fabric by 4.0 percent. The exports of finished leather and leather manufacturers dropped from US\$ 1.1 billion to US\$ 0.8 billion registering a drop 24.5 percent. The Rice exports have registered an impressive growth from US\$ 1.84 billion to US\$ 1.99 with an increase of 8.2 percent. Engineering goods also registered an increase of 26.1 percent from US\$ 211.3 to US\$ 266.4 million. In this regard, the major contributors have been the specialized machinery, transport equipment, electric fans etc. The export of Jewelry also rose from US\$ 213.4 million to US\$ 288.4 million, registering an increase of 35 percent.

Taking a long term view of Pakistan's export performance over the last ten years, Pakistan's share in the global market, according to WTO data, has declined by more than 1/3 to 0.13 percent in 2009 from 0.21 percent in 1999.

During the last few decades, the global trade has undergone a major structural change as far as the product composition and geography of trade is concerned. There has been an

explosion of non textile manufactured exports at the global level. Whereas, the share of non-textile manufactured in Pakistan's exports has gone down from an already low figure of US\$ 5.83 billion (25.08 percent) in 2007-08 to US\$ 3.12 billion in 2008-09 (17.32 percent). At the same time, our competitor economies, particularly in Asia, have significantly enhanced their share in non-textile manufactured. As far as the Textile and Clothing sectors are concerned, the rate of growth in Clothing is much higher than Textiles in the international market. Whereas, Pakistan, managing to keep its market share in Textiles to an extent, has been slow in benefiting from the expansion in higher value Clothing sector.

The principle reason for this growing disconnect between the evolving global market structure and our export performance is the erosion of the competitiveness of Pakistan's traditional exports in general and the country's weakness in diversifying its product and market mix.

In view of the above situation, the government, in a true democratic spirit, took all stakeholders on board and has devised a strategy to go all out to remain firm in these difficult economic times, keep focused on our strengths, and convert challenges into workable opportunities. Trade Policy 2009-12 aims to set the country on the path of sustainable high economic growth through exports.

3.2.7.1 Fundamental Principles of the Trade Policy

The fundamental principles of the Strategic Trade Policy Framework are as follows:

- Growth with Equity
- Greater Opportunities for gainful employment
- Sound macro-economic framework for trade environment
- Concern with poverty eradication and environmental protection
- Investing in Human resources
- Targeting Poverty alleviation

- Promoting private sector as engine of growth
- Focus on small scale sector particularly in agriculture

This policy is geared towards:

1. Contributing towards poverty alleviation
2. Achieving export led growth and providing relief to the common man through the provision of jobs and services
3. it focuses strongly on development and facilitation

The policy is set in a three years Strategic Trade Policy Framework (STPF), which hopefully would result in the enhancement of export competitiveness of Pakistan to enable Pakistani companies overcome the shocks of international economic crisis through a set of integrated and holistic policy and measures.. This is a medium term road map in order to ensure certainty of policies which in turn will act as a catalyst in the revival of domestic commerce and international trade in Pakistan, with the precise objective of bringing about a structural transformation in Pakistan's exports.

3.2.7.2 Challenges of the Trade Policy:

This trade policy came in the backdrop of a number of challenges. These included:

- Infrastructure deficit, particularly in energy
- Poor innovation and technological infrastructure
- Low labour productivity
- Low levels of manufacturing value addition
- Little Foreign Direct Investment in manufacturing and exportable sectors.

- Anti-export bias in taxation
- Increasing costs of exports as compared to imports
- Lack of product and geographical diversification in exports
- Absence of economies of scale in the production processes, especially in the Small and Medium Enterprise sector which accounts for a vast majority of the enterprises in the country.

In fact, we need a paradigm shift to enable our firms and entrepreneurs to become globally competitive and export those products which are valued more in the international market. This would involve structural transformation in the form of increased mobility of labor and capital across sectors and change their production processes and ultimately the content of exports. Hopefully, we would be able to begin effecting this transformation through the Strategic Trade Policy Framework 2009-12, with Competitiveness Development at the centre of all our trade promotional efforts and interventions. Very soon, would be able to see Pakistan producing and exporting a more sophisticated and diversified range of products, resulting also in an increase in returns for sectors ready to embrace the global competitive environment.

As far as the enhancement of the export competitiveness is concerned, the government aimed to:

- First, overcome the most pressing supply-side constraints such as the shortage of energy, cost of capital and difficulties linked with adverse travel advisories.
- Second, enhance competitiveness of textile and clothing, with the help of Textile Policy due to be announced shortly which focuses on new investments, modernization of machinery and increasing total factor productivity.

- Third, deepen and diversify export markets particularly our major trading partners US and EU as well as countries with which Pakistan has signed a free trade agreement such as China, Malaysia and Sri Lanka.
- Fourth, promote trade in services which globally have a more stable demand pattern and are less prone to detrimental external shocks seen for the case of commodity trading.
- Fifth, embark on domestic commerce reform and development where key areas such as wholesale and retail trade, storage and warehousing, transport, regulatory environment, promotion of modern business and taxation practices require immediate attention.

In order to address the strategic objective of increasing the sophistication level of Pakistan's exports products and enhance firm level competitiveness, the government aimed to:

- Integrate the local productive capacity with globally integrated supply chain.
- Coordinate and leverage the skill up-gradation programmes in the priority sectors and strengthen the institutions entrusted with the skilling. In this regards, skilling of women workers would be given special importance.
- Acquire and upgrade technology level so that Pakistan can move away from the traditional and low value export products.
- Promote enterprise and entrepreneurship development. The Ministry of Commerce proposes to set up an Enterprise and Entrepreneur Fund [EEF] for incentivising the improvements in firm management capabilities in ten sectors chosen to push Pakistan higher on the sophistication ladder.
- Rationalize the tariff policy keeping in view the structure of value addition in various industries.

In order to address the strategic objective of product diversification for Pakistan's exports the government aimed to:

- Provide a clear policy framework on the development of chemical sector.
- Continue the successful initiatives provided to the Pharmaceuticals sector in the previous trade policy and help introduce necessary regulatory and initiate new development programmes.
- Address the supply side constraints in the meat and meat products industry
- Facilitate the foreign direct investment and export potential of mineral sector.
- Promote agro-processed exports
- Support the light engineering sectors to export more in high paying markets. The trade policy aims to create a special fund of Rs. 2.5 billion for product development and marketing in order to increase the sophistication level of the sector and realize true potential of this sector.
- Devise a medium term strategy to boost exports of gems and jewellery.
- Devise a comprehensive long term strategy for significantly improving Pakistan's export of services.
- Provide incentives to facilitate technology acquisition, adoption, replacement with the twin objectives of energy efficiency and environmental protection
- To launch a comprehensive Leather and leather products export Plan in consultation with the major players of leather sector
- To launch a comprehensive plan for the promotion of export of Services

In order to address the strategic objective of pursuing greater market access through extensive trade diplomacy the government aimed to:

- Actively participate in the Doha Development Agenda negotiations in order to maximize the gains from trade diplomacy.
- Making free trade agreements a success in terms of increase in bilateral and regional export volumes with favorable terms of trade for Pakistan.
- Engage with the larger trading partners like US and EU for greater market access and utilize the Reconstruction Opportunity Zones for providing zero duty facility for exports to US.
- Strengthen and utilize the trade officers better for the protection and promotion of Pakistan's commercial interest abroad.

Enhancing export competitiveness of Pakistan would largely depend upon the quality of governance and management structures deployed to implement it. In order to address the objective of institutional reform for prudent implementation of Strategic Trade Policy Framework the Ministry of commerce would take the following measures:

- Employment of the modern logical frameworks to implement and evaluate different interventions and initiatives of the Strategic Trade Policy Framework and would establish three Implementation Management Units.
- Setting up an Export Investment Support Fund to channelize the public investments to the selected sectors with clear objective of effecting the structural transformation.
- Ministry of Finance would ensure significant improvements in its own working as well as in the working of Transport and Trade Facilitation Project, Trade Development Authority of Pakistan, National Tariff Commission, Pakistan Institute of Trade and Development, Pakistan Horticulture and Export Development Board, Directorate General of Trade Organizations, Trade Offices Abroad and other relevant organizations.

