

## **Strengthening Pakistan’s Trade Linkages: A Case Study of Regional Comprehensive Economic Partnership (RCEP)**

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This paper explores Pakistan’s trade potential because of Pakistan’s possible inclusion in the proposed Regional Comprehensive Economic Partnership (RCEP). Using a variety of analytical tools including the trade-cost augmented gravity model, indices of trade complementarity and revealed comparative advantage, the paper demonstrates that FTA between Pakistan and the proposed RCEP will increase bilateral trade, on average, by a factor of 1.84. Trade complementarity indices reveal that Pakistan’s import pattern tends to match over time with the export pattern of RCEP countries indicating that Pakistan can benefit from sourcing its imports from the RCEP countries. Moreover, there exists significant potential for Pakistan’s trade expansion with ASEAN members as well as other potential trading partners in RCEP. Whereas Pakistan can export cotton, made-up textiles and clothing, fish, cereals, leather products, pharmaceutical products, sugar and sugar confectionary, and light engineering manufactures, the proposed RCEP countries can export basic raw materials, machinery and equipment, steel products, and miscellaneous manufactured goods, to Pakistan. The study recommends that Pakistan should pursue its FTA arrangements actively with the ASEAN, as it is a prerequisite to get membership in the proposed RCEP. Greater integration with the proposed RCEP region will help Pakistan boost trade and investment and promote sustainable growth.

### **1. INTRODUCTION**

Since the creation of the World Trade Organisation (WTO) in 1995, member countries of the WTO have actively pursued trade agreements with other members, both at the bilateral and regional level. The number of regional trade agreements (RTAs) has sharply increased from 50 in 1990 to 291 as of January 2019 (WTO, 2019). Bhagwati (2008) argued that proliferation of regional trade agreements has been associated with slow growth in multilateral trade negotiations. On the other hand, geopolitical developments during the 1980s, such as the process of European integration, influenced other countries like the US to be part of the RTAs to secure a market for their products.

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However, recent developments in trade negotiations indicate that there is more emphasis on commercially meaningful associations. Therefore, current RTAs include more partners with varying levels of economic development from different regions with a focus to go beyond market access to trade in services, investment, competition policies, intellectual property protection, economic and technical cooperation and other areas such as e-commerce.

Recent years have seen the emergence of another class of RTAs known as mega-regional trade agreements or simply the mega-regionals. Melendiz-Ortiz (2014) defines mega-regionals as “deep integration partnerships in the form of RTAs between countries or regions with a major share of world trade and FDI and in which two or more of the parties are in a paramount driver position, or serve as hubs, in global value chains (i.e. the US, the EU, Japan, China).” This class of RTAs include, recently in effect, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP);<sup>1</sup> the emerging Transatlantic Trade and Investment Partnership (TTIP) between the EU and the US; and the proposed Regional Comprehensive Economic Partnership (RCEP) between ASEAN member states and six of its FTA partners: Australia, China, India, Japan, South Korea and New Zealand. The scope of mega-regionals is much wider than members’ WTO obligations (WTO-plus) or beyond the coverage of WTO obligations (WTO-beyond or WTO-extra).

The present paper focuses on estimating the potential of economic cooperation between the proposed RCEP and Pakistan. The future of the RCEP looks promising, if realised, as it offers a combined market of 3.4 billion people with a 27 percent share in world trade and a 39 percent share in world GDP in 2017 (Hunt, 2018). The essence of the stated RCEP objectives is to broaden and deepen integration in the region, building upon existing economic linkages. The coverage of the RCEP includes trade in goods and services, investment, economic and technical cooperation, intellectual property protection, compatibility policy, dispute settlement, e-commerce, small and medium enterprises (SMEs) and other issues like harmonisation of regulatory procedures.<sup>2</sup>

On the other hand, Pakistan’s trade policy emphasises regional economic integration as a strategy to boost trade and investment for greater prosperity and development. Pakistan adopted its strategic “*look Asia*” policy in 2003 to establish deeper trade relations with fast-growing Asian countries including ASEAN members. This policy has resulted in signing of free trade agreements (FTAs) with China, Indonesia and Malaysia while negotiations are under way to establish FTAs with Thailand and South Korea.

