

# A Strategic Framework of Liberalising Trade in Services for Pakistan

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## 1. INTRODUCTION

For a long time, services were considered non-tradable in the literature of international economics. However, the sector has emerged with profound importance on the basis of strong underpinnings. Technological advancement, financial constraints and limited options, and regulatory changes have greatly expanded the range and scope of trade in services especially in the context of increasing share of knowledge intensive products at the world market. They, in the era of globalisation, have eliminated natural monopolies (telecommunications, energy) in international trade and opened up new avenues for the developing countries to match up with the developed countries in the shortest possible span of time. They are contributing a lot in creating cross-border trade and have increased private sector participation in services where, in many countries, the public sector had traditionally played a major role (health, education, environmental services). The growth in services trade has made widespread liberalisation in terms of FDI and cross-border mobility of factors of production (especially skilled labour) over the past decade.

Now, the rapid expansion of trade in services contributes significantly to economic growth, both in developed and in developing economies [OECD (2003)]. Growth in services trade are initiated and stimulated by various factors including liberalisation of merchandise trade, deregulation of service operators and advances in information and communication technologies.

The services sector has been the vehicle of economic growth in Pakistan's economy over the decades. Its share to overall GDP has reached to 53.3 percent in 2010-11, which shows a clear and continuous structural shift in the economy. In the previous fiscal year, services sector made contribution of 90 percent to the overall GDP growth. The growth trends in the services sector show relatively stable condition in the sector.

Pakistan is heading towards liberalisation of trade in services through unilateral, bilateral, multi-lateral agreements under the broad framework of WTO. Recently, in the wake of trade liberalisation in EBOPS services among Pakistan's partner countries,

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Pakistan has received request lists from its partner countries in the context of national treatment and market access under four modes of cross-border supply of WTO framework. Burki, *et al.* (2007) explains that the opportunities as well as risks associated with trade liberalisation depend primarily on the relative competitiveness among the trading partners. It is, therefore, essential for the policy-makers to design such a trade policy which not only helps promoting domestic services industries but also open up new opportunities of employment generation and economic growth and development with a guarantee of peace and stability within and across its neighbouring countries. In this connection, this research paper comprises the following components to develop a strategic framework of liberalising trade in services<sup>1</sup> for Pakistan with its selected 26 trading partners;<sup>2</sup>

- Analysing the relative contribution of trade in services to overall GDP in developing and developed countries across the world since 1981 to 2010.
- Analysing the growth of export, import and overall trade in services in Pakistan over the period 1981-2010.
- Examining the untapped potential of trade in services of Pakistan with its partner countries by category of service.
- Estimating the Trade Intensity Indices (Both Export and Import) by category of services with each selected partner country.
- Estimating Complementarity and Country Bias indices (Both Export and Import) by category of service with each selected partner country.
- Estimating Revealed Comparative Advantage Indices (Both Export and Import) by category of service with each selected partner country.
- Analysing the major determinants of Revealed Comparative Advantage.
- Estimating the price and income elasticities by category of service with selected partner countries to examine the demand and supply potential and TOT situation in services sector.
- On the basis of above analyses, to develop a strategic framework of liberalising trade in services for Pakistan.

## 2. REVIEW OF RELEVANT LITERATURE

Hoekman and Mattoo (2000) analysed the welfare and efficiency gains along with the growth through services liberalisation by adopting general equilibrium (GE) model approach. They showed that services liberalisation can stimulate economic welfare and in some cases more than that from goods liberalisation.

Li, *et al.* (2003) is used to analyse the impact of trade in services and merchandise trade on growth separately along with the indicator of government regulations (i.e. days to start a new business) and gross domestic investment. These variables in the recent literature have the central importance in estimating the core growth models and used by Levine and Renelt (1992) and Sala-i-Martin (1997). The gravity equation after the work

<sup>1</sup>Services include; Total services, Transport, Travel, Communication, Construction, Insurance, Financial, Royalties and License fee, Other Business Services, Personal, Cultural and Recreational Services, Government Services.

<sup>2</sup>The list of names of trading partners is given in the annexure.

of Tinbergen (1962) and Poyhonen (1963) has been a common formulation for the analysis of bilateral trade potentials between the trading partners by keeping in view the origin-specific, destination-specific and bilateral-specific components and determinants. Brandicourt, *et al.* (2008) explain that a gravity model with two-stage least square has the advantage of minimising the omitted variable bias given the data limitations for services trade.

Balassa (1965, 1979) by introducing his famous RCA index argued that the comparative advantage model is “revealed” by observing the commodity pattern of trade which explains the relative costs and differences in non-price factors. Later, this index is found extensively in the economic literature to identify the areas for specialisation of a country. Sapir and Lutz (1981) asserted that the principle of comparative advantage and the factor endowment model is consistent with the international trade in services. The structural and institutional factors of Revealed Comparative Advantage, across countries over period were identified for the identification of policy tools in a preference order.

Since there is difference in nature of goods and services, therefore the available elasticity estimates for trade in goods may not be used directly to understand the behavioural pattern of trade in services. The scope of differentiation in services is much greater than in goods (e.g. transport, medical, financial, insurance services etc.). These differentiations in services have significant impact on relative elasticities. Marquez (2002) estimated income and price elasticities for exports and imports of USA in four categories which include travel, fares, transportation, and other private services. He further assessed simultaneity biases by comparing estimates from three estimation methods namely OLS, IV and FIML. Saeed, *et al.* (2005) worked on services trade by modes of supply, operational constraints and export capacity in five service sectors of Pakistan including IT; financial services; construction and architectural services; professional services; and medical and health services. They analysed the forward and backward linkages between the services sector and the major commodity producing sectors. They concluded that there is significant on-going trade in services and scope in the export markets in all modes of supply in the selected sectors. However, the potential impact of liberalising trade in services in the current scenario is absent in their paper. Rehan (2008) studied the pattern of growth of services sector in all five South Asian countries for last three decades. He analysed that under GATS; these countries have liberalised many of their services sectors but due to weak domestic preparedness before opening up are likely to be associated with unsatisfactory and undesirable outcomes of liberalisation.

### 3. METHODOLOGICAL SETUP

We first check the relative contribution of Trade in Services to Overall GDP with the following specifications;

$$\frac{RC_{it}}{T} = ARC_{it} \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (1)$$

$$\frac{d \ln \left( \frac{X_{it}}{GDP_{it}} \right)}{\frac{X_{it}}{GDP_{it}}} = RC_{it} \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (2)$$

Where;

$RC_{it}$  = Relative contribution of country  $i$  in period  $t$

$T = 5$  years

$ARC_{it}$  = Avg. Relative contribution of country  $i$  in period  $t$

$\left(\frac{X_{it}}{GDP_{it}}\right)$  = Trade in services of country  $i$  given the size of overall GDP in period  $t$

There are generally two approaches adopted to analyse the impact of trade and trade spillover on economic growth. A strand of literature has used the contribution of R&D spillovers to TFP growth. The alternative is an output growth equation. The second method has the advantage over the first in terms of eliminating any expected error in calculating the Total factor productivity. In this study, production function estimation approach consistent with Li, *et al.* (2003) is used to analyse the impact of trade in services and merchandize trade on growth separately along with the indicator of government regulations (i.e. days to start a new business) and gross domestic investment. These variables in the recent literature have the central importance in estimating the core growth models through either of the approaches mentioned above and also used by Levine and Renelt (1992) and Sala-i-Martin (1997). The parsimonious specification is as follows;

$$\text{Log}Y_{it} = \phi_0 + \phi_1 \text{Log}GDI_{it} + \phi_2 Mg_{it} + \phi_3 Sg_{it} + \phi_4 Bd_{it} + \mu \quad \dots \quad (3)$$

Here  $\phi_1 > 0, \phi_2 > 0, \phi_3 > 0, \phi_4 < 0$

Equation 3 explains the production function in general form.

Where,

$Y_{it}$  = Per capita income of country  $i$  in period  $t$

$GDI_{it}$  = Gross domestic Investment of country  $i$  in period  $t$

$Mg_{it}$  = Merchandize trade as percentage GDP of country  $i$  in period  $t$

$Sg_{it}$  = Trade in services as percentage of GDP of country  $i$  in period  $t$

$Bd_{it}$  = Days to start a new business in country  $i$  in period  $t$

The gravity equation after the work of Tinbergen (1962) and Poyhonen (1963) has been a common formulation for the analysis of bilateral trade potentials between the trading partners by keeping in view the origin-specific, destination-specific and bilateral-specific components and determinants. Brandicourt, *et al.* (2008) explains that a gravity model with two-stage least square has the advantage of minimising the omitted variable bias given the data limitations for services trade. In this study, a gravity model with two-stage pooled least square method is used to analyse the trade potential with the selected trading partners in relative terms. At first stage, we will estimate the specification 4 and at second stage we estimate the specification 5 given below. The underlying purpose of the second-stage regression is to compare country-partner trade volumes ( $\gamma_{ij}$ ) with the volumes ( $\hat{\gamma}_{ij}$ ) predicted by observed country-specific variables. The predicted volume is considered as a country's trade potential. In this ways, it estimates a country's services exports predicted by its observable characteristics. It explains that if the term  $\{(\gamma_{ij}) - (\hat{\gamma}_{ij})\}$  takes negative sign. It means that the country has untapped potential with its partner in the given time  $t$ . Conversely the positive residual is an indicative of over-performance with a trading partner in comparison with other trading partners. The explanatory

variables used in specification 4 and 5 have been extensively found in the existing literature.

### **First Stage**

$$\ln X_{ijt} = \theta_0 + \theta_1 \ln \text{Dist}_{ij} + \theta_2 \ln \text{Cl}_{ij} + \theta_3 \ln \text{Cb}_{ij} + \gamma_{ij} + \varepsilon_{ijt} \quad \dots \quad (4)$$

Here  $\theta_1 < 0$ ,  $\theta_2, \theta_3 > 0$ ,  $\gamma_{ijt} > 0$  or  $\gamma_{ijt} < 0$

Where,

$X_{ijt}$  = Exports of services of country  $i$  to partner country  $j$  in period  $t$

$\text{Dist}_{ij}$  = Distance between capitals of country  $i$  and country  $j$

$\text{Cl}_{ij}$  = Common language of country  $i$  and country  $j$

$\text{Cb}_{ij}$  = Common boarder of country  $i$  and  $j$

$\gamma_{ij}$  = Cross section fixed effect

And

### **Second Stage**

$$\gamma_{ij} = \Omega_0 + \Omega_1 \ln \text{POP}_j + \Omega_2 Y_j + \Omega_3 \text{MO}_{ij} + \Omega_4 \text{MR}_j + \varepsilon_{ij} \quad \dots \quad (5)$$

Here

$\gamma_{ij}$  = cross section fixed effect in a given period estimated in specification 4

$\text{POP}_j$  = Population of country  $j$  in given period

$Y_j$  = Per capita income of country  $j$  in given period

$\text{MO}_{ij}$  = Multilateral openness term of country  $i$  in given period

$\text{MR}_j$  = Market Regulation Indicator

Trade-intensity index measures the extent to which a country's share in another country's exports (imports) is larger or smaller in relation to the former country's share in world trade. The value of more (or less) than unity of this index indicates that a country is exporting more (or less) to another country than might be expected from the country's share in world trade. The trade-intensity index has been decomposed into two indices, "complementary" and "country bias", in order to assess the contribution of Complementarity and other factors influencing the intensity of trade. The "Complementarity index" measures the extent to which one country's export pattern matches another country's import pattern more closely than it matches that country's import pattern for world imports. The "country bias" index measures that extent to which one country's exports have more or less favourable access to another country's market than might be expected from both countries' share in world trade. The revealed comparative advantage (RCA) index, which shows the comparative advantage in terms of the share of a particular industry in a country's total exports relative to the industry's share in total world exports has been calculated in order to assess the dimension of comparative advantage among the service groups of member countries and to infer the degree of potential Complementarity of the countries as well as the degree of potential Complementarity of the countries in international trade. The RCAX and RCAM explain the advantage / disadvantage in labour-intensive and capital-intensive services.