- The Ministry of Commerce would establish efficient steering and coordination mechanisms that make the functional linkages between the Structural Trade Policy Framework with the Planning process in Pakistan and relevant line and sectoral ministries
- Ministry of Finance would lead from the front in shaping much more effective Public-Private dialogue in the realization of the Objectives of the Strategic Trade Policy Framework.
- As far as the monitoring and evaluation of the Strategic Trade Policy Framework is concerned, the Pakistan Institute of Trade and Development Islamabad, an independent policy think tank of the Ministry of Commerce, would undertake a systematic evaluation of the impact of Trade Policy 2009-12 on the trade performance of Pakistan with a view to enhance the effectiveness of different trade policy interventions, suggest course corrections and lay the scientific foundations for the preparatory work for the next Trade Policy.

As far as giving an export target for the coming years is concerned, the Ministry believed, on the basis of an extensive consultative process, that there is a consensus among all the stakeholders in Pakistan's international trade that the country's exports can become an engine of growth and prosperity in Pakistan, if the relevant institutions, both in public and private sector implement a holistic strategy to enhance competitiveness of exports. However the growth during 2009-10 would remain rather sluggish partly due to slowdown in global demand and also due to the fact that all the programmes and measures of Strategic Trade Policy Framework would have a brief time lag before coming into full force. The Ministry therefore has set the export growth target of 6 percent for 2009-10 and 10 and 13 percent for each of the successive years. The Ministry for the first time had introduced few intermediate indicators, which contribute to the enhancement of export competitiveness. It is expected that by 2012 the competitiveness ranking of Pakistan will improve from 101 to 75; the share of engineering exports will increase from 1.5 percent to 5 percent; value addition of cotton to increase from US\$ 1000 to \$1500 per bale; and regional trade to expand from 17 to 25 percent.

The Strategic Trade Policy Framework sets out the policy guidelines and identifies the principle action areas. Businesses need short to medium term certainty in the interest rate for investment. Currently, there is no policy instrument provided by the government or private sector for providing finance at fixed interest rates for a short to medium term. There is need to create a Fund to hedge markup rate hikes. For this purpose Ministry of Commerce is required to work with the Ministry of Finance and State Bank of Pakistan.

National Emigration Policy

The draft of national emigration policy for overseas Pakistanis is under consideration of higher authorities. It is stated as follows:

“Pakistani Government is committed to safe emigration with rights protected. The process of labor migration is important as it is a source of getting a respite from the unemployment issue and also providing important foreign exchange that contributes to the socio-economic development plans and policies. The migration is also seen as a process that contributes in human capital accumulation of the emigrants and, importantly, making necessary bridges amongst the population: of understanding, culture and societies”²².

The first ever emigration policy, prepared to promote emigration and protect emigrants, is the outcome of a consultative process undertaken by the Policy Planning Cell of the Labor and Manpower Division. This policy, on the basis of identifying numerous challenges confronting Pakistani Nation in the area of international migration, has come out with a set of recommendations for promoting safe emigration, protecting emigrants, facilitating remittances and its use, better and effective use of the national Diaspora resources and effective re-integration of the returning migrants as well as welfare of the families left behind.

The Government of Pakistan, cognizant of the vast employment potential in the destination countries, has been making efforts in tapping the opportunities and promoting

²² Ministry of HRD (2009).

self migration along with protecting the rights of emigrants. Maximizing development benefits and minimizing adverse impacts has always remained high on the agenda. In fact, development of a national employment policy preceding the work on emigration policy is also manifestation of the policy makers.

The Policy Planning Cell during the early preparatory phase of the policy development sought understanding of the key question –especially with the stakeholders-that despite being source country for decades and knowing well the enormous demand for expatriates’ workers in the destination countries abs sub-regions why as yet Pakistan has not been able to make an effective response. enumerated answers are as following: a)lack of information, b)cost and financing emigration, c) skills commensurate with workforce demand in the destination countries language proficiency, d) remittances facilitation and management, g) protection of the rights of emigrants, h) irregular emigration, i) the nativization policy, and j) health and HIV/AIDS.

Here are some priority arrears of the National Emigration Policy:

1. Emigration on the agenda of overseas visits of VVIPs

Promoting labor migration is a priority agenda of the discussion during foreign visits of the President and Prime Minister of Pakistan, Speaker of the National Assemble and Chairman of the Senate.

There will be special focus on the key host countries particularly Saudia Arabia and UAE in seeking a rise in emigration from Pakistan.

1. Vigorous pursuits in seeking Memorandum Of Understanding (MOUs) with the countries of destination ; it is crucial not only in our quest fir retaining and increasing share in the traditional host countries but also in other countries as well.
2. Pakistani workforce is largely known as illiterates either unskilled or semi skilled. This mindset has to be changed thoroughly also show casing Pakistani workforce

qualities, educational attainments, and vocational and professional competence. this can be done through:

- Road shows
 - Job fairs
 - Use of trade shows
 - Extending invitation to key employers
 - Country specific strategies; and
 - Private Sector Participation
3. Missions in different countries hosting Pakistani workforce will play a more active role in enhancing emigration from Pakistan. The performance of the mission will also be evaluated in terms of the feedback provided on the key labor market developments, major economic development programs and projects, and rising the number of Pakistani workforce in the countries of their posting.
 4. The amount the overseas are paying to recruits is quite high and bears no comparison with the cost that an OEP has to incur in obtaining and processing visas. There is a need to revise the legal fee of OEP.
 5. A mechanism that provides cost-effective and easily accessible low cost remittance service v to the Pakistani emigrants will be developed together with ensuring that the rupee- dollar conversion rates for the money remitted corresponds well to the prevailing market rate.
 6. The Diasporas in the respective countries will be motivated to form together with local academia and business “development forums” will be increasingly integrated in building necessary bridges between academia and business of the host country with those in Pakistan, better projecting Pakistan, seeking greater foreign investment, increasing opportunities of employment for Pakistanis, etc.

7. The role of OEPs is crucial in greater penetration of Pakistani workers overseas. In an increasingly competitive environment, procurement of demand for the work force has in fact emerged as a challenge. Thus, the efforts of OEPs need to be appreciated. The facilitating measures provided will include the reintroduction of the practice of rewarding best performers with awards and trophies by awarding annually top ten OEPs able to send highest number of workers to a country, etc.
8. Establishment of technical centers-largely under public-private partnership-in different cities will improve the quality of workforce.
9. A task workforce will be appointed to look into the problems and prospects of emigration of women workforce.
10. Finally, concerted efforts will be made towards implementation of the National Emigration Policy through inter-ministerial coordination and better allocation of financial resources.

The national emigration policy is a draft yet to be approved. It contains important agendas for the welfare of overseas Pakistanis. It is pertinent to mention here that these are the persons who earn name for their countries. Unfortunately in case of Pakistan, the diasporas are indulged in human and drug trafficking. People, who are either rejected from their families in Pakistan or from Pakistani society, wrongly think that a heaven is waiting for them in foreign countries. These frustrated people when land in their desired countries, find themselves in a very difficult situation. Ignorance of language, laws and regulations of the host country creates further problems for them. Pakistanis workers even do not avoid overstaying there beyond the legally permissible limit. National policy should highlight these issues and make its resolution possible.

Pakistani workers are basically unskilled. In order to earn good name for Pakistan, there is a need to arrange pre-departure orientations and trainings for intended emigrants. In this manner, these persons will be more effective for the host countries as well as for Pakistan also.

Another important thing is that the Community Welfare Attaches (CWAs) who serve the Pakistani nation abroad also have the task of obtaining demand for the Overseas Employment Corporation (OEC). Unfortunately these attaches develop their links with the employers of the countries where they are posted. They give the statements that they want to obtain the demand of the Pakistani workers for OEC but actually they do not want to do so as it is against their personal interest. National policy for overseas Pakistanis should cover all such bottlenecks so to improve the welfare of the overseas Pakistanis.