At present Pakistan has RTAs<sup>3</sup> with several countries, with China being a dominant trading partner (Table 1).

<sup>1</sup>Trans-Pacific Partnership save the US, also known as TTP-11. It includes Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam and came into effect on December 30, 2018.

<sup>2</sup>ASEAN Secretariat.

<sup>3</sup>Chronological order of the Pakistan’s RTAs along with salient features of the agreements is given in Table 2 in the Appendix.

Table 1

*Trade Profile of Pakistan with RTA Partners*

|           | 2018    |         | 2017    |         | 2016    |         | 2015    |         |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|
|           | Exports | Imports | Exports | Imports | Exports | Imports | Exports | Imports |
| China     | 1818    | 14545   | 1508    | 15383   | 1591    | 13680   | 1935    | 11019   |
| Indonesia | 303     | 2502    | 166     | 2583    | 128     | 2089    | 141     | 2042    |
| Iran      | 23      | 374     | 27      | 327     | 36      | 323     | 32      | 261     |
| Malaysia  | 158     | 1160    | 129     | 1101    | 152     | 945     | 186     | 911     |
| Sri Lanka | 355     | 105     | 269     | 103     | 237     | 77      | 260     | 72      |
| Mauritius | 19      | 9       | 19      | 4       | 17      | 4       | 61      | 22      |

While these RTAs have been instrumental in bolstering the volume of bilateral trade between Pakistan and its trading partners, the balance of trade is generally tilted towards the partner countries. Pakistan has been unable to take advantage of improved market access, mainly due to policy weaknesses and lack of export diversification (KCCI, 2013). Moreover, Pakistan pursued a policy of import-substitution industrialisation in the past, which adversely affected the export-oriented sector.

Further, as Pasha (2017) argues, Pakistani currency has been overvalued by 20 percent whereas other developing economies used competitive devaluation of their currencies as a deliberate policy instrument to remain competitive *vis-à-vis* their competitors in major international markets. Structural issues such as limited access to credit facilities, over-taxation, lack of access to quality infrastructure, and costly provision of utilities have further aggravated the situation for export-oriented manufacturers. As a result, the export sector witnessed an erosion in international competitiveness leading to increasing pressure on the balance of payments.

Though past RTA's have met with little success in terms of boosting Pakistan's exports, the current trade policy regime promises to address structural weaknesses of the export sector while at the same time seeking to widen global market access. In this context, Pakistan has a strong interest to be a partner in RCEP negotiations as almost all the non-ASEAN countries invited to join the proposed RCEP are direct or indirect competitors of Pakistan's exports to major markets like Malaysia, China, India, Indonesia, Singapore and Australia. The non-ASEAN countries will enjoy major concessions upon joining the proposed RCEP and this will adversely affect Pakistan's exports to the region. It is thus important to ensure that Pakistan maintains preferential trade relations with key trading partners to offset potential disadvantages in market access.

Given this backdrop, the objective of this study is to investigate the trade effects of the potential RCEP in the context of Pakistan. In so doing, the study attempts to answer the following questions: is there potential for mutually beneficial trade linkages between Pakistan and the RCEP? Should Pakistan negotiate FTA arrangements with ASEAN<sup>4</sup> to counter the potential trade diverting effects of the proposed RCEP? In addition, the study aims to identify specific products, which could be targeted to gain trade concessions.

We use a trade-cost augmented gravity model of international trade as derived by Anderson and Van Wincoop (2003). In addition, we use trade complementarity index

<sup>4</sup>FTA with ASEAN is a pre-requisite to be part of the RCEP.

(Michaely, 1996) and bilateral revealed comparative advantage index (Blassa, 1966) to identify sectoral trade potential. Our research contributes to the existing empirical trade literature on Pakistan by investigating the potential of trade expansion and the role of trade costs in Pakistan's trade with the proposed RCEP.