The formulae to measure the Trade-intensity indices (Export and Import), the Complementarity indices (Export and Import), the country-bias index, RCA are given below;

$$IE_{ij} = \frac{X_{ij}}{X_i} / \frac{M_j}{M_w - M_i} \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (6)$$

$$IM_{ij} = \frac{M_{ij}}{M_i} / \frac{X_j}{X_w - X_i} \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (7)$$

$$CI_{ij} = \left( \frac{X_j^k}{X_j} \right) \left( \frac{M_w - M_i}{M_w^k - M_i^k} \right) \left( \frac{M_j^k}{M_j} \right) \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (8)$$

$$CM_{ij} = \left( \frac{M_j^k}{M_j} \right) \left( \frac{X_w - X_i}{X_w^k - X_i^k} \right) \left( \frac{X_j^k}{X_j} \right) \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (9)$$

$$BI_{ij} = X_{ij} \left( \frac{M_w^k - M_i^k}{X_i^k - M_j^k} \right) \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (10)$$

$$BM_{ij} = M_{ij} \left( \frac{X_w^k - X_i^k}{M_i^k - X_j^k} \right) \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (11)$$

$$RCAX = \left( \frac{X_i^k}{X_i} \right) / \left( \frac{X_w^k}{X_w} \right) \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (12)$$

$$RCAM = \left( \frac{M_i^k}{M_i} \right) / \left( \frac{M_w^k}{M_w} \right) \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (13)$$

where;

$IE_{ij}$  = Export – intensity index (EII) of country  $i$  with country  $j$

$IM_{ij}$  = Import – intensity index (EII) of country  $i$  with country  $j$

$X_{ij}$  = Export of country  $i$  to country  $j$

$X_i$  = Total export of country  $i$

$M_j$  = Total import of country  $j$

$M_w$  = Total world import

$M_i$  = Total import country  $j$

$CE_{ij}$  = Export Complementarity – index

$CM_{ij}$  = Import Complementarity – index

$X_i^k$  = Country  $i$ 's export of commodity  $k$

$M_w^k$  = World imports of commodity  $k$

$M_i^k$  = Country  $i$ 's import of commodity  $k$

$M_j^k$  = Country  $j$ 's import of commodity  $k$

$BX_{ij}$  = Export Country – bias index for country  $i$ 's export to country  $j$

$BM_{ij}$  = Import Country – bias index for country  $i$ 's export to country  $j$

$RCAX$  = Revealed Comparative Advantage of exports of commodity  $k$  for country  $i$

$X_w^k$  = World exports of commodity  $k$

$X_w$  = Total world exports

$RCAM$  = Revealed Comparative Advantage of imports of commodity  $k$  for country  $i$

Balassa (1965, 1979) by introducing his famous RCA index argued that the comparative advantage model is “revealed” by observing the commodity pattern of trade which explains the relative costs and differences in non-price factors. Later, this index is found extensively in the economic literature to identify the areas for specialization of a country. Sapir and Lutz (1981) asserted that the principle of comparative advantage and the factor endowment model is consistent with the international trade in services. The structural and institutional factors of Revealed Comparative Advantage, across countries over period were identified for the identification of policy tools in a preference order. The model used in this study is consistent on theoretical underpinnings with a strand of relevant literature [Leontief (1953); Kenen (1965); Bhagwati (1967); Keesing (1967); Hufbauer (1970); Baldwin (1971); Branson and Junz (1971); Harkness and Kyle (1975); Balassa (1979); Stern and Maskus (1981); Sapir and Lutz (1981); Sveikaukas (1983); Leamer (1987); Debebedictis and Tamberi (2001); Clarks, Sawyer, and Sprinkle (2005); Karmakar (2007); Nyahoho (2010)]. The specification is as follows;

$$RX_{it} = \varphi_0 + \varphi_1 En_{it} + \varphi_2 GDP_{it} + \varphi_3 \left(\frac{K}{L}\right)_{it} + \varphi_4 LI_{it} + \varphi_5 LPR_{it} + \varphi_6 POP_{it} + \varphi_7 Sg_{it} + \varphi_8 Mg_{it} + \varphi_9 MR_{it} + \varepsilon_{it} \quad \dots \quad (14)$$

Here  $\varphi_1, \varphi_2, \varphi_3, \varphi_4, \varphi_5, \varphi_6, \varphi_7, \varphi_8, \varphi_9 > 0$  and  $\varphi_3, \varphi_4, \varphi_5 < 0$

where;

$RX_{it}$  = Revealed Comparative Advantage Index of Exports of country  $i$  in period  $t$

$En_{it}$  = Enrolment ratio in country  $i$  in period  $t$

$GDP_{it}$  = Per capita income of country  $i$  in period  $t$

$\left(\frac{K}{L}\right)_{it}$  = Capital Labour ratio of country  $i$  in period  $t$

$LI_{it}$  = Logistic Indicator of country  $i$  in period  $t$

$LPR_{it}$  = Labour participation rate in country  $i$  in period  $t$

$POP_{it}$  = Population of country  $i$  in given period

$Sg_{it}$  = Trade in services as percentage of GDP in country  $i$

$Mg_{it}$  = Goods trade as percentage of GDP of country  $i$

$MR_{it}$  = Market Regulation Indicator

To assess the stable demand of tradable goods and services especially keeping in view the effect of depreciation of the real exchange rate trade balance, price elasticities of imports and exports are calculated and found in the literature. It is also found that a real depreciation generally lead to an improvement in the trade balance. This criterion is also known as the Marshall-Lerner condition. This condition requires the sum of the absolute values of import and export price elasticities must be greater than 1. This condition and the stability of the trade elasticities are useful tools for analysing the potential demand in the partner country and at the same time the potential effect of a change in the real exchange rate on an economy's trade balance. Keeping this in view, the intuition of empirical formulation consistent with the methodologies adopted by Hooper, Johnson, and Marquez (2000); Chinn (2005) Li-gang Lu (2007), is based on the imperfect substitute model in which movements in the logarithm of trade are explained in terms of movements in the logarithms of relative prices.<sup>3</sup> It is assumed here that there is no lag impact due to services contract etc.

<sup>3</sup>The most common formulation in this area is the log-linear one; see Goldstein and Khan (1985) and Marquez (2002).

The specification is as follows;

$$\ln x_{ijkt} = \alpha_0 + \beta \ln REER_{it}^T + d + u \quad \dots \dots \dots (15) \quad u \sim IN(0, \sigma^2)$$

$$B < 0$$

$$\ln m_{ijkt} = \alpha_0 + \beta_1 \ln REER_{it}^T + d + u_1 \quad \dots \dots \dots (16) \quad u_1 \sim IN(0, \sigma^2)$$

$$B_1 < 0$$

Here

Where

$X_{ijkt}$  = exports of contry i of service of category k with country j in period t

$\alpha_0$  = constant term

$\beta$  = Coefficient of Price elasticity for export demand ( $\epsilon_{ij}$ )

$\beta_1$  = Coefficient of Price elasticity for import demand ( $\eta_{ij}$ )

$REER_{it}^T$  = Trade wieghted real effective exchange rate

The following specifications were used to estimate the price and income elasticities of import and export by category of service and by partner country to analyse the demand and supply potential and TOT situations. Theses specification were estimated based on the foresaid assumptions

$$\ln x_i = \alpha_0 + \beta \ln p_i + d + u \quad \dots \dots \dots (17) \quad u \sim IN(0, \sigma^2)$$

$$\beta < 0$$

$$\ln m_i = \alpha_0 + \beta_1 \ln p_i + d + u_1 \quad \dots \dots \dots (18) \quad u_1 \sim IN(0, \sigma^2)$$

$$\beta_1 < 0$$

$$\ln x_i = \alpha_0 + \alpha \ln I^* + d + u_3 \quad \dots \dots \dots (19) \quad u_3 \sim IN(0, \sigma^2)$$

$$\alpha > 0$$

$$\ln m_i = \alpha_0 + \alpha_1 \ln I + d + u_4 \quad \dots \dots \dots (20) \quad u_4 \sim IN(0, \sigma^2)$$

$$\alpha_1 > 0$$

Where

$X_i$  = exports of ith trade service

$\alpha_0$  = constant term

$p_i = \frac{p^*}{e^*}$  = real export price in domestic value and

$d$  = dummy variable

$e^*$  = Real Exchange Rate

$p^*$  = Foreign Price (\$) = 1

$\beta$  = Coefficient of Price elasticities for export demand

$\beta_1$  = Coefficient of Price elasticities for import demand

$\alpha$  = Coefficient of Income elasticities for export demand

$\alpha_1$  = Coefficient of Income elasticities for import demand

$I^*$  = Foreign per capita income

#### 4. DATA TYPE AND ESTIMATION TECHNIQUE

We used panel data on annual frequency for the variables (Real GDP, trade in services taken from World Bank online database) from 1981 to 2010 for 60 countries



around the world including developed, developing and least developed economies (See detail in table in the annexure) to estimate the relative contribution of the trade in services to the overall GDP through specification 3.1 and 3.2. For specification 3.3, we used panel data on annual frequency of 26 trading partners of Pakistan and itself on the variables described above from 2006 and 2010 from world bank online database and estimated the specification 3.3 through Pooled Least Square technique with no cross-section and period fixed effects. For specification 3.4, the dependent variable has been described as the export of services of Pakistan to its 26 trading partners. These services include total services, transportation, communications, construction, travel, financial, insurance, computer and information, other business services, legal and license fees, personal and cultural, government services. We used the panel data on annual frequency from 2006 to 2010. The data was taken from UN Online database on trade in services. The data on common language variable is gathered with the methodology that if at least 20 percent of the total population of both countries can understand a common language then the dummy variable takes the value 1 otherwise 0. Dummy variable for common boarder takes the value of 1 if two countries have common boarder otherwise 0. The data on the variable of distance was measured as a straight distance between the capitals of two countries from the earth Google website. The specification was estimated through pooled least square method with cross-section fixed effect and in this way determined the value of  $\gamma_{ij}$  which was taken as dependent variable in specification 3.5 to estimate the potential of trade in services with a partner country relative to other partner countries. The specification 3.5 was estimated through OLS technique. In specification 3.5, the data on population and per capita income was taken from World Bank online database. The variable of ‘days to start a new business’ was used as proxy for market regulation as both variables have high negative correlation. If market regulation facilitates the market then it would result in decrease the days to start a new business. The data on market openness indicator was gathered with the methodology;

$$MO_{ij} = \frac{\sum_{j=1}^J GDP_j}{Dist_{ij}}$$

Where  $j$  is the trading partner of country  $i$

From specification 6 to 13, data on all above said categories of services from 2005 to 2010 was taken from UN online database on trade in services. The data on world exports and imports were calculated by adding the total imports and exports of the sample of 26 partners of Pakistan including itself. In specification 14, the dependent variable i.e. RCAX was calculated from specification 12. The data on explanatory variables from 2006 to 2010 in specification 14 was taken from World Bank online website. In specifications 15 and 16, the data on trade weighted real effective exchange rate (REER) was taken on quarterly frequency from State Bank of Pakistan (SBP) online dataset. The data on (quarterly frequency) Imports and exports by category of service with the partner countries was calculated from datasets on trade in services by category and direction of trade given in SBP website and On-line

UN trade in services dataset. Specifications 17 to 20 were estimated using data on annual frequency from 2000 to 2011. The data was taken from UN online trade database and SBP online database.

## 5. RESULTS AND DISCUSSION

First, we analysed the relative contribution of trade in services to overall GDP across 60 countries combining into nine groups. Results are shown in Table 5.1. In the table, the positive figures show the increase in the contribution of services sector (in percentage) to overall GDP in comparison with other sectors' contribution in the same period, while the negative figures explain a decrease in the contribution of services sector to overall GDP in comparison with other sectors' contribution in the same period. In 1981-85, the relative contribution remained positive in all regional blocks except NAFTA and Mercosur, while it remained extra ordinarily highest in the SAARC and Pakistan also performed well in services sector. From 1986-90, the relative contribution remained negative in all regional blocks except in Mercosur. Though, it remained negative, but Pakistan again performed very well in this services sector with 7.06 percent relative contribution. From 1990-2005, the contribution remained negative in most of the regional/trading blocks. While, in the period, 2006-10 the contribution remained very high and positive in all regional/trading blocks. It confirms the importance of trade in services sector in new growth models/strategies for growth and development. It is also shown that during period, 1981-2010, the developing countries in comparison with developed countries performed well in trade in services. An important result can also be drawn from the table if analysed the contribution pattern in EU, NAFTA and SAARC at once. Since the NAFTA and EU are the major trading partners of SAARC countries and demand for service in trade is mostly the derived demand of merchandise trade. It is therefore, explicit that during the periods: 1986-90 and 1991-95, when the contribution was negative in both EU and NAFTA, the contribution in SAARC countries was also negative and vice versa. Similarly, when the contribution was negative in one of the regional blocks (EU, NAFTA), the contribution sign in SAARC was determined by the relative impact of both the major trading partners (EU, NAFTA). It gives policy guidelines to the SAARC member countries to decrease the dependence on EU and NAFTA markets and look for other world markets to spread the base of major trading partners. In this regard, SAARC Free Trade Agreement on Trade in Services can increase the regional trade in services and decrease the huge dependence on EU, NAFTA markets. From Table 5.2, the growth of trade in services during the period 1980-2010 remained higher than the overall GDP growth and the growth of exports of services, on average, remained close to growth of imports during the period 1980-81 and remained very high during 2005-11. Keeping in view the consistent trend of almost positive contribution of trade in services in Pakistan during 1981-2010, and higher growth of exports of services than imports, the areas of trade in services should be focused in new growth strategy through institutional and structural development of Pakistan economy and society.

Table 5.1

*Relative Contribution of Trade in Services to Overall GDP*

Year	CEN								
	SAD-10	TPSEPA	Mercosur	NAFTA	EU-15	EAEC	SAARC	PAKISTAN	APEC
1981-85	1.668	1.125	-0.35	-0.22	0.17	-	7.468	6	0.29
1986-90	-0.912	-0.195	0.095	-0.05	-0.32	-	-0.188	7.06	-0.17
1991-95	0.16	0.01	-0.125	-0.17	-2.12	-	-1.36	-0.02	-0.54
1996-00	1.668	-2.455	-0.085	0.06	-1.60	-0.944	0.608	0.68	-0.30
2001-05	-0.268	-0.26	-0.16	0.07	-1.06	-0.96	-0.568	-0.84	-0.15
2006-10	2.764	6.66	1.84	1.35	7.35	3.252	5.292	1.88	3.64

Table 5.2

*Growth of Exports, Imports and Total Trade in Services of Pakistan*

Year	Growth of Exports	Growth of Imports	Growth of Total Trade in Services
1980-1985	5.17	5.16	5.11
1986-1990	11.25	12.52	11.82
1990-1995	9.23	6.51	7.44
1996-2000	-6.47	-2.26	-4.23
2001-2005	21.09	27.72	23.95
2005-2011	9.42	3.89	5.28

The specification 3.3 was estimated and results are shown in Table 5.3 in the annexure. In this analysis we estimated the impact of trade in services and trade in merchandise on growth of per capita income separately. The results show that all explanatory variables are statistically significant in explaining the variation in per capita income. The results show that 1 percent increase in gross domestic investment will increase the per capita income by 0.28 percent. 1 percent increase in Trade in services (% of GDP) will increase per capita income by 0.008 percent. 1 percent increase in trade in merchandise (% of GDP) will increase per capita income by 0.002 percent. This result shows that the contribution of trade in services to the growth of per capita income is higher than that of trade in merchandise. Another important result is drawn from the table that 1 day decrease in the “days to start a new business” will increase the per capita income by 0.04 percent.