Chapter 4

MODEL DESCRIPTION AND METHODOLOGY

Introduction

To achieve the above objectives a gravity model of international trade is proposed to be used. The gravity model is a simple model used for analyzing bi-lateral trade flows between geographic entities. The gravity model for trade is equivalent to Newtonian

physics function that describes the force of gravity²³. The model explains the flows of trade between a pair of countries as being proportional to their economic “mass” (national income) and inversely proportional to the distance between them. The model has a linkage that goes back to Tinbergen (1962), who specified the gravity model equation as follows:

$$\text{Trade}_{ij} = \alpha \cdot (\text{GNP}_i \times \text{GNP}_j)^{\beta_1} / (\text{Dist}_{.ij})^{\beta_2} \quad (1)$$

Where Trade_{ij} is the value of bi-lateral trade between country i and j , GNP_i and GNP_j are country i and j 's respective national incomes. $\text{Dist}_{.ij}$ is a measure of bi-lateral distance between the two countries. α and β 's are parameters and β_1 is positive (as with the rise in the national income in home or host country, there is an expected rise in the trade volume of both countries) and β_2 is negative (as with the greater distance between home and host countries, the trade volume between these the two countries is expected to decline). Taking the log of Eq.1, we obtain the log-linear form of the model and the corresponding estimable equation as follows:

$$\text{Log} (\text{Trade}_{ij}) = \alpha + \beta_1 \log (\text{GNP}_i \times \text{GNP}_j) - \beta_2 \log (\text{Dist}_{.ij}) + u_{ij} \quad (2)$$

The error term u_{ij} captures any other random event that may affect bi-lateral trade between the two countries and has a mean zero and constant variance. Eq (2) is the core gravity model equation where bi-lateral trade is predicted to be a positive function of income and a negative function of distance.

In this proposed thesis, we are going to use the augmented gravity model which is an extension of the original gravity model of Tinbergen.

²³ For decades, social scientists have been using a modified version of Isaac Newton's Law of Gravitation to predict movement of people, information, and commodities between cities and even continents. The gravity model, as social scientists refer to the modified law of gravitation, takes into account the population size of two places and their distance. Since larger places attract people, ideas, and commodities more than smaller places and places closer together have a greater attraction, the gravity model incorporates these two features

The Micro Economic Framework

A strong and expanding external sector is the backbone of an emerging economy. The most striking and well known example is the East Asian countries experience. Over all for East Asian countries, exports have increased by 720 percent during the last two decades. Identifying the elements that significantly affect export performance should facilitate the design of policies to improve performance and ultimately overall economic growth.

Determinants of exports can be split into internal and external components. External factors are selected to reflect market access conditions (in the host country) and the home country's location vis-à-vis the international market. Internal components are related to the supply-side conditions. For a given level of access to international markets, the country with better supply conditions is expected to export more.

Recently developed models of international trade investigate the role of supply capacity in determining the export performance. The Krugman and Venables (1995) model identifies an empirically assessable decomposition of bilateral trade into market access and supply capacity. Their theoretical framework is based on product differentiation.

To analyze the impact of emigration on export sector of Pakistan, we begin with the traditional Cobb-Douglas utility function. We consider that the world economy consists of Pakistan and the rest of the world countries. Firms (in all the countries including Pakistan) use labor (priced as w) and a composite manufacturing intermediate good to produce output. Here we have is a simplifying assumption that the composite intermediate good is the same as the composite consumption good. We further assume that the j th country is an importing country from all the countries of the world including Pakistan. The representative utility function of the j th country is given by:

$$U_j = M_o^\alpha M_p^\beta \quad (1)$$

Here M_o stands for the manufacturing goods produced by all the “other countries”, while M_p stands for the manufacturing goods produced by Pakistan. We want to find out the demand functions of Pakistan and the “other countries”. For this purpose we need budget constraint, which is as follows:

$$E_j = Q_j M_o + Q_j M_p$$

Or

$$E_j = Q_j (M_o + M_p) \quad (2)^{24}$$

Where Q_j is the price index. We are assuming that there is a unique price level at the worldwide.

Further, maximizing the utility subject to the budget constraint:

$$L = M_o^\alpha M_p^\beta + \gamma \{E_j - Q_j (M_o + M_p)\} \quad (3)$$

Applying the first order conditions and solving simultaneously, we get:

$$M_p = (\beta / \alpha) M_o$$

Now putting this in the budget constraint and solving for M_o :

$$M_o = (\alpha E_j) / \kappa \quad (4)$$

$$M_p = (\beta E_j / \kappa) \quad (5)$$

To find out the expenditure function, we need to put the M_o and M_p in the utility function given above in Eq.1.

The inversion of the utility function gives the expenditure function,

²⁴¹ See detail in appendix.

$$E_j = (U_j Q_j) / \kappa$$

Now we need to put the price index in the expenditure function, hence the price index is:

$$Q_j = \{n_p (p_p^* T_{pj})^{1-\sigma} + n_o (p_o^* T_{oj})^{1-\sigma}\}^{1-\sigma} \quad (6)$$

Where n_p the number of varieties of manufactured goods is produced in Pakistan, p_p^* is the price of Pakistani product sold in the j th country and T_{pj} is transport cost of bringing the product from the border of Pakistan to j th country's border. Similarly n_o is the number of varieties of manufactured goods produced in other countries, p_o^* is the price of other country's product sold in j th country and T_{oj} is transport cost of bringing the product from the border of other countries to j th country's border. After putting the price index in the expenditure function and taking derivatives with respect to p_p^* , we get the demand for each variety from Pakistan,

$$x_{pj} = n_{pj} E_j (Q_j)^{\sigma-1} (p_p^*)^{-\sigma} (T_{pj})^{-\sigma} \quad (7)$$

By following the same procedure, we get the demand each variety from "other countries",

$$x_{oj} = n_{oj} E_j (Q_j)^{\sigma-1} (p_o^*)^{-\sigma} (T_{oj})^{-\sigma} \quad (8)$$

In the above framework, the demand in country j for each variety produced in Pakistan and the "other countries", is a function of country's total expenditure on differentiated products E_j , the producer price (p_p^* , p_o^*) and the price index Q_j along with the set of the varieties produced in Pakistan and in the other countries (n_p, n_o). We are interested in finding the value of total exports of Pakistan to country j , so we will focus on eq (7) only. From eq (7), the elasticity of demand is identical across varieties and equal to σ . $E_j (Q_j)^{\sigma-1}$ is a scale factor that indicates the shape of the demand curve in market j . The producer price p_p^* is assumed to be same for all varieties produced in country i . transport frictions, which reflect the cost of getting the product to and from Pakistan to

country j, are set proportional to producer price, this cost is composed by three elements: the cost of getting the product to and from the border in countries j and Pakistan (t_p, t_j) and the cost of getting the product to and from the border in Pakistan and country j (T_{pj}).

Hence,

$$p_{pj} = p_p^* t_p T_{pj} t_j \quad \text{Or} \quad p_p^* = p_{pj} (t_p T_{pj} t_j)^{-1} \quad (9)$$

It may be underlined here that emigration is taking place from Pakistan to the jth country. Earlier, it was assumed that presence of emigrants reduces the trade-related transaction cost. This idea needs to be incorporated here. Transaction cost (related to trade) is the cost from factory to port (transportation cost, labor cost, communication cost etc) and the marketing cost. The former cost component indicates that presence of Pakistani emigrants in the jth country would reduce the foreign markets (as markets are already explored by emigrants), the advertisement cost may also come down. Another possibility is that the exporters need to take support of trade insurance of their consignments but if there is any trustworthy emigrant in the jth country then exporter does not need the trade insurance of his consignment. The above description supports our fundamental hypothesis that international migration improves trade flows and reduces trade-related transaction cost.

From Eq.9, we can find the value of total exports of Pakistan to country j:

$$n_p p_p^* x_{pj} = n_p p_p^* \cdot n_p E_j (Q_j)^{\sigma-1} (p_p^*)^{-\sigma} (T_{pj})^{-\sigma} \quad (10a)$$

Equation (10a) is taken as the theoretical support for the estimation of a gravity trade model. It can be re-written as:

$$n_p p_p^* x_{pj} = \{n_p^2 (p_{pj})^{1-\sigma} (t_p)^{\sigma-1}\} (T_{pj})^{-1} \{E_j (Q_p / t_j)^{\sigma-1}\} \quad (10b)$$

On the left hand side of eq (10a), the first term reflects the Supply Capacity of Pakistan, (SC_p).it is the product of the number of varieties n_p^2 and their price competitiveness,

which is reflected through the price of the product and the internal transport costs. The next term reflects the trans-border transport costs component, higher the trans-border lowers the value of the Pakistani exports (as Pakistani exports will come down). On the extreme right hand side, there is the market capacity of country j . Here E_j, Q_p have positive effect on the value of the Pakistani exports, while external transport cost will reduce the value of the Pakistani exports.