The structure of the paper is as follows:

Section 2 provides a brief review of literature.

Section 3 analyses Pakistan's trade with the RCEP.

Section 4 presents methodology of the paper and estimation results.

Section 5 discusses the empirical findings.

Section 6 spells out conclusions and policy recommendations.

## 2. REVIEW OF LITERATURE

A significant body of literature has analysed the impact of regional trade agreements in a variety of contexts. Several theoretical studies have highlighted the importance of preferential trade agreements (PTAs). In particular, studies argue that RTAs promote broader cooperation among the trading countries, covering trade in goods, investment, and trade facilitation, thus contributing to economic growth. Bagwell and Staiger (2003) and Ossa (2010) show that multilateral trade agreements based on simple rules that allow countries to coordinate tariff reductions and reciprocal market access, are one of the best options to improve terms of trade and increase national income. Moreover, these agreements enhance confidence, improve policy credibility, and encourage policy reforms, leading to greater openness and enhanced regional trade (WTO, 2011).

Magie and Rodriguez-Clare (1998) argue that credibility problems arise when domestic pressure groups lobby governments to adopt a specific policy. The authors argue that the protectionist policies reward import competing sectors by diverting resources from other sectors. The cost of this distortion may be large in the long term, but in the short term, domestic lobbying by sectors competing for imports will prompt governments to set high restrictions on trade.

This study identifies two reasons why governments may want to sign trade agreements: to minimise the distortionary cost because of lobbying by a sector lacking comparative advantage; and to avoid delay in the adjustment process for the under pressure sectors relying on government protection. Trade agreements relate to the need to achieve deeper integration, which goes beyond traditional trade measures such as tariffs (Lawrence, 1996). This deeper integration may require a degree of institutional policy coordination that is more easily achievable at the regional level, rather than with multilateral arrangements (WTO, 2011).

A large number of empirical studies have explored the benefits of regional economic integration. Brenton *et al.* (1999) argue that regional economic integration provides an important stimulus to trade. Clausing (2001) and Trefler (2004) examine the welfare effects of Canada-United States free trade agreement (CUSFTA) and find that trade creation outweighs trade diversion and increases the welfare of the partners. Within East Asia, Lee and Shin (2006) find a trade creating effect of PTAs, which takes place without reducing trade from non-member countries. Baier and Bergstrand (2007) analyse the effects of PTAs, controlling for the endogeneity problem, and argue that PTAs exert a

positive effect on trade flows and that the effect is statistically more robust and five times larger than the estimates that disregard the endogeneity problem.

Clarete et al. (2003) estimates the impact of different preferential trading arrangements (PTAs) in the Asia-Pacific region and concludes that PTAs have significantly contributed to trade expansion both at the global and regional level. This study also shows that PTAs create rather than divert trade. Using GTAP analysis, Reihan and Razzaque (2007) measure the trade creation and diversion, and welfare effects, for different regional integration and bilateral FTAs in South Asia.

This study suggests that free trade arrangements will lead to welfare gain for India, Sri Lanka and rest of South Asian economies except Bangladesh. Acharya, et al. (2011) examines the trade creation effects both within and outside the PTA for 17 PTAs and find a strong effect of intra-PTA trade creation with no evidence of trade diversion. The study also examines the trade creation effect of PTAs on non-member trade partners and finds significant trade creation effects with ASEAN and MERCOSU. For the Caribbean Community (CARICOM), the Central European Free Trade Agreement (CEFTA), the Common Market for Eastern and Southern Africa (COMESA) and the Closer Economic Relations (CER) FTAs, trade diversion effects are found.

Some studies report evidence of trade diversion because of regional economic integration. For example, Romalis (2007) examines the North America Free Trade agreement (NAFTA) using the changes in EU trade to capture the effects in the absence of NAFTA, and concludes that the overall effect of the NAFTA is trade diverting; however, the welfare costs of NAFTA are small. Similarly, Chang and Winters (2002) find trade diverting effects of the Southern Common Market (MERCOSUR). Egger (2004) concludes that membership of a regional trade bloc does not have a significant impact on trade volumes in the short term but there is a substantial trade creation effect in the long term. The authors find that hypothetically, dismantling the European Economic Area (EEA) would reduce trade level by 4 percent within the EEA and by 15 percent trade in NAFTA.