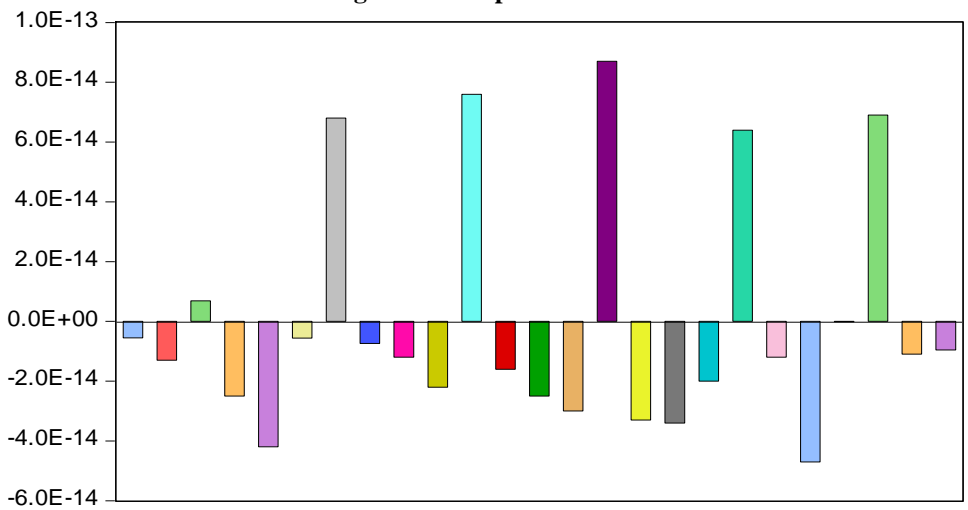
Table 5.3

*Method: Pooled Least Square Dependent Variable = Log (per Capita GDP)*

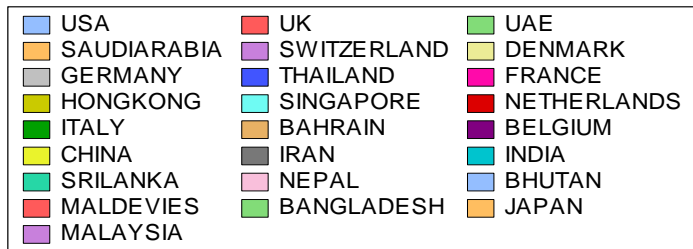
Explanatory Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	2.902121	0.272118	10.66495	0.000
LOG(Gross Domestic Investment)	0.286588	0.010095	28.38792	0.000
Trade in Services (% of GDP)	0.008082	0.00144	5.612526	0.000
Trade in Merchandise (% of GDP)	0.002157	0.00032	6.744159	0.000
No. of Days to Start a New Business	-0.046402	0.001026	45.21641	0.000
No. Observations	175	Akaike info criterion		1.835906
R-square	0.681388	Schwarz criterion		1.847671
S.E. of Regression	0.605321			

Specification 3.4 and 3.5 to determine the relative trade (export) potential for each category of export of service with the partner countries of Pakistan were estimated through two stages least square method. Figure 5.1 explains the trade (export) potential in transport services with the partner countries. It is shown from the figure that there is still untapped potential of export of transport services with 18 out of 25 trading partners of Pakistan. These are USA, Maldives, Saudi Arabia, Malaysia, Hongkong, Thailand, France, Denmark, Netherlands, Italy, Bahrain, China, Iran, India, Nepal, Bhutan, Japan, and Switzerland. Figure 5.2 explains the trade (export) potential in travel services with the partner countries. It is shown from the figure that there is still untapped potential of export of travel services with 19 out of 25 trading partners of Pakistan. These are USA, Maldives, Saudi Arabia, Malaysia, Hongkong, Thailand, France, Denmark, Netherlands, Italy, Bahrain, China, Iran, India, Nepal, Bhutan, Japan, Switzerland and UK. Figure 5.3 explains the trade (export) potential in communication services with the partner countries. It is shown from the figure that there is still untapped potential of export of communication services with 17 out of 25 trading partners of Pakistan. These are USA, Bangladesh, Saudi Arabia, Germany, Hongkong, Thailand, Hongkong, Singapore, Italy, Belgium, Iran, Sri Lanka, Nepal, Maldives, UAE, Japan and Switzerland. Figure 5.4 explains the trade (export) potential in construction services with the partner countries. It is shown from the figure that there is still untapped potential of export of construction services with 9 out of 25 trading partners of Pakistan. These are USA, Maldives, Bangladesh, Malaysia, India, Nepal, Bhutan, UK, and Switzerland. Figure 5.5 explains the trade (export) potential in insurance services with the partner countries. It is shown from the figure that there is still untapped potential of export of insurance services with 9 out of 25 trading partners of Pakistan. These are USA, Maldives, Bangladesh, Malaysia, Denmark, Thailand, France, India, and Nepal. Figure 5.6 explains the trade (export) potential in financial services with the partner countries. It is shown from the figure that there is still untapped potential of export of financial services with 15 out of 25 trading partners of Pakistan. These are USA, Bangladesh, Japan, Malaysia, Thailand, France, Hongkong, India, Netherlands, Italy, Belgium, China, Sri Lanka, Nepal and Bhutan. Figure 5.7 explains the trade (export) potential in Computer and Information services with the partner countries. It is shown from the figure that there is still untapped potential of export of Computer & Information services with 8 out of 25 trading partners of Pakistan. These are USA, Bangladesh, Saudi Arabia, Japan, Netherlands, Italy, UK and Malaysia. Figure 5.8 explains the trade (export) potential in Royalties and License fee services with the partner countries. It is shown from the figure that there is still untapped potential of export of Royalties and License Fee services with 13 out of 25 trading partners of Pakistan. These are USA, UK, Bangladesh, Malaysia, Hongkong, Iran, Thailand, France, Denmark, Netherlands, UAE, Nepal, and Bhutan.

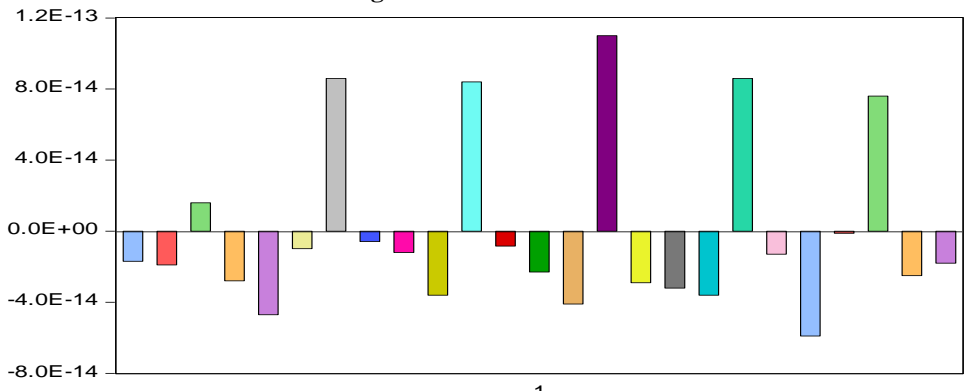
**Fig. 5.1. Transport Services**



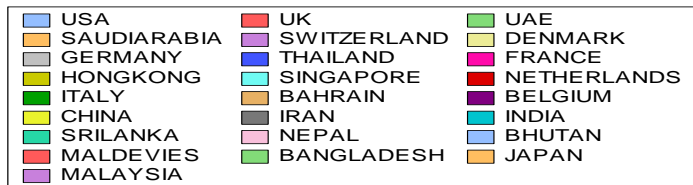
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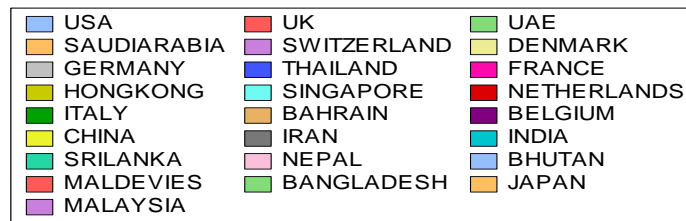
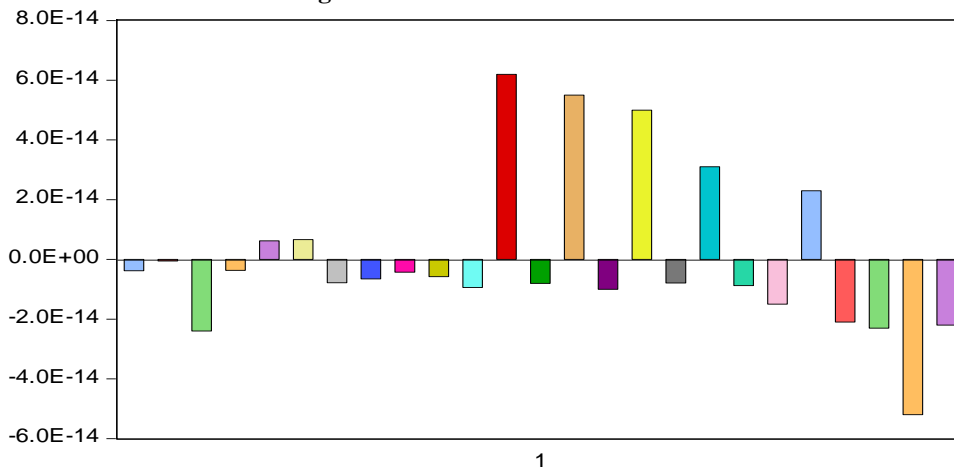
**Fig. 5.2. Travel Services**



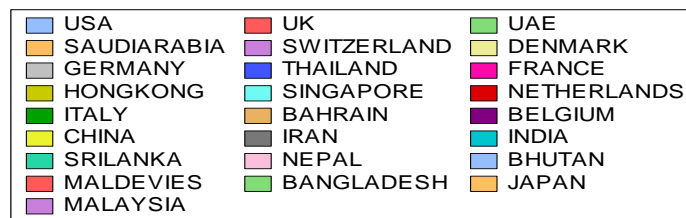
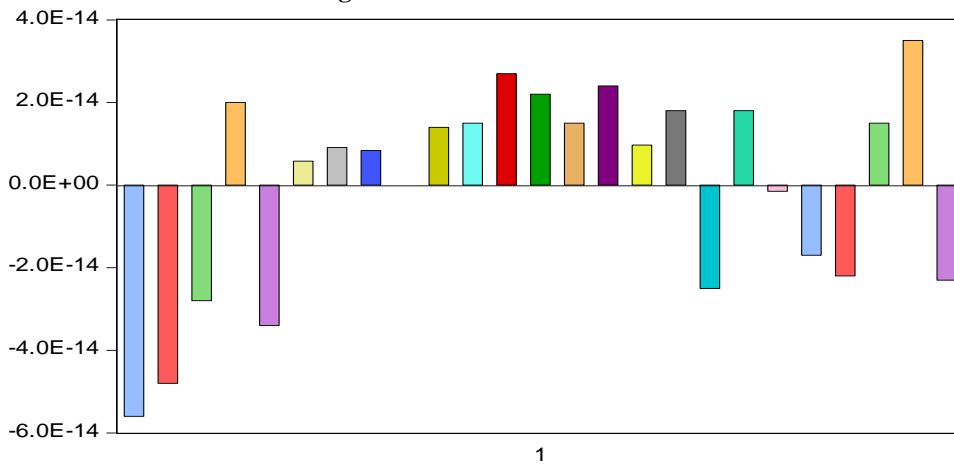
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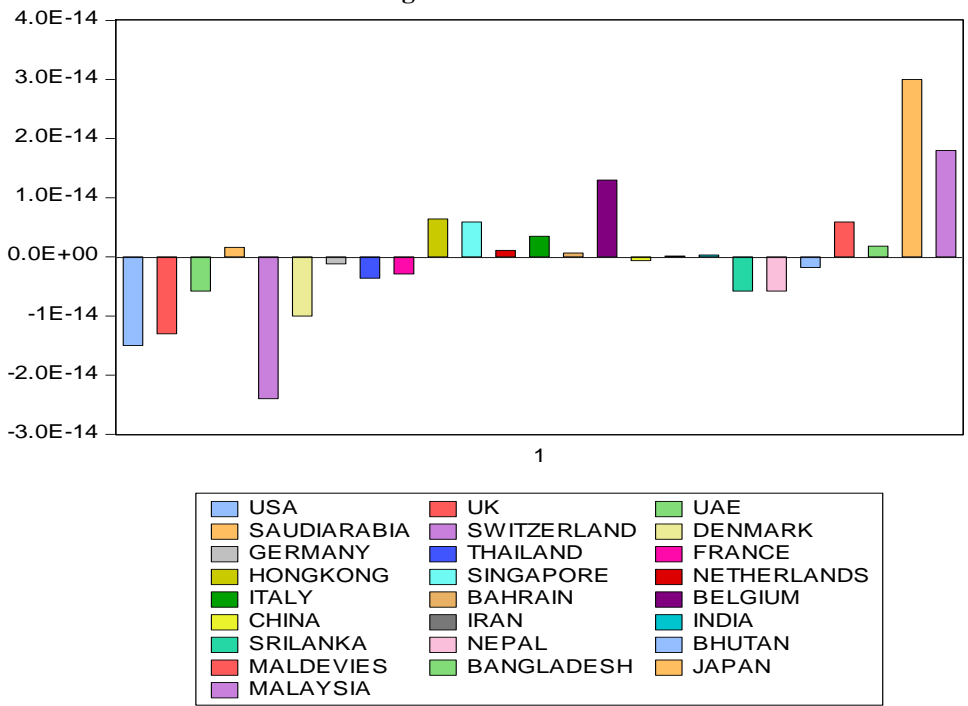
**Fig. 5.3. Communication Services**