At the country level, which is looking at the total value of exports of Pakistan, the following is obtained:

$$X_p = sc_p \sum_{j \neq p} (T_{pj})^{1-\sigma} m_j \quad (11)$$

sc_p reflects the supply capacity of Pakistan, the term $\sum_{j \neq p} (T_{pj})^{1-\sigma}$ represents Pakistan's foreign market access FMA_p or its market potential, m_j is the market capacity of j^{th} country. Hence, the product of supply capacity and foreign market access gives the total value of exports of Pakistan.

The Empirical Model

In determining the export performance which is linked with the emigration of a given country, it is necessary to quantify the respective roles of foreign market access and supply capacity. Total export growth can be decomposed into supply capacity and foreign market access growth. The approach consists of estimating a gravity model equation where the dependent variable is the log of export from Pakistan (the exporting country) to country the j th (the importing country). Independent variable categories include the categories of supply capacity, market capacity and transaction cost variables. All of these variables are also in logarithmic form.

Following is the list of the independent variables which can potentially affect value of Pakistani exports. All of these are in log form.

1. Distance (between Pakistan and the jth country)
2. Population (of the jth country)
3. Income (of the jth country)

The above three variables are called the “Demographic Gravity Variables”

4. Adjacency
5. Population density variable (both of Pakistan and jth country)
6. Language (both of Pakistan and the jth country)

Variables 4-6 are called “Locational Variables”.

7. GDP (of Pakistan)
8. GDP growth (of Pakistan)
9. Foreign direct investment (in Pakistan)
10. Saving (of Pakistan)
11. Official development assistance (as % of GDP of Pakistan)
12. Indirect taxes (in Pakistan)
13. Real Exchange Rate (obtained by multiplying nominal exchange rate by US CPI and then divided by domestic CPI).
14. Number of telephones per 1000 persons (in Pakistan)
15. Number of televisions per 1000 persons (in Pakistan)
16. Total labor force (of Pakistan)
17. Remittance inflow (in Pakistan)
18. Competitor prices Total number of migrants per year in jth country from Pakistan

The above given variables are called “Domestic Economic Activity” variables.

Econometric Model

All the above variables can be represented in an econometric model:

$$\ln \exp_{(pj)t} = \alpha + \beta \ln Dis_{(pj)t} + \phi_1 \ln Pop_{(j)t} + \phi_2 \ln Pop_{(p)t} + \Omega_1 \ln GDP_{(j)t} + \Omega_2 \ln GDP_{(p)t} + \gamma \ln Ad_{(pj)t} + \pi_1 \ln Pop.dens_{(j)t} + \pi_2 \ln Pop.dens_{(p)t} + \sigma_{1(j)t} \ln Lang_{(j)t} + \sigma_{2(p)t} \ln Lang_{(p)t} + \theta \ln GDPgrw_{(p)t} + \partial \ln FDI_{(p)t} + \chi \ln SAV_{(p)t} + \varepsilon \ln ODA_{(p)t} + \rho \ln RER_{(p)t} + \nu(P^*_{(C,I)} / P_{(p)}) + \psi \ln Tele.fn_{(p)t} + \omega \ln IT_{(p)t} + \mu \ln Tele.vs_{(p)t} + \ell \ln TLF_{(p)t} + \eta \ln Re mit_{(p)t} + \lambda \ln Emg_{(j)t} + e_t$$

Where, $j = 1, 2, 3 \dots 21$.

T = 1987 to 2008.

In the above model, we can find out that (Dist) Distance and (Ad) adjacency represent the “Transaction Cost of trade”. While (Pop) population of jth country, its population density, (lang) language and (Emg) number of Pakistani emigrants per year in the jth country from Pakistan represent the “Market Capacity” of jth country and (Pop) population of Pakistan, (Pop.dens) population density of Pakistan, (Lang) language of Pakistan, (GDP) Gross Domestic Product of Pakistan, (GDPgrow) Gross Domestic Product Growth of Pakistan, (FDI) foreign direct investment in Pakistan, (SAV) saving in Pakistan, (ODA) official development assistance as % of GDP in Pakistan, (RER) real exchange rate, $(P^*_{(C,I)} / P_{(p)})$ show the competitor prices in host country. Here we take the plea that either China or India are the competitors of Pakistan in the host country. (Tele.fn) number of telephone per phones per 1000 persons in Pakistan, (IT) indirect taxes in Pakistan, (Tele.vs) number of televisions per 1000 persons in Pakistan, (Remit) remittance inflow in Pakistan, (IVA) industry value added, and (TLF) total labor force in Pakistan represent the “Supply Capacity” of Pakistan.

4.1 Description of Variables and their expected theoretical impacts

Production level

It is the supply side determinant of exports {Bertil (1968)}. the higher level of production is the main cause of export expansion, because surplus of output can be exhausted in international markets. In a close economy surplus of production leads to fall in prices,

which, in turn creates pessimism among producers. In an open economy such surpluses create foreign reserves by exporting production. So we expect the positive impact of GDP on exports growth. In empirical literature Kumar (1998) confirms the positive impact of GDP on exports.

Production Growth

Growth of the GDP is an indicator of future potential and sustainability of production level. Growth is more valid determinant of exports as compared to GDP because it measures the sustainability of output levels. So we expect positive impact of GDP Growth on exports expansion.

Real Exchange Rates

A fall in the relative domestic prices due to exchange rate depreciation makes exports cheaper in international markets resulting in increased demand for exports; therefore we expect the positive impact of real exchange rate on export growth.

Communication Facilities

In this era, when time is shirking, the importance of communication facilities has become more important. For the measurement of communication facilities we employ two variables, namely, the number of television sets and the number of telephones sets in use. These two variables have also been justified in empirical literature {Kumar (1998)}. Expansion of such facilities has favorable effect for exploration and excess to the world markets. Hence we expect the positive impact of provision of such facilities.

Indirect Taxes

The effect of this variable is expected to be adverse on production decisions. But we cannot rule out the possibility of positive effect on exports due to fiscal incentives by Government. Specifically, if government provides tax exemption for the expansion of exports sector, higher rate of indirect taxes can have the negative effect on domestic demand resulting in exportable surplus.

Official Development Assistance

Large size of official development assistance implies is likely to facilitate growth of infrastructure, which in turn will favorably affect investment climate. We expect positive effect of this variable on export growth.

Savings

Gernely, in developing countries the proportion of savings used for non-productive factors, for example purchasing of jewelry, property etc, is larger. Therefore higher savings result in large volume of goods made available for exports growth.

Competitor prices

Each country has to face the competition in the international market and competition improves the quality of product. Pakistan also has to face competition while exporting in rise in the prices of the competitors, it leads to the rise in the exports of Pakistan as in the host country; the products of the competitors will become costly. Hence, we expect positive effect of this variable on export growth.

Labour Force

Optimum utilization of resources depends upon the labour force. Labour force positively determines production levels. In developing countries large volume of labour force in agriculture sector can be transferred in industrial sector without affecting the output of agriculture sector, because this sector is confronted with the problem of disguised unemployment. Such labour force can be properly utilized in industrial sector that in turn expand export sector. In empirical literature, Pfaffermayr (1996) concludes that labour force creates positive impact on exports.

Skilled labour force is the source of competitiveness in production and lower cost of production. Many developing countries exploit the advantages of skilled labour force for competitive in export sector. At the same time many developing countries have unskilled labour force. The effect of unskilled labour force is opposite on competitiveness in exports sector. Hence we can have positive or negative effect of labour force on exports.

Foreign Direct Investment

In empirical literature the role of FDI in exports promotion is controversial. Many studies {Pfaffery (1996)} find positive effect of FDI on exports. The main reason underlying is the export oriented MNCs. Since government provides facilities for exports promotion, such facilities also attract foreign investors. In order to promote exports government can adopt FDI-led export growth strategies with twin objectives of capturing the benefits of both FDI inflow and export growth. On the other hand, many studies find insignificant or weak impact of FDI on exports. Such studies point out that the role of FDI in exports promotion in developing countries remains controversial and depends crucially on the motive for such investment. If the motive behind FDI is to capture domestic market (tariff-jumping investment), it may not contribute to export growth. On the other hand, if the motive is to tap exports markets by taking advantage of the country's comparative advantage, then FDI may contribute to export growth.