Recent research has explored the role of mega-trade deals in shaping bilateral and global trading patterns. Nugraheni, et al. (2018) analyse the impact of ASEAN FTAs with China, Japan, Korea, Australia, and New Zealand using computable general equilibrium model (CGE). The study found that these agreements increased the welfare of each region and reduced trade deficits of partner countries by increasing the volume of bilateral trade.

Urata (2018) argues that TPP is the best-negotiated trade agreement, therefore, remaining countries of the transpacific partnership (TPP) should continue with the agreement. Secondly, implementations of TPP will put competitive pressure on the RCEP and TTIP negotiations, which will help to counter the rising tendencies of protectionism. Petri, et al. (2017) analyse the impact of TPP11 and show that, if enacted, the real income of the participating countries will increase by 1.1 percent as compared with the baseline value.

Liaqat (2017) examines the impact of TPP on Canada's trade using gravity modeling technique with a decomposition of the impact into output growth effect and trade cost effect. The study concludes that TPP will contribute to a reduction in trade costs and thus increase the bilateral trade of Canada.

Jacks, et al. (2017) analyse the factors that determine expansion and contraction in international trade using a theoretically founded measure of trade cost. The study stresses the dominant role of declining trade cost in the pre-World War I period and that of output growth in the post-World War II period. In addition, contraction in trade during the interwar period is associated with increases in trade costs.

Draper, et al. (2014) argue that Transatlantic Trade and Investment Partnership (TTIP) will significantly benefit trade among the EU, the US and the third party service providers through harmonisation of regulatory procedures, technical standards, and conformity assessment requirement. Novy (2013) developed micro-founded and heterogeneous firms' model and showed that trade cost for the US with its trading partners declined by about 40 percent over a period of 1970-2000.

Fukunaga, et al. (2013) examine ASEAN member FTAs with dialogue partners of the RCEP and find that existing FTAs have not liberalised flow of goods and services as expected but rather created a noodle-bowl on the rules of origin (ROOs). The study recommends that while negotiating the RCEP the members should set a general rule for ROOs and stress the elimination of non-tariff measures.

Fontagne, et al. (2013) investigate the effect of NTMs elimination on the economies of the EU and the US using CGE model. They estimate the impact of a 25 percent reduction in NTMs with zero tariff and find an increase of 0.3 percent in the GDP of both EU and US in the long term, along with an increase in exports amounting to 8 percent and 10 percent respectively for the EU and US.

Several studies have investigated the role of trade agreements in the context of Pakistan's economy. Akram, et al. (2012) explores the possibilities of intra-industry trade of Pakistan with SAARC countries, while Gul and Yasin (2011) estimate Pakistan's trade potential and conclude that it is highest with countries that are members of ASEAN, the EU, and with those in the Middle East. Akhter and Ghani (2010) analyse the impact of free trade agreement among the SAARC countries and show that the regional trade agreement of the SAARC countries could divert trade for member countries as well as for the non-member countries. However, the trade volume is expected to increase if the major trading partners (i.e. Pakistan, India and Sri Lanka) sign a regional trade agreement.

Akram (2008) examines the export potential of Pakistan with 154 countries including SAARC for 19 major sectors and concludes that potential exists to increase exports to partner countries. Qamar (2005) argues that Pakistan can benefit not only by accessing markets for its exports but can also save significantly by substituting its expensive imports from the rest of the world with those from India by granting MFN status to India.

From the foregoing review, it is apparent that no study on Pakistan has explored the trade potential of Pakistan *vis-à-vis* RCEP using a rigorous empirical framework. The present study addresses this gap by using a trade-cost augmented gravity model as derived by Anderson and Van Wincoop (2003). This analysis is complemented by the use of two widely known trade indices to identify the potential of trade at the sectoral level.