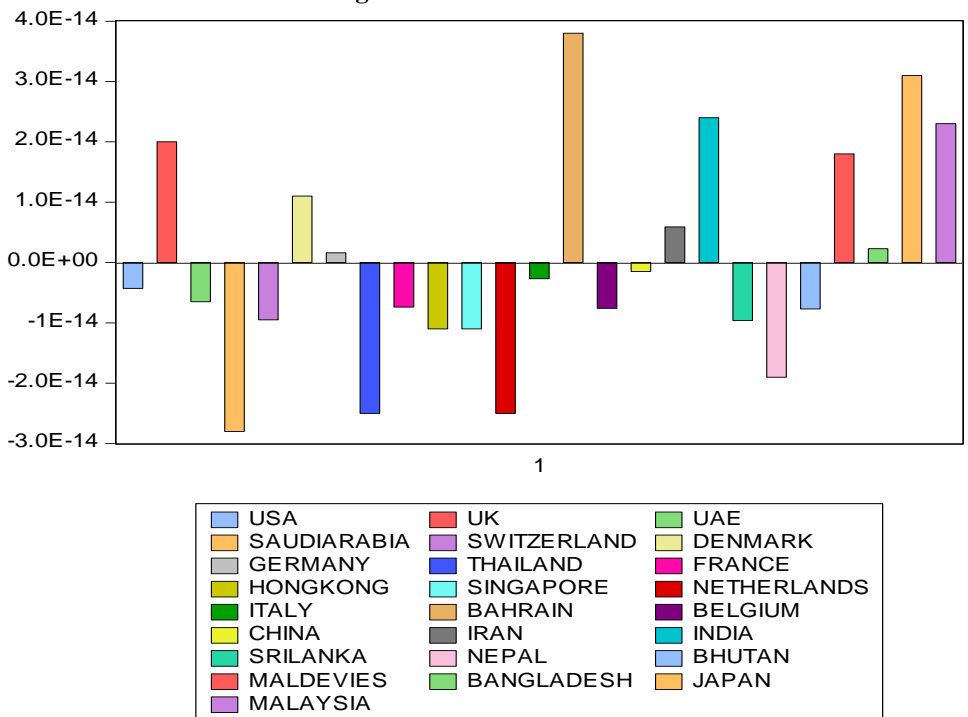
**Fig. 5.4. Construction Services**



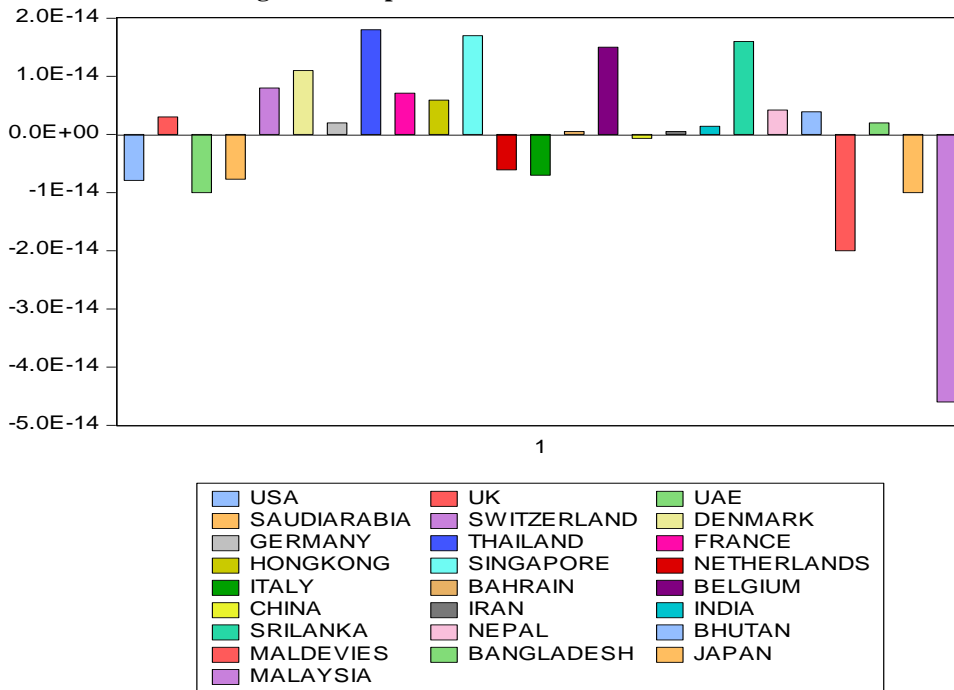
**Fig. 5.5. Insurance**



**Fig. 5.6. Financial Services**



**Fig. 5.7. Computer and Information Services**



**Fig. 5.8. Royalties and License Fee**

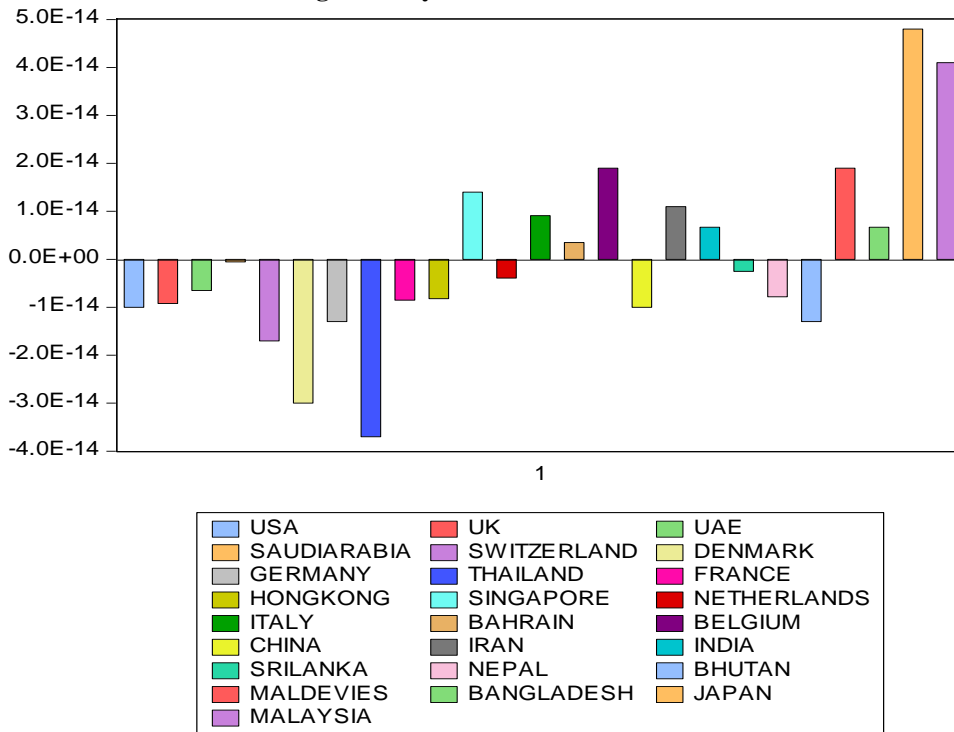
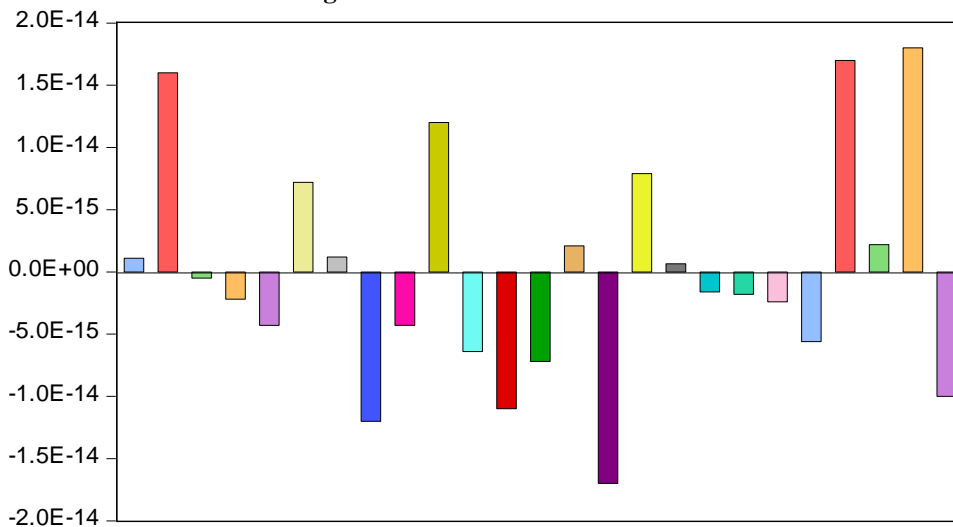


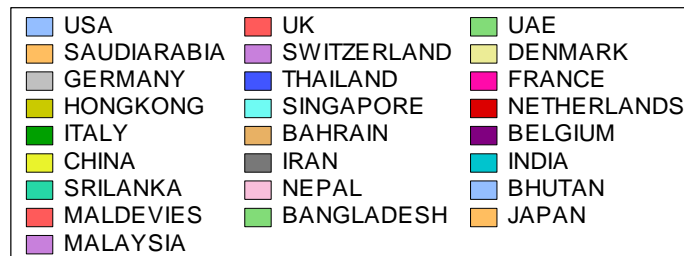


Figure 5.9 explains the trade (export) potential in Other Business services with the partner countries. It is shown from the figure that there is still untapped potential of export of Other Business services with 12 out 25 trading partners of Pakistan. These are Saudi Arabia, Malaysia, Thailand, France, India, Netherland, Italy, Belgium, Singapore, Nepal, Bhutan and Switzerland. Figure 5.10 explains the trade (export) potential in Personal, Cultural and Recreational services with the partner countries. It is shown from the figure that there is still untapped potential of export of the services with 12 out 25 trading partners of Pakistan. These are Saudi Arabia, Switzerland, Denmark, Thailand, Hongkong, Singapore, Netherland, Bahrain, China, India, Nepal and Bhutan. Fig 5.11 explains the trade (export) potential in Governmental services with the partner countries. It is shown from the figure that there is still untapped potential of export of the services with 9 out 25 trading partners of Pakistan. These are Hongkong, Netherland, Italy, Japan, Belgium, China, Iran, India, Srilanka and Bhutan. Fig 5.12 explains the trade (export) potential in each category of service from among eleven categories of services given the 25 trading partners. It is shown from the figure that there is still untapped potential of export in five areas / categories of services out of eleven areas of services. These are Travel, Insurance, Financial, Other business services, governmental services.