Data and Estimation Procedure

The data come from various sources; International Financial Statistics (*IFS*), the World Development Indicators (*WDI*), and various issues of Pakistan Economic Survey, the Government of Pakistan.

Data on exports of Pakistan (expo) are taken from Foreign Trade Statistics, (Federal Bureau of Statistics). Distance data (dist) are taken from the Delta Airlines Publications. Population and GDP data are available in Ministry of Finance, (Pakistan Economic

Survey) as well as from World Development Indicator. For Population density (Pd), data are taken from Federal Bureau of Statistics. Language data (Lang) source is Human Geography, Culture society and Space. Foreign direct investment (FDI), official development assistance (ODA), labor force (lf), number of telephone and number of television per thousand persons data are taken from World development indicator (2009). Data on Real Exchange rate (RER) and competitor prices data are taken from International Financial Statistics (IFS).

Construction of variables

Each variable is expressed in terms of ratios to GDP, both the level of the variable and the GDP are measured in US dollar at current prices.

Gross foreign direct investment is measured as percentage of GDP. Gross foreign direct investment is inflows of foreign direct investment recorded in the balance of payments financial account. Hence,

$$FDI = (\text{foreign direct investment} / 100) \text{ as a percentage of GDP}$$

Official exchange rate is measured as the period average of the number of local currency units per US\$. Official exchange rate refers to the actual principal exchange rate and is an annual average based on monthly averages determined by country authorities or on rates determined largely by market forces in the legally sanctioned exchange market.

To convert the nominal exchange rate into real exchange rate we multiply the nominal exchange rate with the US CPI and divided it by domestic CPI. Hence,

$$RER = \{(\text{nominal exchange}) (\text{CPI of US})\} / \text{Domestic CPI}$$

Gross national savings, defined as gross domestic savings plus net income and net current transfers from abroad, are measured as percentage of GDP. Hence,

$SAV = \{(Gross\ domestic\ savings + net\ income + net\ current\ transfers\ from\ abroad) / 100\}$
as a percentage of GDP

Official development assistance and net official aid record the actual international transfer by the donor of financial resources or of goods or services valued at the cost to the donor, less any repayments of loan principal during the same period. Aid dependency ratios are computed using values in U.S. dollars converted at official exchange rates.

Total labour force comprises people who meet the International Labour Organization (ILO) definition of the economically active population: all people who supply labour for the production of goods and services during a specified period. It includes both the employed and the unemployed members of labour force. While national practices vary in the treatment of such groups as the armed forces and seasonal or part-time workers, in general the labour force includes the armed forces, the unemployed and first-time job seekers, but excludes homemakers and other unpaid caregivers and workers in the informal sector.

Telephone mainlines are measured as the number of lines per 1,000 persons. Hence,

$Tele = (Telephone\ lines / 1,000)$

Telephone mainlines are telephone lines connecting a customer's equipment to the public switched telephone network. Likewise television sets are also measured as the number of sets in use per 1,000 persons. Hence,

$Tele.vs = (Television\ sets / 1,000)$

Net indirect taxes are measured as percentage of GDP. These taxes are the sum of indirect taxes less subsidies. Indirect taxes are those taxes payable by producers that relate to the production, sale, purchase or use of the goods and services. Subsidies are grants on the current account made by general government to private enterprises and

unincorporated public enterprises. The grants may take the form of payments to ensure a guaranteed price or to enable maintenance of prices of goods and services below costs of production, and other forms of assistance to producers. Hence,

$$IT = \{(Subsidies - Taxes) / 100\} \text{ as a percentage of GDP}$$

4.2 Estimation Procedure

The use of pooled time-series and cross-section data provides large sample and it is expected to yield efficient parameter estimates. Since political, structural and institutional characteristics vary from country to country, imposing a single relationship to all units is likely to suppress information. In order to overcome this problem we have used the approach of uniform shifts. The econometric literature suggests two approaches for uniform shifts [Green (1993); Kmenta (1986) and Maddala (1977)] the fixed effects and random effects model. In the present study, we are following the fixed effects model on the basis of Hausman test.

In time series data, we observe the value of one or more variables over a period of time (e.g., GDP for several quarters or years). In cross section data, values of one or more variables are collected for several sample units or entities at the same point in time (e.g., crime rate for 50 states in USA for a given year). In panel data the same cross-sectional units (say a family or a firm or a state) is surveyed overtime. In short panel data have space as well as time dimensions.

By combining time series of cross section observations, panel data give “more informative data, more variability, less collinearity among variables, degree of freedom and more efficiency. It’s also a valuable method to study the dynamics of change.

Estimation of Panel data regression models involves Fixed Effects Approach. It depends on the assumptions we make about the intercept, the slope coefficient and the error term, u_{it} .

Chapter5

Empirical Results

To achieve the objective of this dissertation, using the methodology reported in chapter 4, we are reporting and analysing the results. Specifically, the following are included in this chapter;

- (i) Unit root test to check the stationarity of the data and
- (ii) Estimates of export equation.

Unit Root Test

Panel data studies, until very recently, have ignored the crucial stationarity (ADF and Phillips-Person), test for the stationarity status of all variables to determine their order of integration²⁵. However, with the growing involvement of macroeconomic applications in the panel data tradition, where a large sample of countries constitute the cross-sectional dimension providing data over lengthy time series, now the issue of stationarity has also emerged in the panel data also. This was mainly due to the fact that macro panels had both large N and T compared to micro panels with large N but small T. For example, the Penn World Data, where the data are available for a large set of countries and at least some of the variables (GDP for example) are expected to have unit roots. This has a whole set of problems in panel data analysis that were previously ignored.

The crucial factor in panel data estimation appears to be the degree of heterogeneity. In particular it is important to realize that all the individuals in a panel may not have the same property, that is to say they may not all be stationary or non-stationary. Hence, this is important to ensure that the variables are either integrated of order 1, 2 or 3, etc. that is, they are $I(1)$, $I(2)$ or $I(3)$ stationary so as to avoid spurious results and make the exact estimation on the basis of the level of stationarity of the variables. Therefore, the implementation of unit root tests in the panel data estimation procedure might still be necessary.

In this study, unit root test is carried out using the Levin, Lin & Chu test. This test was developed by Levin and Lin in 1992. Their work was finally published in 2002. The test is abbreviated as LL test. Another test, Im, Pesaran and Shin W-stat stationarity tests is also applied. The results are reported in Table 5.1.

Table: 5.1

Panel-Unit Root Tests

Variables	Levin, Lin & Chu test			Im, Pesaran and Shin W-stat		
	Level	First	Second	Level	First	Second

²⁵ This check is important because the use of non-stationary variables generates spurious relationship (Asterieou and Hall, 2007).

		difference	difference		difference	difference
Agg.Expo	1.34871	-8.58273		6.36943	-10.3994	
EMI	7.55802	-19.913		11.4063	-8.2347	
EXPORT	7.93666	-20.1456		6.42571	-19.7637	
FDI	18.2663	-14.9968		15.9446	-8.92344	
GDP	10.1718	-14.9968		13.5505	-8.92344	
GDPG	-4.5678			-8.93328		
LF	14.6238	2.20072	-15.5146	21.7584	-2.75784	-13.5743
ODA	-13.8641	-20.8232		-9.55414	-18.6644	
Pd	13.4661	1.85237	-11.6504	22.2775	-0.00519	-14.8885
Pop	1.99093	-2.79444		12.5149	-5.95216	
Price	5.92659	-1.62746	-17.7144	6.37851	-5.03255	-18.081
REM	-3.73074			-3.8968		
RER	0.59484	-7.85035	-1.19747	4.82451	-8.35076	
SAV	-3.3974	-21.7668		-5.03429	-18.6181	
IN.TAX	17.423	-24.5801		23.0219	-21.5388	
TEL	-6.52772			-0.26811		

Based on the Levin, Lin & Chu and Im, Pesaran and Shin W-stat test statistic, it is found that GDPG,REM and Tel are level stationary or I (0) while Agg expo, Emigration, Export to various countries, FDI, GDP, ODA, Pop, Sav, tax have unit root problem at level while stationary at the first difference. Whereas Lf, Pd and Price are non-stationary on level anfirst difference are stationary on second difference.