### 3. AN OVERVIEW OF PAKISTAN'S TRADE WITH RCEP

Though the current level of trade between Pakistan and ASEAN member states is not very encouraging,<sup>5</sup> the potential of Pakistan's future trade with ASEAN + 6 looks promising

<sup>5</sup>ASEAN's exports to Pakistan account for only 0.5 percent of its total exports to the world while ASEAN's imports from Pakistan are mere 0.1 percent of its total imports from the world.

as China, Japan, Malaysia, India, Indonesia, and Korea have been among the top ten import sources for Pakistan in recent years. Pakistan has FTAs with China and Malaysia and shares a regional economic integration platform (SAFTA) with India. Besides FTAs, Pakistan also shares cultural and historical ties with India, Indonesia and Malaysia. This suggests a high probability of a successful trading arrangement between Pakistan and the proposed RCEP. The complementarities that exist between Pakistan and RCEP indicate a much higher trade level than has been realised so far. From the RCEP perspectives, the magnitude of complementarity index, albeit low, is increasing over time.

The observed trading patterns of Pakistan with the RCEP suggest that Pakistan has significant trade relations with member states of the proposed RCEP. In addition, Pakistan's trade with the region has increased significantly over the last decade. Pakistan's exports to the proposed members of RCEP have increased from 10.4 percent of total exports in 2003 to 16.83 percent in 2015 and to 18 percent in 2018. Similarly, imports have increased from 32.8 percent of total imports to 46.31 percent in 2015 and then declined to 44 percent in 2018.

Pakistan's exports to the ASEAN countries stood at US\$ 1.23 billion in 2018 while its imports from ASEAN amounted to US\$ 6.4 billion in the same year. The major trading partners of Pakistan in the region include Indonesia with 3 percent of total trade, Malaysia (2 percent), Thailand (2 percent) and Singapore (1 percent). Pakistan's share of trade with proposed RCEP members is 37 percent of its total trade. China, India and Japan have been its major trading partners in RCEP with 20 percent, 3 percent and 3 percent trade share respectively. China and Japan are the ASEAN's largest trading partners with 17.15 percent and 8.51 percent share in ASEAN's total trade with the world respectively (see Table 2).

Table 2

*ASEAN Trade with Selected Economies, 2017*

| Partners                | Total trade (USD Billion) | Share |
|-------------------------|---------------------------|-------|
| ASEAN                   | 590.4                     | 22.93 |
| Australia & New Zealand | 68.7                      | 2.67  |
| China                   | 441.6                     | 17.15 |
| EU 28 1/                | 261.3                     | 10.15 |
| India                   | 73.6                      | 2.86  |
| Japan                   | 219                       | 8.51  |
| Republic of Korea       | 153                       | 5.94  |
| Pakistan <sup>a</sup>   | 7.6                       | 0.3   |
| USA                     | 235.2                     | 9.13  |
| Rest of the World       | 532.1                     | 20.67 |

<sup>a</sup>2018.

As shown in Table 3, seven out of the ten largest import commodity groups of Pakistan match with the top ten traded commodity groups of the ASEAN region. This indicates that the ASEAN region can be an important source for a diverse range of Pakistan's import requirements including mineral oils and products, electrical machinery and equipment, vehicles, and organic chemicals. The fact that Pakistan can be an important market for the ASEAN countries indicates Pakistan's potential as an important trading partner of ASEAN.