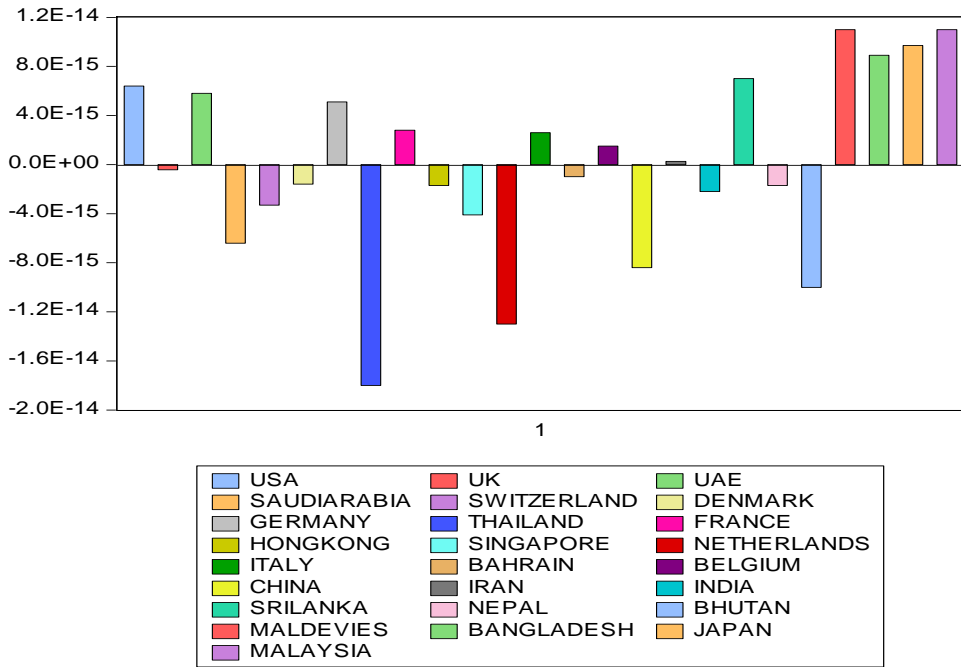
**Fig. 5.9. Other Business Services**



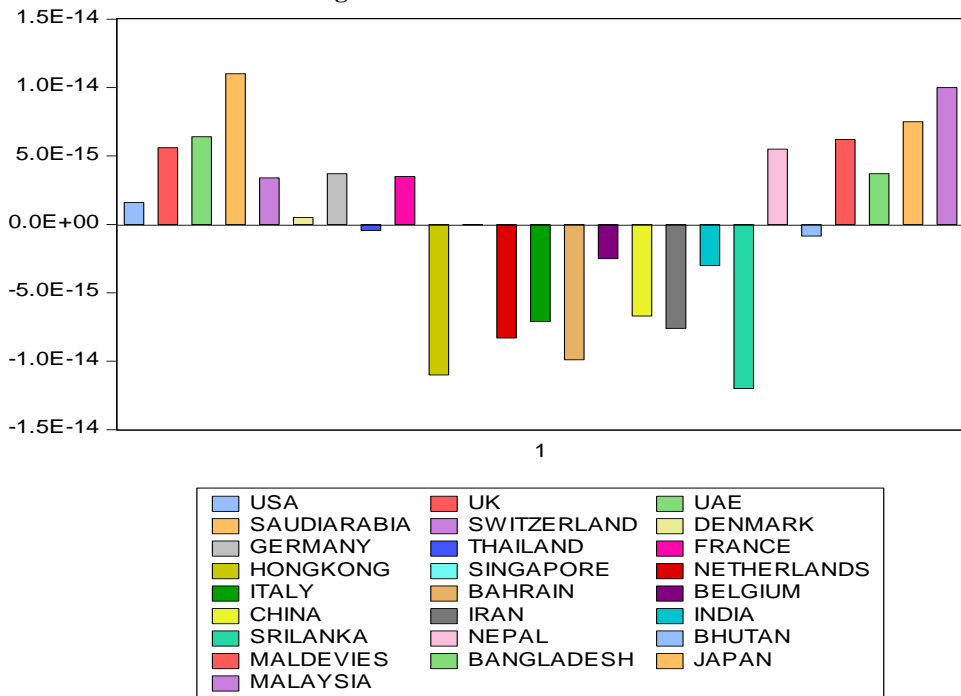
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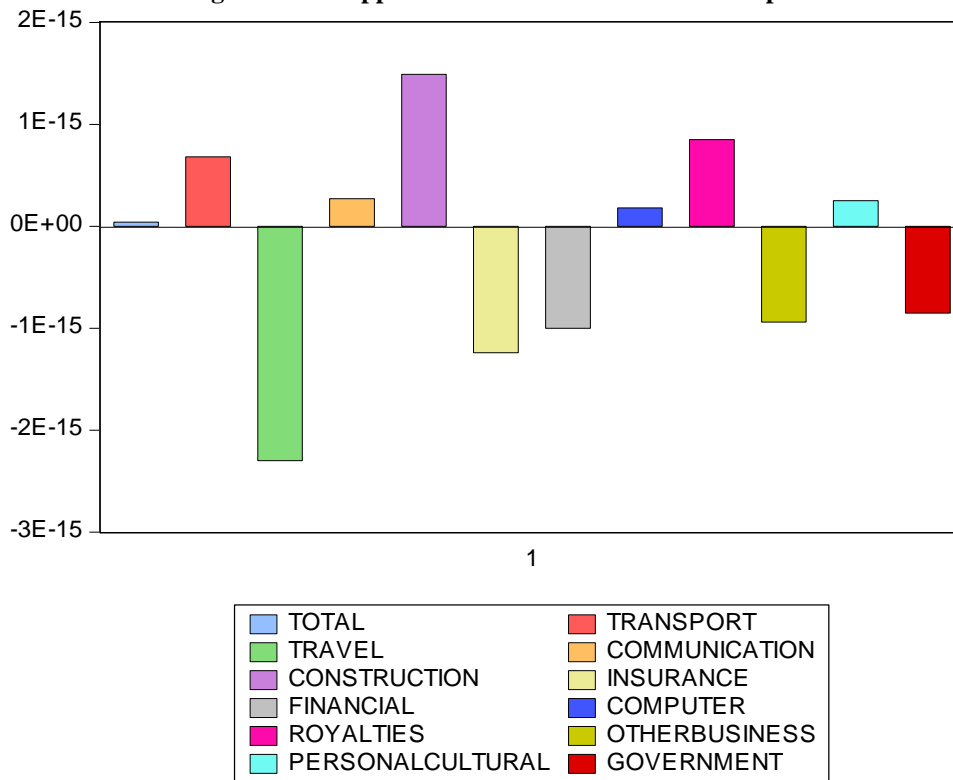


**Fig. 5.10. Personal, Cultural and Recreational Services**



**Fig. 5.11. Government Services**



**Fig. 5.12. Untapped Potential Across Service Groups**

Specifications 3.6 and 3.7 were estimated to find out the bilateral trade intensity indices of export and import. The results were reported in Tables 5.4 and 5.5 in the annexure. In total services, the value of trade intensity index of export is greater than 1 with USA, UK, UAE, Saudi Arabia and Bahrain. In transport services, these countries are UK, UAE, Saudi Arabia and Bahrain. An interesting note here is that in both the foresaid categories of services, the countries except USA are the same and these countries are the first major trading partners of Pakistan in trade in services. It is therefore, shows the consistency of the results. In travel services, the value of trade intensity index of export is greater than 1 with USA and Bangladesh only. In Communication services, the countries are USA and Bahrain. In construction services, the countries are USA, UK, Singapore and Italy. In insurance services, the countries are UK, Switzerland, Germany, Hongkong, Singapore, Bahrain, India, Bangladesh and Malaysia. In financial services, the countries are USA, China and Bangladesh. In computer and information services, the countries are USA, UK and Bangladesh. In royalties and license fee, the countries are USA and Belgium. In other business services, the countries are USA, Saudi Arabia, Switzerland, Bahrain, Srilanka, Bhutan, Maldives and Bangladesh. In personal and cultural services the countries are USA, UK, Switzerland, Hongkong, Singapore, China and India. In government services, the countries are USA, UK and Switzerland.

Table 5.4

*Bilateral Trade Intensity Index of Export of Pakistan with Following Countries*

	Total	Tran.	Trav.	Com.	Const.	Insr.	Fin.	Com., Infor.	Roy., Lice. Fee	Other Busi.	Pers., Cult.	Govt. Serv.
	1	2	3	4	5	6	7	8	9	10	11	12
USA	<b>2.09</b>	0.95	<b>5.06</b>	<b>4.53</b>	<b>7.69</b>	0.45	<b>1.75</b>	<b>2.15</b>	<b>3.69</b>	<b>2.24</b>	<b>4.92</b>	<b>1.10</b>
UK	<b>1.07</b>	<b>2.15</b>	0.15	0.64	<b>1.14</b>	<b>8.84</b>	0.46	<b>1.27</b>	0.29	0.78	<b>1.79</b>	<b>1.57</b>
UAE	<b>3.73</b>	<b>15.07</b>	0.31	—	—	—	—	—	—	—	—	0.54
Saudi Arabia	<b>1.55</b>	<b>8.50</b>	0.44	0.64	0.62	0.47	0.13	—	—	<b>25.68</b>	—	0.02
Switzerland	0.47	0.79	0.09	0.34	—	<b>5.31</b>	0.37	—	0.07	<b>10.22</b>	<b>7.01</b>	<b>1.43</b>
Denmark	0.81	<b>3.39</b>	—	0.00	—	0.38	0.19	0.27	0.06	0.11	—	0.05
Germany	0.22	0.38	0.02	0.23	0.13	<b>3.19</b>	0.41	0.04	<b>2.22</b>	0.68	0.40	0.18
Thailand	0.31	0.49	0.07	0.26	0.00	0.05	—	—	0.00	—	—	0.05
France	0.37	0.85	0.04	0.24	0.07	0.21	0.08	0.33	0.19	0.15	0.02	0.05
Hongkong	0.25	0.39	0.02	0.11	0.00	<b>2.13</b>	0.19	0.56	0.39	0.83	<b>5.85</b>	0.32
Singapore	0.49	0.83	0.16	0.15	<b>2.76</b>	<b>3.42</b>	0.10	0.59	0.08	0.83	<b>3.08</b>	0.05
Netherlands	0.30	0.94	0.04	0.03	0.10	0.82	0.12	0.19	0.01	0.24	—	0.67
Italy	0.040	0.02	—	0.00	<b>6.39</b>	0.06	0.01	0.05	0.03	0.15	....	0.11
Bahrain	<b>6.96</b>	<b>9.31</b>	0.14	<b>3.39</b>	—	<b>29.65</b>	—	—	—	<b>14.90</b>	—	—
Belgium	0.19	0.09	0.11	0.06	—	0.00	0.11	0.04	<b>126.45</b>	0.14	—	0.29
China	0.22	0.72	—	0.31	0.09	0.02	<b>4.15</b>	0.77	0.01	0.31	<b>4.79</b>	0.01
Iran	0.048	0.04	—	0.06	—	—	0.81	0.20	—	0.09	—	0.07
India	0.06	0.01	0.06	0.05	0.01	<b>1.45</b>	0.09	0.01	0.50	0.25	<b>1.09</b>	0.14
Afghanistan	—	—	—	—	—	—	—	—	—	—	—	—
Srilanka	0.52	0.41	0.41	0.34	—	—	—	—	—	<b>1.21</b>	—	0.98
Nepal	0.23	0.17	0.13	—	—	—	—	—	—	0.05	—	—
Bhutan	0.007	—	—	—	—	—	—	—	—	<b>1.04</b>	—	—
Maldives	0.15	0.02	0.03	—	—	—	—	—	—	<b>1.04</b>	—	0.43
Bangladesh	0.44	0.23	<b>1.09</b>	0.24	—	<b>9.48</b>	<b>2.00</b>	<b>2.51</b>	—	<b>3.06</b>	—	0.20
Japan	0.10	0.11	0.01	0.12	0.09	0.09	0.05	0.36	0.53	0.36	0.46	0.00
Malaysia	0.26	0.20	0.03	0.52	0.11	<b>7.40</b>	0.05	0.09	—	0.64	0.78	0.99

Table 5.5

*Bilateral Trade Intensity Index of Import of Pakistan with the Following Countries*

	Total	Tran.	Trav.	Com.	Const.	Insr.	Finan.	Comp., Infor.	Roy., Lice. Fee	Other Busi.	Pers. Cult.	Govt. Serv.
	1	2	3	4	5	6	7	8	9	10	11	12
USA	0.60	0.47	0.43	0.47	<b>1.80</b>	0.37	<b>1.53</b>	<b>1.35</b>	0.25	<b>1.62</b>	0.33	0.83
UK	0.61	0.57	0.83	0.89	<b>3.45</b>	<b>1.69</b>	0.29	<b>1.36</b>	<b>3.02</b>	0.83	<b>5.03</b>	0.54
UAE	<b>22.49</b>	<b>39.74</b>	<b>1.07</b>	—	—	—	—	—	—	—	—	0.38
Saudi Arabia	<b>11.97</b>	<b>28.44</b>	<b>2.09</b>	<b>1.31</b>	—	<b>1.33</b>	—	—	—	<b>36.85</b>	—	<b>7.78</b>
Switzerland	0.48	<b>1.54</b>	0.05	0.16	—	0.17	0.10	—	0.91	0.36	<b>73.05</b>	0.11
Denmark	0.11	0.06	0.01	0.22	0.00	0.00	<b>5.15</b>	0.02	0.01	0.22	—	0.08
Germany	0.26	0.31	0.14	0.07	<b>4.06</b>	0.43	<b>1.03</b>	0.14	0.71	0.20	0.17	0.16
Thailand	0.94	<b>1.69</b>	0.06	0.80	0.00	0.06	—	—	0.86	—	—	0.13
France	0.23	0.28	0.21	0.44	0.15	0.27	0.51	0.55	0.65	0.13	0.18	0.26
Hongkong	0.52	<b>1.13</b>	0.14	<b>2.06</b>	0.73	0.52	0.25	<b>2.52</b>	<b>4.52</b>	0.86	<b>2.66</b>	<b>1.40</b>
Singapore	<b>14.65</b>	0.70	0.11	<b>2.20</b>	0.06	<b>2.24</b>	0.40	<b>11.09</b>	<b>3.11</b>	0.37	<b>15.44</b>	0.08
Netherlands	0.24	0.29	0.09	0.10	0.00	<b>1.05</b>	0.73	0.35	0.23	0.25	—	0.04
Italy	0.21	0.34	0.02	0.22	<b>4.07</b>	0.00	0.20	0.38	0.07	0.41	—	0.25
Bahrain	<b>5.91</b>	<b>9.24</b>	<b>1.28</b>	<b>8.65</b>	—	<b>3.12</b>	—	—	—	<b>10.93</b>	—	—
Belgium	0.18	0.19	0.01	0.63	—	0.03	0.65	0.14	0.09	0.15	.....	0.11
China	<b>1.53</b>	<b>1.16</b>	0.12	0.26	<b>3.19</b>	0.57	<b>76.77</b>	0.20	0.65	<b>2.44</b>	<b>3.44</b>	<b>3.07</b>
Iran	<b>2.24</b>	<b>1.84</b>	0.01	0.00	—	—	<b>3.00</b>	0.00	—	0.16	—	0.94
India	0.29	<b>1.10</b>	0.02	0.03	—	0.01	0.16	0.01	<b>2.11</b>	0.15	0.38	0.45
Afghanistan	—	—	—	—	—	—	—	—	—	—	—	—
Srilanka	<b>2.22</b>	<b>1.34</b>	0.19	0.70	—	—	—	<b>1.15</b>	—	<b>3.16</b>	—	<b>4.70</b>
Nepal	0.45	0.38	0.03	—	—	—	—	—	—	<b>1.50</b>	—	—
Bhutan	0.26	0.17	—	—	—	—	—	—	—	—	—	—
Maldives	0.21	0.04	0.00	—	—	—	—	—	—	—	—	<b>4.12</b>
Bangladesh	<b>1.37</b>	<b>6.48</b>	0.76	—	—	<b>1.70</b>	<b>16.34</b>	0.80	—	0.93	—	0.20
Japan	0.45	0.40	0.26	0.14	0.07	0.49	0.17	0.41	<b>2.46</b>	0.40	<b>2.38</b>	0.45
Malaysia	<b>1.25</b>	<b>2.20</b>	0.06	<b>3.38</b>	0.18	<b>6.24</b>	<b>3.02</b>	<b>5.60</b>	<b>5.40</b>	<b>1.02</b>	0.96	0.20

In total services, the value of trade intensity index of import is greater than 1 with UAE, Saudi Arabia, Singapore, Bahrain, China, Iran, Srilanka, Bangladesh and Malaysia. In transport services, these countries are UAE, Saudi Arabia, Switzerland, Thailand, Hongkong, Bahrain, China, Iran, Srilanka and Bangladesh. In travel services, the value of trade intensity index of export is greater than 1 with UAE, Saudi Arabia and Bahrain only. In Communication services, the countries are Saudi Arabia, Hongkong, Bahrain and Malaysia. In construction services, the countries are USA, UK, Germany, Italy and China. In insurance services, the countries are UK, Saudi Arabia, Netherland, Singapore, Bahrain, Bangladesh and Malaysia. In financial services, the countries are USA, Denmark, Germany, China, Iran, Bangladesh and Malaysia. In computer and information services, the countries are USA, UK, Hongkong, Singapore, Srilanka and Malaysia. In royalties and license fee, the countries are UK, Hongkong, Singapore, India, Japan and Malaysia. In other business services, the countries are USA, Saudi Arabia, Bahrain, China, Srilanka, Nepal and Malaysia. In personal and cultural services the countries are UK, Switzerland, Hongkong, Singapore, China and Japan. In government services, the countries are Saudi Arabia, Hongkong, China and Maldives. An important fact comes out here that the value of TII of export and import is greater than 1 in about 75 percent the same countries.