5.1 Estimation of the model

The panel data estimation requires the panel estimation technique. E.views is used for the said purpose. Both the fixed effect model and the random effect model are estimated. Further, the panel data estimation requires application of Hausman test for the selection between Fixed Effect Model (FEM) and Random Effect Model (REM).

5.1.1 Hausman Test

This test was developed by Hausman²⁶ in 1978 to find out if FEM is better or REM is better. This method is applied on the Random Effect Model. The null and the alternate hypothesis under this test are as follows:

H_0 = FEM and RFM estimators do not differ substantially

H_1 = FEM is better than REM

The test statistics developed by Hausman has an asymptotic chi-square distribution. If the null hypothesis is rejected, the conclusion is that REM is not appropriate and that we may be better off using FEM, in which case statistical inference will be conditional on the error term in the sample. By applying the Hausman test on the Random Effect model, in this study, the results go in favor of FEM as the null hypothesis is rejected. Since the model uses panel data, which includes the time series as well as cross-section units, it is likely to suffer from heteroskedasticity as well as autocorrelation. Heteroskedasticity is the problem of cross section data. The first part the Greek word hetero (which means different or unequal) and a second part the Greek word skedastic (which means spread or scatter). Thus, heteroskedastic deals with unequal variance. Classical linear regression model requires the equal variance independent of the cross-sectional units. In mathematical form we can write as,

$$Var(\mu_i) = \sigma^2 \text{ ----- (i)}$$

Therefore having equal variance means that disturbances are homoskedastic.

However, when the assumption of homoskedasticity is violated, that is the variance of the error term depends on exactly which observation is discussed, i.e.:

²⁶ J.A Hausman, "Specification Test in Econometrics" *Econometrica*, vol. 46, 1978, pp, 1251-1271

$$Var(\mu_i) \neq \sigma_i^2 \text{----- (ii)}$$

The difference between (i) and (ii) is the subscript i attached to the σ^2 , which means that the variance can change for every different observation in the sample = 1, 2, 3... n. White (1980) test is applied for the detection of heteroskedasticity. The LM (stat) is obtained by multiplying number of observations (n) with observed R^2 , hence = $n * R^2$. The null and alternate hypothesis in this case are defined as below:

H_0 = Homoscedasticity (constant variance)

H_1 = Heteroskedasticity (variance is not constant)

The results of the White-hetero test are reported in table 5.2.

Table: 5.2

White-Hetero Test Statistics

LM (stat)	13.0893
p-value	0.00234

The above table shows that the value of LM (stat) is 13.0893, which is much greater than the p-value (.00234) and the probability itself also suggests that the null hypothesis is rejected. Hence, suggesting the evidence of heteroskedasticity. Generalized least Square method (GLS) is applied to remove heteroskedasticity. For the modified model variance is constant²⁷.

Second problem in the panel data is autocorrelation. Auto correlation is basically the problem of time series data. Ordinary least square has the assumption that the error term

²⁷ The values of the coefficients do not vary when we remove the heteroskedasticity, only the standard errors change.

u_t and u_s are independently distributed, which is called distributed, which is called serial independence. If this assumption is no longer true, then the disturbances are not pair wise independent, but are pair wise auto-correlated.

For the detection of autocorrelation, the statistical procedure used is called Durbin Watson (1950) test, which is valid when the regression model includes a constant. The value of DW lies between, 0 to 4. If the value of DW is below 1.11; there is a strong evidence of positive autocorrelation. While if the value is between 1.11 and 1.33, it is in inconclusive zone. If the value of DW is very near to 2, then we do not have serial correlation.

Table: 5.4

Test Statistics for Detecting Autocorrelation

DW	0.2345
----	--------

In our model, the value of Durbin Watson indicates the presence of sever positive autocorrelation. To remove the autocorrelation from the data, I have applied the Cochrane (1949) iterative procedure. The results are purported in Table 5.5.

Table: 5.5

Cochrane Iterative Procedure Results

AR(1)	0.745167	t(stat) 22.65
AR(2)	0.435021	t(stat) 45.87`
DW	1.967426	

By hit and trial, AR (1), AR (2) and AR (3) are applied. The best results are obtained when AR (1) and AR (2) are applied where the convergence is achieved after 11 iterations. Now the value of Durbin –Watson is 1.967426, which indicates that there is no autocorrelation. The complete results are reported in Table 5.6 along with the parameter

estimates of coefficient. Parameter estimates of the variables are given in table 5.6. All the variables are log form.

It is pertinent to mention here that there was the suspect of multicollinearity between emigration and remittances. To check it, correlation-coefficient matrix was made²⁸. The correlation-coefficient does not show such evidence. Moreover, the values of standard error, t-stat and R² were analyzed. To confirm the results, we have checked the values t-stat and the standard-errors. Low t-stat and high standard-errors are an indication of multicollinearity. In our study, neither t-stat is too low nor is standard- error too high. Here, there is no such evidence, hence no multicollinearity. The results are based on panel data for 21 countries, where the significant number of Pakistanis are residing, over the period 1987 to 2008 are reported in Table 5.6.

²⁸ See appendix.

Table: 5.6

Parameter estimates of the variables

Variables	Coefficients	t-values
EMI	0.205808	2.617755
GDP	4.059530	2.073442
SAV	0.163807	2.007897
LF	3.502727	2.034026
RER	0.000798	2.817539
TEL	1.614451	16.13667
P*/P	1.698373	3.559331
FDI	0.211076	3.381883
In. Tax	0.464812	1.337313*
REM	-0.457678	-2.012639
ODA	0.084552	1.818291
AR(1)	0.745167	22.65
AR(2)	0.435021	45.87`

R-squared	0.967	Mean dependent var	8.174
Adj R-squared	0.958	S.D. dependent var	2.085
S.E. of regression	0.369	Akaike info criterion	0.929
Sum squared resid	42.51	Schwarz criterion	1.255
Durbin-Watson	1.967426	F-statistic	374.0

* Shows the insignificant value.

The parameter estimates of the variables along with the t-stats are reported in Table 5.6. Eleven variables are included in the estimation process. It is pertinent to mention here that data were collected for aggregate exports (exports surplus), GDP growth, population, population density, language, distance, and adjacency also. GDP, GDP growth and exports surplus are substitutes to each other, as the fixed effect model is applied after applying log. Hence, log GDP is equivalent to GDP growth. As far as export surplus is concerned, it gives the same interpretation as log GDP or GDP growth. Hence, only one variable, most suitable to estimation results is considered, which GDP is. Inclusion of Population, population density, language, distance, and adjacency variables disturb the estimation results.

The results indicate that the coefficient of emigration is positive and significant. With 1 percent increase in emigration from Pakistan, there is 0.20 percent increase in the exports of Pakistan. Hence, the effect of emigration is positive on the exports of Pakistan as the coefficient of emigration is positive and significant. Pakistani emigrants bring along with them the knowledge about culture of Pakistan; hence they are

instrumental in promoting trade between Pakistan and host countries. Pakistani emigrants specially demand Pakistani rice, Pakistani dresses, rice, kinu, masala-jaat, and sports goods etc. these people, with their contacts with the community and visits in host countries, get the knowledge of the tastes of the people and try to market their own country products. Pakistanis in foreign countries also contribute to reduce the trading transaction costs. This second channel is two-fold: they create the networks-knowledge of Pakistani markets and business contacts-and cultural ties-as common languages and common preferences reduce trading transaction costs. The reduction in trade costs and creation of additional demand for goods from their Pakistan helps to reduce the balance of payment deficit of Pakistan. It helps to strengthen the argument that the emigrants do contribute a lot in attracting the exports of Pakistan. As they have developed the taste for the Pakistani products, so wherever they move from Pakistan, they prefer to buy Pakistani products.

With 1 percent increase in GDP (production) from Pakistan, there is 4.05 percent increase in the exports of Pakistan. The effect of GDP is significant with positive signs in explaining exports. The level of production is taken at domestic and international level at the same time. Higher production level of a country is the main source of exports of that country. The variable, GDP is much important because higher rates of production are usually associated with an increase in the profitability of production units, hence they tend to increase exports. Pakistan can exhaust benefits of lower cost production by export growth policies. Moreover, large size of GDP creates environments for investment decisions. GDP of the destination countries has also the effect. The result is consistent with Ahmad (2006).

With 1 percent increase in savings of Pakistan, there is 0.163 percent increase in the exports of Pakistan. The results show that increase in savings significantly contributes to exports. Higher savings imply lower interest rates that promote investment opportunities. The investment is the key channel for export growth. In developing countries government provide many incentives for export promotion strategies. The domestic investment take place in different sectors but it is much

responsive in trade sector to incentives provided by government. This is the argument that support our hypotheses of investment led export growth. The empirical results also support our hypotheses. Over and above, in Pakistan, savings are the source of removal of internal and external debt. Hence better policies to raise the level of savings would help to raise exports of Pakistan. The result that is consistent with Ahmad (2006).

As expected, the effect of labor force is positive and significant on export growth of Pakistan. With 1 percent increase in the labour force, there is 3.50 percent increase in the exports of Pakistan. Labour force is an important determinant of production, hence the exportable surplus,

as

$$Y = f(L, K)$$

Here, Y stands for the production, L for labor and K for capital. With the rise in either labor or capital, it is expected that the production will rise. Rise in production creates favorable affect on the exportable-surplus. Optimum utilization of resources depends upon the labour force. Hence, it is the labour force that positively determines production levels. In Pakistan, large volume of labour force in agriculture sector which can be transferred in industrial sector without affecting the output of agriculture sector, because this sector is confronted with the problem of disguised unemployment. Such labour force can be properly utilized in industrial sector that in turn expand export sector. Pfaffermayr (1996) also concludes that labour force creates positive impact on exports. Our result is consistent with Ahmad (2006).

For any macro unstable economy, such as Pakistan, the literature provides ample evidence on it. Exchange rate risk could lower exports due to profit risk (Ethier, 1973) but it may be possible to get positive effects of conditional variance on exports too. In view of this, the effects of the two factors, changes in exchange rate and exchange rate

risk on exports, need to study simultaneously, for if they are used separately may lead to biased inference (Fang and Miller, 2007).

According to the regression results real exchange rate positively affects export. With 1 percent exchange rate depreciation, there is 0.000798 percent increase in the exports of Pakistan. A fall in the relative domestic prices due to exchange rate depreciation makes exports cheaper in international markets resulting in increased demand for exports. In Pakistan, imports are ever more than exports. This situation leads to deficit in balance of payment (BOP). To remove this deficit, the currency was devalued in 1972, the delinking of rupee with dollar was made in 1982 and foreign currency accounts were frozen in 1998. Again, the managed floating exchange rate system is being followed in the country. But still the demand for dollars has always been more than supply of dollars. As a result, during 1980s and 1990s, the exchange rate remained against rupee. It is well evident fact that the fall in the external value of the currency does have an impact on its internal value. Because of devaluation and depreciation of the currency, the price of imports increases. The domestic output may disturb may disturb the prices of imports increase²⁹. This leads to increase the imports and increase in the exports, hence improvement in the balance of payment. Here, empirical estimates are consistent with theory as well as empirical evidence found in other studies. (e.g. Ahmad, 2006 and Sharma, 2001).

In the globalization era, when the value of time is most important, the need of wide spread communication facilities is becoming most important. For the measurement of communication facilities number of tele-vision is implied. The effects of expansions in communication facilities are positive and the variable turned out to be significant. With 1 percent improvement in communication facilities, there is 1.614451 percent increase in the exports of Pakistan. Thus, expanding the net of such facilities is helpful in exploration of new international markets. Further, these make easy to access the world markets. As Pakistan's exports are concentrated in few markets it can reap the benefits of global communication facilities. The results are in line with Kumar

²⁹ Shahid (2009).

(1998) and Ahmad (2006).

The effect of competitive prices is positive and significant on the exports of Pakistan. With 1 percent improvement in competitor prices, there is 1.698373 percent increase in the exports of Pakistan. Each country has to face the competition in the international market and competition improves the quality of product. Pakistan also has to face competition while exporting. We have assumed that either China or India is the competitors of Pakistani products in the destination country. This result supports our argument that when the prices of the competitor are high, it tends to increase the exports of Pakistan as the Pakistani products are relatively cheaper for the emigrants in the destination countries. Hence, this variable has positive effect on export growth of Pakistan.

The success stories of East and South East Asian countries suggest that FDI is a powerful tool of export promotion because multinational companies (MNCs) through which most FDI is undertaken have the well-established contacts and the up-to-date information about foreign markets. If the motive behind FDI is to capture domestic market (tariff-jumping type investment), then it may not contribute to export growth. On the other hand, if the motive is to tap exports markets by taking advantage of the country's comparative advantage, then FDI may contribute to export growth to the extent permissible under the prevailing policy regime. By now it is well known that an outward oriented regime encourages export-oriented FDI while an inward-oriented policy regime attracts FDI mainly to capture domestic rather than exports markets.

Our study finds positive and significant impact of FDI on export growth. With one percent increase in the FDI, there is 0.211076 percent increase in export. FDI improves export growth as export sector is facilitated by various fiscal incentives through FDI. Such advantages of export promotion policy are exhausted by the domestic production units hence increase exports. Export growth is an indicator of trade liberalization and friendly investment climate in the exporting countries. Export growth favorably affects the

macroeconomic variables that in turn attract foreign investors. In Pakistan FDI comes in fertilizer, automobiles, and chemical etc. it means that if all the FDI in Pakistan is not moving towards the exportable, it is used in raw material, fiber or synthetic products. This raw material is used for the production of exportable. It is also possible that in some time-period the domestic demand for chemicals etc. come down, leaving a significant amount for the export. Moreover, in Pakistan, near Karachi, there is an Export Processing Zone (EPZ), which is by definition producing for exports. They are selling products in international market. So all of the FDI coming in the Export Processing Zone, increases exports. The result is consistent with Ahmad (2006).

The affect of indirect taxes is positive though insignificant on the exports of Pakistan. The proportion of indirect taxes varies for different goods. So it is not necessary that indirect tax is high for exportable goods. Furthermore, government provides tax exemptions to exporters. These are the reasons that this variable does not adversely affect exports. The result that is consistent with Ahmad (2006).

Remittance is also an important determinant of exports. In our case, the coefficient of remittances is negative. With 1 percent decrease in remittances, the exports of Pakistan increase by 0.457678 percent. Remittance s is the left over part of income of the emigrants. If remittances are low, it means that emigrants have high consumption abroad; hence they are left with low amount of money to remit. Having high consumption in the host countries, increases the chances of purchase of more Pakistani products, hence more exports of Pakistan.

The effect of official development assistance (ODA) variable is also positively significant. With one percent increase in the ODA, there is 0.084552 percent increase in the exports of Pakistan. ODA variable reflects the development phenomena. Exports are favorably affected by development expenditures. Because it is the sign of government positive behavior and the future expectations of exporters that export facilities would become stronger. Indirect taxes are also positive associated with exports. In case of Pakistan, all ODA is not directly used in the production activities. Government uses

ODA in the welfare actives like building of hospitals, schools, construction of roads, dam etc. in other words, ODA is used for strengthening infrastructure. The strong infrastructure is the main object if increasing business activities hence production. This link creates favorable environment for the exports.

The value of $R^2= 0.951845$, which indicates that all the factors included in terms of the factor affecting the exports of Pakistan, collectively explain the 95 percent of the total variation in the exports of Pakistan.

Chapter 6

Conclusion and Policy Implications

In this thesis the effect of the emigration on the exports of the Pakistan's economy is checked by considering the remittances, real exchange rate and FDI as an important indexes of exports. It was find out whether FDI, official development assistance, savings, exchange rate and remittances have the significant impact on the exports or not. The objective of this study is to find out if emigration increases exports of Pakistan and to determine relationship between exports and some other variables. For this purpose the study used a sample of panel observations for 21 countries (where there are Pakistani emigrant significant in number) over the period 1987-2008. The data are derived from the World Development Indicators (WDI) 2009. application of the fixed effect model results in the selection of fixed effects model (country specific intercepts), is employed for the estimation of the relationship of exports and emigration with their potential common determinants based on the panel data.

First of all we took all the variables as the ratio to GDP. Emigration includes all persons residing in the destination countries including working/studying/living. Real exchange is taken by multiplying the US CPI with nominal exchange rate and then dividing it by the domestic CPI. First of all, the stationarity of all the variables is checked. These variables are either level stationary, 1st difference stationary or 2nd difference stationary. In the next step, heteroskedasticity and autocorrelation is removed by using appropriate techniques. To obtain the results, estimation is done with by applying the Fixed Effect Model (FEM) and Random Effect Model for the period of 1987 to 2008. Further, the Hausman test is applied to select between the Fixed Effect Model and the Random Effect model. The result goes in favor of Fixed Effect Model.