Specifications 3.8 to 3.11 were estimated to calculate the Complementarity and Country bias indices of export and import to further decompose the TII and find out which factor is dominant and major contributor in TII. The results are shown in Tables 5.6, 5.7, 5.8 and 5.9. It is shown from the results that Country bias index in both export and import of services in almost each category dominates. It explains that fact that Pakistan's trade (both export and import) with its trading partners is based on favourable access between them.

Table 5.6

*Complementarity Index by Category of Export of Service/Trading Partner,  
Neighbouring Country, SAARC Member Country*

	Trans.	Trav.	Comm.	Const.	Insur.	Finan.	Comp. & Inform.	Royalt. & Lic. Fee	Other Busi.Serv	Pers. & Cult.	Govt. Serv.
	1	2	3	4	5	6	7	8	9	10	11
USA	0.251	0.062	0.036	0.009	0.009	0.016	0.030	0.008	0.107	0.000	0.326
UK	0.220	0.054	0.031	0.008	0.008	0.014	0.027	0.007	0.094	0.000	0.287
UAE	0.158	0.039	—	—	—	—	—	—	—	—	0.203
Saudi Arabia	0.174	0.043	0.025	0.006	0.007	0.011	—	—	0.074	—	0.230
Switzerland	0.115	0.028	0.016	—	0.004	0.007	—	0.004	0.049	0.000	0.149
Denmark	0.468	—	0.068	—	0.017	0.030	0.059	0.014	0.198	—	0.610
Germany	0.256	0.063	0.037	0.009	0.010	0.016	0.032	0.008	0.109	0.000	0.335
Thailand	0.535	0.129	0.149	—	0.019	—	—	0.013	—	—	0.675
France	0.366	0.090	0.056	0.012	0.013	0.024	0.046	0.011	0.155	0.001	0.474
Hong Kong	0.408	0.097	0.133	—	0.014	0.038	0.056	0.009	0.174	0.001	0.508
Singapore	0.387	0.093	0.106	0.011	0.013	0.032	0.051	0.009	0.165	0.001	0.489
Netherlands	0.211	0.051	0.053	0.006	0.007	0.017	0.027	0.005	0.090	—	0.268
Italy	0.244	—	0.070	0.007	0.008	0.021	0.032	0.006	0.104	—	0.306
Bahrain	0.476	0.114	0.134	—	0.017	—	—	—	0.202	—	—
Belgium	0.963	0.231	0.285	—	0.033	0.084	0.130	0.022	0.410	—	1.210
China	0.356	—	0.098	0.010	0.012	0.030	0.047	0.009	0.152	0.001	0.449
Iran	0.275	—	0.080	—	—	0.024	0.037	—	0.117	—	0.346
India	0.236	0.057	0.062	0.007	0.008	0.019	0.031	0.006	0.100	0.000	0.299
Afghanistan	—	—	—	—	—	—	—	—	—	—	—
Sri Lanka	0.658	0.159	0.163	—	0.023	—	—	—	0.280	—	0.838
Nepal	0.368	0.090	—	—	0.013	—	—	—	0.157	—	—
Bhutan	—	—	—	—	0.000	—	—	—	0.001	—	—
Maldives	0.575	0.138	—	—	0.020	—	—	—	0.245	—	0.726
Bangladesh	0.886	0.212	0.268	—	0.031	0.079	0.121	—	0.377	—	1.115
Japan	0.335	0.081	0.088	0.010	0.012	0.027	0.044	0.008	0.142	0.001	0.424
Malaysia	0.429	0.103	0.125	0.012	0.015	0.037	0.057	—	0.183	0.001	0.538

Table 5.7

*Complementarity Index by Category of Import of Service*

	Trans.	Trav.	Com.	Const.	Insur.	Finan.	Comp., Infor.	Royal., Lice.	Other Busi.	Pers., Cult.	Govt. Serv.
	1	2	3	4	5	6	7	8	9	10	11
USA	0.273	0.087	0.014	0.005	0.012	0.010	0.011	0.008	0.163	0.007	0.053
UK	<b>1.209</b>	<b>1.359</b>	0.116	0.090	0.067	0.076	0.041	0.116	0.681	0.055	0.022
UAE	0.419	0.124	–	–	–	–	–	–	–	–	0.089
Saudi Arabia	0.377	0.114	0.019	–	0.017	–	–	–	0.213	–	0.074
Switzerland	0.167	0.053	0.008	–	0.008	0.006	–	0.005	0.099	0.004	0.033
Denmark	<b>1.256</b>	0.401	0.063	0.023	0.057	0.048	0.051	0.038	0.748	–	0.244
Germany	0.488	0.153	0.025	0.009	0.022	0.018	0.020	0.015	0.285	0.013	0.097
Thailand	0.449	0.138	0.024	0.009	0.021	–	–	0.013	–	–	0.093
France	0.667	0.182	0.039	0.014	0.033	0.023	0.031	0.020	0.339	0.026	0.156
Hongkong	0.178	0.047	0.010	0.003	0.008	0.006	0.008	0.005	0.087	0.006	0.040
Singapore	<b>13.285</b>	<b>4.295</b>	0.655	0.243	0.602	0.509	0.538	0.398	<b>8.012</b>	0.326	<b>2.542</b>
Netherlands	0.485	0.156	0.024	0.009	0.022	0.018	0.020	0.015	0.292	–	0.093
Italy	0.302	0.098	0.015	0.006	0.014	0.011	0.012	0.009	0.182	–	0.058
Bahrain	0.450	0.139	0.024	–	0.021	–	–	–	0.259	–	–
Belgium	0.572	0.184	0.028	–	0.026	0.022	0.023	0.017	0.343	–	0.109
China	0.499	0.155	0.026	0.009	0.023	0.019	0.021	0.015	0.289	0.015	0.103
Iran	<b>1.065</b>	0.325	0.056	–	–	0.039	0.045	–	0.606	–	0.220
India	0.251	0.073	0.014	–	0.012	0.009	0.011	0.007	0.136	0.008	0.054
Afghanistan	–	–	–	–	–	–	–	–	–	–	–
Srilanka	0.915	0.298	0.044	–	–	–	0.036	–	0.555	–	0.169
Nepal	0.152	0.046	–	–	–	–	–	–	0.085	–	–
Bhutan	0.533	–	–	–	–	–	–	–	–	–	–
Maldives	0.111	0.033	–	–	–	–	–	–	–	–	0.023
Bangladesh	0.147	0.042	–	–	0.007	0.005	0.007	–	0.078	–	0.033
Japan	0.577	0.193	0.027	0.010	0.026	0.022	0.023	0.017	0.360	0.012	0.105
Malaysia	0.396	0.131	0.019	0.007	0.018	0.015	0.016	0.012	0.244	0.009	0.074

Table 5.8

*Country Bias Index by Category of Export of Service/Trading Partner,  
Neighbouring Country, SAARC Member Country*

	Trans port	Travel	Comm.	Const.	Insur.	Finan.	Comp. & Infor.	Royalt. & Lice. Fee	Other Busi.Serv	Pers. & Cult.	Govt. Serv.
	1	2	3	4	5	6	7	8	9	10	11
USA	0.70	5.00	4.50	7.68	0.44	1.73	2.12	3.69	2.14	4.92	0.77
UK	1.93	0.10	0.61	1.13	8.83	0.44	1.24	0.28	0.68	1.79	1.28
UAE	14.92	0.27	–	–	–	–	–	–	–	–	0.34
Saudi Arabia	8.33	0.40	0.61	0.61	0.46	0.12	–	–	25.60	–	–0.21
Switzerland	0.67	0.07	0.32	–	5.30	0.36	–	0.06	10.17	7.01	1.28
Denmark	2.92	–	–0.07	–	0.36	0.16	0.21	0.05	–0.09	–	–0.56
Germany	0.13	–0.04	0.19	0.12	3.18	0.39	0.01	2.21	0.57	0.40	–0.15
Thailand	0.00	–0.05	0.11	–	0.03	–	–	–0.01	–	–	–0.62
France	0.48	–0.05	0.18	0.06	0.20	0.06	0.28	0.18	–0.01	0.02	–0.43
Hongkong	0.00	–0.08	–0.02	–	2.11	0.16	0.50	0.39	0.65	5.85	–0.18
Singapore	0.45	0.06	0.05	2.75	3.41	0.07	0.53	0.07	0.67	3.08	–0.44
Netherlands	0.73	–0.01	–0.02	0.09	0.81	0.10	0.16	0.00	0.15	–	0.41
Italy	–0.23	–	–0.07	6.38	0.05	–0.01	0.02	0.03	0.04	–	–0.19
Bahrain	8.83	0.03	3.25	–	29.64	–	–	–	14.70	–	–
Belgium	–0.87	–0.12	–0.23	–	–0.03	0.03	–0.09	126.43	–0.27	–	–0.92
China	0.37	–	0.21	0.08	0.01	4.12	0.72	0.00	0.16	4.79	–0.44
Iran	–0.23	–	–0.02	–	–	0.79	0.17	–	–0.03	–	–0.28
India	–0.22	0.00	–0.01	0.00	1.44	0.07	–0.02	0.49	0.15	1.09	–0.16
Afghanistan	–	–	–	–	–	–	–	–	–	–	–
Srilanka	–0.25	0.25	0.18	–	–	–	–	–	0.93	–	0.15
Nepal	–0.20	0.04	–	–	–	–	–	–	–0.11	–	–
Bhutan	–	–	–	–	–	–	–	–	1.04	–	–
Maldives	–0.55	–0.11	–	–	–	–	–	–	0.80	–	–0.30
Bangladesh	–0.66	0.88	–0.03	–	9.45	1.93	2.39	–	2.68	–	–0.92
Japan	–0.22	–0.07	0.03	0.08	0.08	0.02	0.32	0.52	0.22	0.46	–0.42
Malaysia	–0.23	–0.08	0.40	0.10	7.39	0.01	0.03	–	0.45	0.78	0.45

Table 5.9

*Country Bias Index by Category of Import of Service*

	Trans.	Trav.	Comm.	Const.	Insur.	Finan.	Comp. & Inform.	Royalt. & Lice. Fee	Other Busi.Serv	Pers. & Cult.	Govt. Serv.
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
USA	0.19	0.35	0.45	<b>1.79</b>	0.36	<b>1.52</b>	<b>1.34</b>	0.24	1.46	0.32	0.78
UK	-0.64	-0.53	0.77	<b>3.36</b>	<b>1.62</b>	0.21	<b>1.32</b>	<b>2.91</b>	0.15	4.98	0.51
UAE	<b>39.32</b>	0.94	-	-	-	-	-	-	-	-	0.29
Saudi Arabia	<b>28.06</b>	<b>1.98</b>	<b>1.29</b>	-	<b>1.31</b>	-	-	-	36.64	-	7.70
Switzerland	<b>1.38</b>	0.00	0.16	-	0.16	0.09	-	0.91	0.26	73.04	0.07
Denmark	-1.20	-0.39	0.16	-0.02	-0.06	<b>5.10</b>	-0.03	-0.03	-0.53	-	-0.16
Germany	-0.18	-0.01	0.05	<b>4.05</b>	0.41	<b>1.01</b>	0.12	0.69	-0.08	0.16	0.06
Thailand	<b>1.24</b>	-0.08	0.78	-0.01	0.04	-	-	0.85	-	-	0.04
France	-0.39	0.03	0.40	0.14	0.24	0.49	0.52	0.63	-0.21	0.16	0.10
Hongkong	0.95	0.09	<b>2.05</b>	0.73	0.51	0.24	<b>2.51</b>	<b>4.52</b>	0.77	2.65	1.36
Singapore	-2.58	-4.18	<b>1.54</b>	-0.19	<b>1.64</b>	-0.11	<b>10.56</b>	<b>2.71</b>	-7.65	15.11	-2.46
Netherlands	-0.20	-0.06	0.08	-0.01	<b>1.03</b>	0.71	0.33	0.22	-0.04	-	-0.06
Italy	0.04	-0.08	0.21	<b>4.06</b>	-0.01	0.19	0.37	0.06	0.23	-	0.19
Bahrain	<b>8.79</b>	<b>1.14</b>	<b>8.63</b>	-	<b>3.09</b>	-	-	-	10.67	-	-
Belgium	-0.39	-0.17	0.60	-	0.00	0.63	0.11	0.08	-0.19	-	0.00
China	0.66	-0.04	0.23	<b>3.18</b>	0.55	<b>76.75</b>	0.18	0.64	2.15	3.43	2.97
Iran	0.78	-0.32	-0.05	-	-	<b>2.96</b>	-0.05	-	-0.44	-	0.72
India	0.85	-0.05	0.01	-	-0.01	0.15	0.00	<b>2.11</b>	0.02	0.38	0.39
Afghanistan	-	-	-	-	-	-	-	-	-	-	-
Srilanka	0.43	-0.11	0.66	-	-	-	1.11	-	2.60	-	<b>4.53</b>
Nepal	0.23	-0.01	-	-	-	-	-	-	1.41	-	-
Bhutan	-0.36	-	-	-	-	-	-	-	-	-	-
Maldives	-0.07	-0.03	-	-	-	-	-	-	-	-	<b>4.09</b>
Bangladesh	<b>6.33</b>	0.72	-	-	<b>1.69</b>	<b>16.33</b>	0.80	-	0.85	-	0.17
Japan	-0.17	0.07	0.11	0.05	0.46	0.15	0.39	<b>2.44</b>	0.04	<b>2.37</b>	0.35
Malaysia	<b>1.81</b>	-0.07	<b>3.36</b>	0.17	<b>6.23</b>	<b>3.01</b>	5.58	<b>5.39</b>	0.78	0.96	0.12

In Specifications 3.12 and 3.13, the revealed comparative advantage indices (RCAIX and RCAIM) by category of service were estimated for Pakistan from 2006 to 2011. Pakistan has comparative advantage of export in transport, communication and government services, while it has comparative advantage of import in transport, communications, computer and Information, other business, personal, cultural and recreational and government services. An interesting note here is that in categories of services, Pakistan has RCAX; it also has RCAM in the same categories. This fact makes these categories more important to be focused first for policy making to get the maximum benefit in terms of increase in per capita income and employment generation. Since, mostly services are knowledge intensive, so the import of services in the second stage enhance knowledge capability and skills in the local labour and thus enhance their productivity which ultimately stimulates the growth of per capita income.

Specification 3.14 was estimated to find out the factors of revealed comparative advantage of exports. The results are reported in Table 5.11. It is shown from the results that all the explanatory variables significantly explain the variation in RCAIX and takes the expected sign as come out from the literature review. However, Capital / labour ratio, Logistic Index and Labour Participation Rate have positive sign in some categories and have negative sign other categories. The justification of negative sign is that with increase in capital / labour ratio, or /and logistic index or/and labour participation rate there would be an increase in the domestic demand for services as for more development there is more need of such factors to give the required services.

Table 5.10

*Revealed Comparative Advantage Index (RCAI) by Category of Export of Service*

	Trans.	Travel	Comm.	Const.	Insur.	Finan.	Comp. & Inform.	Royalt. & Lice. Fee	Other Busi.Serv	Pers. & Cult.	Govt. Serv.
Year	1	2	3	4	5	6	7	8	9	10	11
2006	1.52	0.32	1.93	0.34	0.28	0.21	0.56	0.19	0.50	0.02	14.16
2007	1.21	0.32	1.38	0.60	0.42	0.16	0.66	0.11	0.44	0.04	16.17
2008	1.20	0.32	0.86	0.32	0.69	0.13	0.79	0.10	0.41	0.06	18.36
2009	1.41	0.30	2.92	0.14	0.43	0.29	0.81	0.01	0.44	0.04	15.30
2010	1.56	0.28	9.54	0.06	0.26	0.61	0.81	0.00	0.45	0.03	12.53
2011	1.46	0.28	8.36	0.02	0.41	0.56	0.93	0.06	0.42	0.04	14.07
<b>Avg.</b>	<b>1.40</b>	<b>0.30</b>	<b>4.17</b>	<b>0.25</b>	<b>0.41</b>	<b>0.33</b>	<b>0.76</b>	<b>0.08</b>	<b>0.44</b>	<b>0.04</b>	<b>15.10</b>

Table 5.11

*Revealed Comparative Advantage Index (RCAI) by Category of Import of Service*

	Transp.	Travel	Comm.	Const.	Insur.	Finan.	Comp. & Inform.	Royalt. & Lice. Fee	Other Busi. Serv	Pers. & Cult.	Govt. Serv.
	1	2	3	4	5	6	7	8	9	10	11
2006	3.41	1.78	1.14	0.88	0.88	1.18	0.68	0.53	4.24	0.09	2.40
2007	3.24	1.57	1.11	0.50	0.85	0.96	1.09	0.47	3.53	0.03	2.86
2008	3.67	1.44	1.27	0.56	0.66	1.52	0.82	0.42	3.02	0.03	2.78
2009	3.42	0.70	1.79	0.62	0.77	0.96	1.09	0.31	1.45	0.44	4.02
2010	2.94	0.33	2.45	0.65	0.86	0.58	1.42	0.22	0.67	7.29	6.08
2011	3.11	0.03	2.54	0.54	0.77	0.69	1.46	0.16	0.19	6.02	6.19
<b>Avg.</b>	<b>3.30</b>	<b>0.97</b>	<b>1.72</b>	<b>0.63</b>	<b>0.80</b>	<b>0.98</b>	<b>1.09</b>	<b>0.35</b>	<b>2.18</b>	<b>2.32</b>	<b>4.06</b>

Table 5.11(a)

*Regression Results**Dependent Variable: RCIX by Category of Export of Service**Method: Pooled Least Squares Included Observations: 123**Cross-sections included: 26**Total Pool (Balanced) Observations: 3198*

Var.	Trans.	Trav.	Com.	Const.	Insur.	Finan.	Comp.,I nf.	Roy., Lice.	Other Busi.	per.Cul.	Govt.
	1	2	3	4	5	6	7	8	9	10	11
<b>C</b>	<b>-4.935</b>	<b>-2.130</b>	<b>-1.745</b>	<b>4.039</b>	<b>-4.117</b>	<b>-5.938</b>	<b>4.111</b>	<b>-1.630</b>	<b>-7.790</b>	<b>1.252</b>	<b>-0.680</b>
<i>t value</i>	-3.78	-4.988	-3.283	9.716	-5.233	-5.671	11.798	-11.959	-6.608	7.862	-2.428
<b>BD</b>	<b>-0.158</b>	<b>-0.026</b>	<b>-0.002</b>	<b>-0.031</b>	<b>-0.120</b>	<b>-0.133</b>	<b>-0.054</b>	<b>-0.019</b>	<b>-0.150</b>	<b>-0.008</b>	<b>-0.010</b>
<i>t value</i>	-12.12	-6.07	-0.39	-7.39	-15.29	-12.750	-15.558	-14.144	-12.753	-5.226	-3.499
<b>ENR</b>	<b>0.099</b>	<b>0.023</b>	<b>0.043</b>	<b>0.014</b>	<b>0.056</b>	<b>0.059</b>	<b>0.021</b>	<b>0.002</b>	<b>0.084</b>	<b>0.013</b>	<b>0.006</b>
<i>t value</i>	15.80	11.29	16.943	6.804	15.016	11.768	12.905	3.100	14.853	16.853	-4.434
<b>GDP</b>	<b>0.028</b>	<b>0.093</b>	<b>-0.069</b>	<b>0.004</b>	<b>0.002</b>	<b>0.024</b>	<b>0.085</b>	<b>0.039</b>	<b>0.002</b>	<b>0.006</b>	<b>0.007</b>
<i>t value</i>	11.13	12.08	-0.625	5.544	13.605	12.241	12.770	15.141	9.670	22.033	1.463
<b>II</b>	<b>-0.042</b>	<b>-0.016</b>	<b>-0.018</b>	<b>-0.058</b>	<b>-0.040</b>	<b>-0.002</b>	<b>-0.021</b>	<b>-0.006</b>	<b>-0.028</b>	<b>-0.046</b>	<b>-0.020</b>
<i>t value</i>	-8.45	-14.70	-9.271	-3.694	-15.43	-5.313	-16.511	13.331	-6.239	-7.568	-18.39
<b>LI</b>	<b>-1.401</b>	<b>-0.701</b>	<b>0.044</b>	<b>-0.163</b>	<b>0.003</b>	<b>-1.154</b>	<b>-0.031</b>	<b>-0.161</b>	<b>-0.760</b>	<b>-0.546</b>	<b>-2.013</b>
<i>t value</i>	-3.92	-6.000	0.305	-1.437	0.012	-4.026	-0.321	-4.303	-2.354	-12.535	-26.259
<b>LPR</b>	<b>-0.078</b>	<b>0.035</b>	<b>0.021</b>	<b>-0.082</b>	<b>-0.066</b>	<b>0.035</b>	<b>-0.122</b>	<b>0.015</b>	<b>-0.046</b>	<b>-0.021</b>	<b>0.154</b>
<i>t value</i>	-4.01	5.499	2.675	-13.35	-5.681	-2.274	-23.547	7.350	-2.630	-9.049	37.169
<b>MG</b>	<b>0.000</b>	<b>0.001</b>	<b>0.005</b>	<b>0.001</b>	<b>0.006</b>	<b>0.004</b>	<b>0.004</b>	<b>0.005</b>	<b>0.002</b>	<b>0.002</b>	<b>0.006</b>
<i>t value</i>	0.03	0.787	4.601	0.809	3.500	1.741	4.972	17.257	0.845	5.792	11.226
<b>POP</b>	<b>0.001</b>	<b>0.002</b>	<b>0.010</b>	<b>0.001</b>	<b>0.001</b>	<b>0.003</b>	<b>0.001</b>	<b>0.002</b>	<b>0.004</b>	<b>0.001</b>	<b>0.007</b>
<i>t value</i>	9.84	5.184	0.915	10.014	6.779	9.672	41.761	5.955	10.526	21.996	17.019
<b>SG</b>	<b>0.214</b>	<b>0.067</b>	<b>0.040</b>	<b>0.034</b>	<b>0.147</b>	<b>0.172</b>	<b>0.065</b>	<b>0.023</b>	<b>0.193</b>	<b>0.021</b>	<b>0.060</b>
<i>t value</i>	21.03	20.115	9.669	10.537	23.959	21.109	23.819	21.826	21.079	17.015	-27.532



In specification 3.15, the price elasticity of export in each category of service for Pakistan was estimated using data on quarterly frequency. The results are shown in Table 5.12. Since the absolute value of price elasticity of export is greater than 1 for each category, therefore without estimating the price elasticity of imports, we can say that the Marshall Lerner condition is satisfied and the trade in services has the characteristic of stability. After the Marshall Lerner condition is satisfied, the specifications 17 to 20 were estimated to analyse the demand and supply potential of trade in services and TOT situation with the partner countries. In this respect, the elasticities were estimated in Total services, transport services and financial services.

Table 5.12

*Regression Results Measuring Price Elasticity of Export by Category of Service*

	Trans.	Trav.	Comm.	Const.	Insur.	Finan.	Comp., inform.	Royalties and license fees	Other bus.	Pers. & cult. & recr.	Govt.	Total
	1	2	3	4	5	6	7	8	9	10	11	12
Constant	11.44	9.33	12.95	6.19	22.19	16.29	39		11		4.7	0.08
t-stat	3.83	1.7	0.55	2.5	1.28	0.88	2		1.5		2.5	0.02
<b>Ep</b>	<b>-1.27</b>	<b>-2.9</b>	<b>-1.85</b>	<b>-1.94</b>	<b>-5.35</b>	<b>-4.15</b>	<b>-9.5</b>		<b>-3.4</b>		<b>-2.2</b>	<b>-1.4</b>
t-stat	-2.33	-1.84	-4.7	-1.5	-1.4	1.2	-2.5		-2.8		-4.8	-3.5
R Squared	0.72	0.8	0.7	0.6	0.82	0.65	0.73		0.75		0.8	0.7

The results are shown in Tables 5.13 and 5.14. The results show that with a unit change in domestic price of Total services causes a larger change in exports of Total services than its imports. It explains favourable TOT in Total services with all neighbouring countries of Pakistan. Among all, Pakistan should take measures to enhance Total services especially with China and India. Income elasticities also show that if there is one unit increase in the income then the increase in exports is 1.6 times while imports is 1.3 times one unit with the net inflow of income is 0.3 times one unit at world level. However with China, there is net outflow of income equal to 0.16 times one unit. The results show that with a unit change in domestic price of Transport services cause a larger change in imports of services than its exports. It explains an unfavourable TOT in Transport services with world and all neighbouring countries of Pakistan. Income elasticities also show unfavourable TOT that if there is one unit increase in the income then the increase in exports is only 0.4 times while imports is 1.3 times with the net outflow of income is 0.9 times at world level. However with China, there is net outflow of income equal to 1.25 times one unit. Similar situation is with other neighbouring countries. There is a need to look into the regulatory framework and its implementing procedures in the transport sector to enhance the accessibility, affordability and competitiveness in the least cost manner. The results show that with a unit change in domestic price of Financial services cause a larger change in exports of services than its imports. It explains favourable TOT in Financial services with world and all neighbouring countries of Pakistan. Income elasticities show unfavourable TOT only with China while it shows favourable TOT with the world and with all other neighbouring countries.

Table 5.13

*Price Elasticities*

Partner Country	Total		Transport		Financial	
	Exports	Imports	Exports	Imports	Exports	Imports
World	-2.64	-1.77	-0.89	-1.73	-3.43	-0.64
China	-2.96	-2.02	-0.81	-1.72	-3.98	-1.64
Iran	-2.5	-1.9	-0.89	-1.69	-3.6	-0.76
Afghanistan	-2.45	-1.88	-0.96	-1.57	-4.5	-0.98
India	-2.54	-1.77	-0.9	-1.72	-3.5	-0.62

Table 5.14

*Income Elasticities*

Partner Country	Total		Transport		Financial	
	Exports	Imports	Exports	Imports	Exports	Imports
World	1.6	1.3	0.4	1.3	1.8	1.3
China	1.29	1.45	0.3	1.28	1.13	1.45
Iran	1.04	1.1	0.3	1.25	1.43	1.1
Afghanistan	2	1.21	0.41	1.21	1.99	1.21
India	2.12	1.13	0.43	1.29	2.07	1.13

Based on the above analyses a strategic policy framework of liberalising trade in services for Pakistan was developed. It is as shown below in a tabular form.