The main finding of this study is that most of the variables like Savings, GDP, Television, and Official Development Assistance have a positive and significant impact on exports of Pakistan. These results are consistent with that of the existing literature. Emigration is also positively linked with the exports of Pakistan. As Pakistan is a labor-exporting country so it help to strengthen the idea that more opportunities for the Pakistani people for exiting the country can bring fruitful results.

According to the findings of the paper it can be said that rise in the competitor's prices can also open the door for the better investment opportunities for the Pakistani exporters. It can also contribute it increase the quality of the Pakistanis products.

It is also found that depreciation of the real exchange, rise in indirect tax, and developments of communication facilities significantly promote exports. The effect of increased FDI has been found significantly positive.

It is of critical importance to maintain a high and sustainable economic growth rate. The study shows that a sustainable growth patterns attract FDI and promote exports. The Pakistan can attract FDI inflows by removing the artificial barriers and control on exports and imports. An open and export-oriented policy can be promoted by lowering tariffs and allowing free mobility of capital. Widening of the net of communication facilities is also

instrumental in attracting FDI inflows and exports growth. To this end subsidies may be provided to the communication sector.

The policy implications that we are offered are:

1. Evidence has shown that a sustainable growth patterns promotes exports, hence, it is of critical importance to maintain a high and sustainable economic growth rate. High level of production is the main reason behind high level of exports. The fact is that the surplus of output can be dumped in the foreign countries. Another important factor is the relatively low level of prices with excess production. In the same was, growth of output shows the sustainability of output levels. Hence, Pakistan can also create (increase) foreign resources by exporting production
2. The means of communication i.e. television, telephone are the indicators of a growing economy. The expansion in such facilities is required to explore the world markets. Hence, the net of communication facilities should be widened in Pakistan. Increase in investments activities in communication sector of Pakistan would be helpful for the sake of rise in exports from Pakistan.
3. The important factor for the stability of domestic price. But one cannot neglect the impact of changes in international prices on the exchange rate. It is the domestic price level which is somewhat in control of the authorities of a country. Stable and low domestic prices reflect that the domestic products are cheaper in the international market, hence exports increase. Eventually, a stable exchange rate policy has to be ensured in order to avoid the exchange rate risks.
4. Evidence has shown that ODA is important factor of export promotion. If it is moved towards the strengthening of infrastructure will definitely make the output level sustainable. The favorable environment for business affects investment

climate. It is recommended to utilize the ODA in the means directly that can promote production hence exports.

5. Labor force is also a source of export expansion. It is important to increase the skill and productivity of labor force. Training institutes can also provide the on-job training skills to the already employed labor force. The skilled labor force is also the requirement of the foreign countries. The trainings of the labor force will bring multifold affect on the economy.
6. FDI promotes investment opportunities, hence output and exports. As in the case of ODA, which is an indirect tool of export promotion, this FDI is coming towards the raw material which is used for the production of exportables. there is a dire need to attract FDI directly in the production of exportable for the rapid expansion of exports.
7. Evidence has shown that exports and remittances are inversely linked. Remittances are the main sources of the foreign exchange of the Pakistan economy. Hence, no such policy will neither be proposed nor encouraged to reduce remittances. It is the use of remittances in the home country that brings such results. Pakistani expatriates are sending their hard-earn money to their families in Pakistan, but unfortunately, Pakistan has a consumption-based society. People like to spend on various occasions just for the sake of show-off. There is a need to create awareness among Pakistani people to promote saving and reduce consumption.
8. Emigration policy for the overseas Pakistanis should be in line with the growth polices. It should focus on the welfare of the Pakistanis and their families abroad. Easy exit policy for the rational Pakistanis will promote exports of Pakistan. There is also a need to develop a system to educate prospective migrants and their families in how to handle foreign earnings in ways that could help workers to establish the basis for sustainable improvements in the living standards of

themselves and their families. It is possible only if they are fully aware of their role that they can play in the foreign countries for the benefit of Pakistan. In this regard, print as well as broadcast media can play a multifold role to help and highlights the role of emigrants.

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$$U_j = M_o^\alpha M_p^\beta$$

$$E_j = Q_j M_o + Q_j M_p$$

$$L = M_o^\alpha M_p^\beta + \gamma \{E_j - Q_j (M_o + M_p)\}$$

The utility function is:

Subject to:

Now by applying langrage m

$$Q_j = \{n_p (p_p^* T_{pj})^{1-\sigma} + n_o (p_o^* T_{pj})^{1-\sigma}\}^{1-\sigma}$$

$$E_j = U_j / K \{n_p (p_p^* T_{pj})^{1-\sigma} + n_o (p_o^* T_{pj})^{1-\sigma}\}^{1-\sigma}$$

We get,

$$\frac{\partial E_j}{\partial P_p^*} = U_j / K (1/1 - \sigma) \{n_p (p_p^* T_{pj})^{1-\sigma} + n_o (p_o^* T_{pj})^{1-\sigma}\}^{1-\sigma} (1/1 - \sigma)^{-1} (1 - \sigma) n_p (P_p^* t_{pj})^{1-\sigma-1} \dots\dots (10)$$

$$= Q_j n_p (P_p^* t_{pj})^{-\sigma} U_j / K \dots\dots\dots (11)$$

$$= Q_j (P_p^*)^{-\sigma} n_p (t_p)^{-\sigma} U_j / K \dots\dots\dots (12)$$

$$= ((Q_j U_j) / K) Q_j^{\sigma-1} n_p (P_p^* t_{pj})^{-\sigma} n_p \dots\dots\dots (13)$$

Eq. 13 is obtained by multiplying and dividing Eq.12 by Q_j .

Hence, we get:

$$x_{pj} = n_{pj} E_j (Q_j)^{\sigma-1} (p_p^*)^{-\sigma} (T_{pj})^{-\sigma} \dots\dots\dots (11)$$

$$x_{pj} = n_{pj} E_j (Q_j)^{\sigma-1} (p_o^*)^{-\sigma} (T_{pj})^{-\sigma} \dots\dots (12)$$

Where $p_{pi} = p_p^* t_p T_{pj} t_j$ or $p_p^* = p_{pj} (t_p T_{pj} t_j)^{-1}$

Finally,

$$n_p p_p^* x_{pj} = n_p p_p^* n_p E_j (Q_j)^{\sigma-1} (p_o^*)^{-\sigma} (T_{oj})^{-\sigma}$$

Appendix-B

Correlation-coefficient matrix

	GDP	FDI	ODA	LF	PRICE	REM	RER	SAV	TAX	TEL	EMI
GDP	1.0000										
FDI	0.0496	1.0000									
ODA	0.0286	0.1281	1.000								
LF	0.0742	0.7044	0.4308	1.0000							
PRICE	-0.2144	-0.3219	-0.09670	-0.4940	1.0000						
REM	-0.0132	0.024	0.2783	-0.0510	0.0725	1.0000					
RER	-0.0437	0.0400	0.0429	0.0804	0.0878	0.0012	1.0000				
SAV	0.0159	0.0369	0.3700	0.2900	0.0181	0.5198	0.0433	1.0000			
TAX	0.0720	0.7546	0.4007	0.3842	-0.4725	0.0174	0.0789	0.3030	1.0000		
TEL	0.0728	0.5369	0.3880	0.5436	-0.4989	-0.1930	0.0897	0.2558	0.3070	1.0000	
EMI	0.277	0.147	0.0658	0.2057	-0.2814	-0.0962	-0.0947	0.0359	0.2023	0.1959	1.0000

Appendix-C

Country-specific Intercepts of the Fixed Effects Model

Countries	Intercepts
Bahrain	0.095432
Canada	0.259714
Denmark	-0.289635
Germany	1.467763
Greece	-0.396115
Iran	-0.002640
Iraq	-0.949850
Italy	1.087017
Japan	0.662014
Pakistan	0.97650
Korea	-5.184849
Kuwait	-0.756496
Libya	-2.396322
Malaysia	0.009090
Oman	-0.140927
Qatar	-0.430571
Saudi Arabia	0.788988
Spain	0.963310
UAE	2.144520
UK	1.205737
USA	1.863820