Table A

*Strategic Framework of Liberalising Trade in Services for Pakistan*

Sr. No.	Type of Service	Direction of Trade	Policy Tools
	(descending order based on (RCIX, RCIM), TP)	(based) on TP, TBI, TII, TCI	Based on structural and institutional features and regulatory setup
	1	2	3
1	Govt.	Ho, Ne, It, Ba, Ir, Chi, Sin, UAE, Bel	Increase LPR, ENR; decrease Pop
2	Transport	USA, Ma, Ir, Chi, Sa, ho, Nep, Bhu,	decrease relative BD, pop ; increase relative ENR, LI, II, Mg
3	Communication	Ja, Sr, Ma, UAE, UK, Bang, Nep, Ir,	Increase relative ENR, LI, LPR, II
4	Travel	In, Ma, Ba, Ho, Bhu, chi, Ir, Sa	decrease relative BD, pop ; increase relative ENR, LI, II, Mg
5	Insurance	Ma, Mal, Bhu, Chi, Nep, Tha, UAE	decrease relative BD, pop ; increase relative ENR, LI, II,
6	Financial	Ne, Tha, Sa, Nep, Bel, Bhu, Ma, Ho	decrease relative BD, pop ; increase relative ENR, LI, II, sg
7	Other Business Services	Bel, Tha, Ne, It, Sin, Fr, Ma,	decrease relative BD, pop ; increase relative ENR, LI, II, sg
8	Computer	Ma, Mal, Ja, Ne, Bhu, Ba, It, Uk	decrease relative BD, pop ; increase relative ENR, LI, II, sg
9	Personal, Cultural and Recreational	Tha, Ne, Bhu, Chi, Sa, Ma, Nep, De, Sin	decrease relative BD, pop ; increase relative ENR, LI, II, sg
10	Royalties and License Fee	Tha, Chi, Ma, Ge, Bhu, De, Mal, Nep	decrease relative BD, pop ; increase relative ENR, LI, II, sg
11	Construction	Bhu, Mal, Uk, Ma, Bang, In, USA	decrease relative BD, pop ; increase relative ENR, LI, II, sg

## 6. CONCLUSION

First, we analysed the relative contribution of trade in services to overall GDP across 60 countries combining into nine groups. In the period, 2006-10 the contribution remained very high and positive in all regional/trading blocks. It confirms the importance of trade in services sector in new growth models/strategies for growth and development. It is also shown that during period, 1981-2010, the developing countries in comparison with developed countries performed well in trade in services. An important result was found by analysing the contribution pattern in EU, NAFTA and SAARC at once. Since the NAFTA and EU are the major trading partners of SAARC countries and demand for service in trade is mostly the derived demand of merchandise trade. It is therefore, explicit that during the periods: 1986-90 and 1991-95, when the contribution was negative in both EU and NAFTA, the contribution in SAARC countries was also negative and vice versa. Similarly, when the contribution was negative in one of the regional blocks (EU, NAFTA), the contribution sign in SAARC was determined by the relative impact of both the major trading partners (EU, NAFTA). It gives policy guidelines to the SAARC member countries to decrease the dependence on EU and NAFTA markets and look for other world markets to spread the base of major trading partners. In this regard, SAARC Free Trade Agreement on Trade in Services can increase the regional trade in services and decrease the huge dependence on EU, NAFTA markets. From Table 5.2, the growth of trade in services during the period 1980-2010 remained higher than the overall GDP growth and the growth of exports of services, on average, remained close to growth of imports during the period 1980-81 and remained very high during 2005-11. Keeping in view the consistent trend of almost positive contribution of trade in services in Pakistan during 1981-2010, and higher growth of exports of services than imports, the areas of trade in services should be focused in new growth strategy through institutional and structural development of Pakistan economy and society.

The result of specification 3.3 shows that the contribution of trade in services to the growth of per capita income is higher than that of trade in merchandise. Another important result is drawn from the table that 1 day decrease in the “days to start a new business” will increase the per capita income by 0.04 percent. In specifications 3.4 and 3.5, the untapped potential of service by category and by partner was estimated. In specifications 3.6 and 3.7, the trade intensity index of export and import by category of service and by partner country was estimated.

Specifications 3.8 to 3.11 were estimated to calculate the Complementarity and Country bias indices of export and import to further decompose the TII and find out which factor is dominant and major contributor in TII. The results are shown in Tables 5.6, 5.7, 5.8 and 5.9. It is shown from the results that Country bias index in both export and import of services in almost each category dominate. It explains the fact that Pakistan’ trade (both export and import) with its trading partners is based on favourable access between them.

In Specifications 3.12 and 3.13, the revealed comparative advantage indices (RCAIX and RCAIM) by category of service were estimated for Pakistan from 2006 to 2011. Pakistan has comparative advantage of export in transport, communication and government services, while it has comparative advantage of import in transport, communications, computer and Information, other business, personal, cultural and

recreational and government services. An interesting note here is that in categories of services, Pakistan has RCAX greater than 1; it also has RCAM greater than 1 in the same categories. This fact makes these categories more important to be focused first for policy making to get the maximum benefit in terms of increase in trade volume in services and per capita income and employment generation. Since, mostly services are knowledge intensive, so the import of services in the second stage enhance knowledge capability and skills in the local labour and thus enhance their productivity which ultimately stimulates the growth of per capita income.

Specification 3.14 was estimated to find out the factors of revealed comparative advantage of exports. The results are reported in Table 5.11. It is shown from the results that all the explanatory variables significantly explain the variation in RCAIX and takes the expected sign as come out from the literature review. However, Capital / labour ratio, Logistic Index and Labour Participation Rate have positive sign in some categories and have negative sign other categories. The justification of negative sign is that with increase in capital / labour ratio, or /and logistic there would be an increase in the domestic demand for services as for more development there is more need of such factors to give the required services.

On the basis of results and analyses made, it is found that there is favourable TOT in Total services with all neighbouring countries of Pakistan especially with China and India. However, the income elasticity for Total Services explain neither favourable nor unfavorable scenario. Estimations in transport services sector explains an unfavorable TOT in Transport services (on the basis of both price and income elasticities) with world and all neighbouring countries of Pakistan, while estimations show favourable TOT in financial services with world and all neighbouring countries of Pakistan. There is a need to look into the regulatory framework and its implementing procedures in the transport sector to enhance the accessibility, affordability and competitiveness in the least cost manner. The strategic framework in terms of preference order of services, the direction of their trade and policy tools to fulfill the local requirements as chalked out in this study is a comprehensive guideline for the policy-makers to draft a trade policy with the guarantee of achieving win-win situation.

**Annexure**

Name	Abbreviation Used
U. S. A.	US
U. K.	Uk
U. A. E.	UAE
Saudi Arabia	SA
Switzerland	Sw
Denmark	Den
Germany	Ger
Thailand	Tha
France	Fr
Hongkong	Ho
Singapore	Sing
Netherlands	Neth
Italy	It
Bahrain	Ba
Belgium	Bel
China	Chi
Iran	Ir
India	In
Afghanistan	Af
Srilanka	Sr
Nepal	Nep
Bhutan	Bhu
Maldives	Mal
Bangladesh	Ba
Japan	Ja
Malaysia	Ma

## Appendix Table 1

*Exports of Services*

Category	Details
<b>1. Transportation</b>	Charter of Pak ships with crew
	Charter of Pak aircrafts with crew
	Remitt. Rec. by recruit. Agents
	Earnings of Pak road transport
	Passage Earnings of Pak air Cos.
	Freight earnings
	Others Local disburs. of foreign Shipping/Air Cos.
<b>2. Travel</b>	Official travel
	Others official travel
	Commercial travel
	Non official-Delegation
	Medical
	Students
	Trainees
	Tourists Pak national
	Tourists foreign national
	Religious travel
	Receipts through Exchange Cos.
	Others
<b>3. Communications Services</b>	Postal services
	Courier services
	Telecommunication services
	Call centres
<b>4. Construction Services</b>	Construction Services
<b>5. Insurance Services</b>	Treaties and standing open cover - life
	Surplus funds rec.by Pak ins.Cos.-abroad
	Rev. surplus funds of f. ins. cos.-life
	Insurance P & I Club
	Treaties and standing open cover-marine
	Refund of Ins. payments-others
	Other miscellaneous insurance
	Facultative reinsurance-life
	Facultative reinsurance-marine
Other non-life reinsurance services	
Services auxiliary to insurance	
<b>6. Financial Services</b>	Bank commission and charges
	Remittances for guarantees involved
	Others financial services

*Continued—*

Table 1—(Continued)

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	Hardware consultancy services
	Software consultancy services
	Maintenance & repairs of computer
<b>7. Computer and Information Services</b>	Export of Computer Software
	Other computer services
	Earnings of journalists / authors
	Subscription to news papers/periodicals
	News agents and correspondents
<b>8. Royalties and Lisence Fees</b>	Royalties, license fees & trade marks
	Merchanting. & trade related services
	Charter of ships without crew-op.leasing
	Charter of aircrafts without crew--op leasing
	Legal services
	A/c, auditing, & tax consulting Services
	Bus. & manag. Consult.& public relations
	Agency commission
<b>9. Other Business Services</b>	Printing charges of security documents
	Processing and repair fees
	Adv. market research & pub. opinion poll
	Research and development
	Arch., engineering, & technical services
	Agri., mining, & on-site proc. services
	Receipts of security dep. with tenders
	Services in medicine exports
	Misc. other business services, n.i.e.
	Refund
<b>10. Personal, Cultural, Recreational Services</b>	Audiovisual and related services
	Earnings of professional artists
	Other personal, cult. & recreation serv.
	Remitt. Rec. by foreign Missions in Pak.
	Military units and agencies
	Other government services
<b>11. Government Services</b>	Remittances Received by Int. Org.
	Receipt through Central govt.
	Receipts through International bodies
	Earnings of Pak Diplomatic Mission abroad

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## Appendix Table 2

*Imports of Services*

Category	Details
<b>1. Transportation</b>	Charter of Ships with crew
	Freight on commodity imports - sea
	Charter of Aircrafts with crew
	Freight on commodity imports- air
	Oper. Exp. of Pak rail/road transport
	Passage earnings of Foreign air lines
	8 % freight on cash imports
	Freight on Foreign Economic Assistance
	Pak air /Shipping Cos expenses
<b>2. Travel</b>	Official travel -Business
	Commercial Travel-Business
	Non-official-Business
	Medical - Personal Travel
	Students and trainees
	Holiday (on recreational tours abroad)
	Religious travel - Hajj
	Religious travel - other - By air
	Religious travel - other - By land
Salary of officials on leave abroad	
Payments through Exchange Cos & Others	
<b>3. Communications Services</b>	Postal and courier services
	Telecommunication services
<b>4. Construction Services</b>	Construction services
<b>5. Insurance Services</b>	Treaties and standing open cover-life
	Surplus funds of foreign insurance cos.
	Rev. surplus funds of f. Ins. Cos. -life
	Insurance P & I Club
	Treaties and standing open cover-marine
	Accidental and health insurance services
	Motor vehicle insurance
	Surplus fund of foreign insurance Cos- Marine
	Marine, aviation and other transport ins.
	Facultative reinsurance-life
	Facultative reinsurance-marine
	Other non-life reinsurance services
Auxiliary services	
Insurance under Foreign Economic Assistance	

*Continued—*



Table 2—(Continued)

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<b>6. Financial Services</b>	Bank comm. and charges-Fin. Services Remittances for guarantees involved Other financial services
<b>7. Computer and Information Services</b>	Hardware consultancy services-Com. Serv. Software consultancy services Maintenance and repairs of computers Import of Computer Software Other computer services Pay. to journalist/authors- <i>Informal Ser.</i> Subscription to newspapers / periodicals News agents and correspondents
<b>8. Royalties and Lisence Fees</b>	Royalties and trade marks & Exchange cos.
<b>9. Other Business Services</b>	Merchanting services Charter of ships without crew-op.leasing Charter of air crafts without crew-op. leasing Legal services A/c, audit, bookkeeping, tax cons. Ser. Buss. & Mang. consult., and public rel. Agency commission Printing charges of security documents Processing and repair fees Adv., market res., & public opin. Poll. Research and development Services Architect., eng., and technical services Agri., mining, & on-site proc. services Receipt of sec. Deposits with tenders Payments to journalists Technical fees to foreigners Miscellaneous services, n.s.e. Exchange Cos & Refund
<b>10. Personal, Cultural, Recreational Services</b>	Audiovisual & related serv.-P.C.R serv. Payment to professional artisits Other personal, cult., & rec. services
<b>11. Government Services</b>	Foreign Missions & Military units and agencies Govt. remitt. not specified elsewhere. Remittances to Int. Organisations. Payment through int. bodies(Rs. A/c) Expenditure of Pak Diplomatic Mission abroad Technical Assistance

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**LIST OF REGIONAL BLOCKS CONTAINING THE  
NAMES OF MEMBER COUNTRIES**

**The Asia Pacific Economic Cooperation (APEC)**

Australia, Brunei Darussalam, Canada, Chile, China, Hong Kong SAR, Indonesia, Japan, Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, the Philippines, Russia, Singapore, Taiwan Province of China, Thailand, the United States, and Vietnam.

**Agreement on South Asian Association for Regional Cooperation (SAARC)  
Preferential Trading Arrangement (SAPTA)**

Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka, Afghanistan

**Association of Southeast Asian Nations (ASEAN)**

Brunei Darussalam, Cambodia, Indonesia, Lao P.D.R., Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam

**ASEAN-6**

ASEAN, China, Japan, Korea, Australia, New Zealand, India

**Closer Economic Relation (CER)**

Australia and New Zealand.

**Eurasian Economic Community (EAEC)**

Belarus, Kazakhstan, the Kyrgyz Republic, the Russian Federation, and Tajikistan.

**European Union comprising 15 members (EU-15)**

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

**North American Free Trade Agreement (NAFTA)**

Canada, Mexico, and the United States.

**Southern Common Market (Mercosur)**

Argentina, Brazil, Paraguay, and Uruguay.

**Trans-Pacific Strategic Economic Partnership (TPSEPA)**

Brunei Darussalam, Chile, New Zealand, and Singapore.

**Gulf Cooperation Council (GCC)**

1981: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, the United Arab Emirates.

**Community of Sahel-Saharan States (CEN-SAD) 10**

Libya, Niger, Sudan, Senegal, Egypt, Somalia, Ghana, Morocco, Liberia, Gambia

**ECO**

Afghanistan, Azerbaijan, Iran, Kazakhstan, Kyrgyz, Pakistan, Tajikistan, turkey, Turkmenistan, Uzbekistan,

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