Table 3  
*Shares of Top ASEAN Exports in ASEAN's Total Exports and Share of These Products in Pakistan's Total Imports*

| HS Code | Commodity Group   | Export (%) | Import (%) |
|---------|---|------------|------------|
| 27      | Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes  | 9.5        | 12.1       |
| 85      | Electrical machinery and equipment and parts thereof; sound recorders and reproducers; television image and sound recorders and reproducers, parts and accessories of such articles | 25.6       | 23.4       |
| 84      | Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof   | 11.4       | 13.1       |
| 87      | Vehicles; other than railway or tramway rolling stock, and parts and accessories thereof  | 3.7        | 3.9        |
| 39      | Plastics and articles thereof   | 3.2        | 4          |
| 29      | Organic Chemicals   | 2.3        | 1.9        |
| 90      | Optical, photographic, cinematographic, measuring, checking, medical or surgical instruments and apparatus; parts and accessories   | 3.1        | 2.8        |
| 71      | Natural, cultured pearls; precious, semi-precious stones; precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin                         | 3.7        | 3.2        |
| 40      | Rubber and articles thereof   | 2.5        |            |
| 72      | Iron and Steel  |            | 3.3        |

#### 4. METHODOLOGY

The paper uses trade complementarity index (TCI) and revealed comparative advantage (RCA) to estimate Pakistan's trade potential at the sectoral level. This analysis is supplemented by the estimation of trade-cost augmented gravity model to quantify potential gains from trade that can accrue to Pakistan and proposed members if Pakistan joins the proposed RCEP.

##### 4.1. Trade Complementarity Index

The trade complementarity index (TCI), introduced by Michaely (1996) is a type of overlap index that measures the degree to which the export pattern (it can also be calculated for imports) of one country matches the import pattern of another. A high degree of complementarity implies favourable prospects for a more successful trading arrangement. Changes in the TCI over time may tell us whether the trade profiles are becoming more, or less, compatible. TCI is defined as the sum of the absolute value of the difference between the import category shares and the export shares of the countries under study, divided by two. The following formula is used to compute the index:

$$\left[ 1 - \left[ \frac{\sum_w |m_{iwd} - x_{isw}|}{\sum_w M_{wd} + \sum_w X_{sw}} \right] \right] \times 100 \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (1)$$

Where  $d$  is the importing country of interest,  $s$  is the exporting country of interest,  $w$  is the set of all countries in the world,  $i$  is the set of industries,  $x$  is the commodity export flow,  $X$  is the total export flow,  $m$  the commodity import flow, and  $M$  the total import flow. Division by two yields a value between 0 and 1. The two extreme values



respectively reflect no complementarity, and perfect complementarity. The value thus obtained is subtracted from 1 to reverse the sign and is multiplied with 100 to obtain the TCI in percentage form.

**4.2. Revealed Comparative Advantage (RCA)**

Comparative advantage underlies explanations by economists for the observed pattern of inter-industry trade. In theoretical models, comparative advantage is expressed in terms of relative prices evaluated in the absence of trade. Since these prices are not observed, in practice we measure comparative advantage indirectly. Revealed comparative advantage indices (Balasa, 1965 and Laursen, 2000; CEPII, 2019) use the trade pattern to identify the commodities/sectors in which an economy has a comparative advantage, by comparing the trade profile of a country with the world average. In other words, it is the ratio of the exports of the commodity from the source to total exports from the source, over the same ratio for the world

$$\frac{\sum_d x_{isd} / \sum_d X_{sd}}{\sum_{wd} x_{iwd} / \sum_{wd} X_{wd}} \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (2)$$

Where, *s* is the country of interest, *d* and *w* are the set of all countries in the world, *i* is the commodity/sector of interest, *x* is the commodity export flow and *X* is the total export flow. It is a ratio of two shares. The numerator is the share of good *i* in the exports of country *s*, while the denominator is the share of good *i* in the exports of world.

The RCA is very useful in a wide range of contexts. For example, while doing trade tracker analysis RCA proves very useful in identifying industries/sectors in which a country appears to enjoy a comparative advantage and the industries/sectors where the comparative advantage is changing for the better or worse. The RCA also proves useful in formulation and evaluation of trade policy and potential FTAs and indicates the extent to which a given agreement is likely to be welfare enhancing or otherwise. Finally, RCAs help identify potential export opportunities.

**4.3. The Gravity Model**

In order to quantify the gains from the proposed integrated market, we use the traditional gravity model of international trade augmented by trade costs as derived by Anderson and Van Wincoop (2003). Since its introduction in international trade literature by Tinbergen (1962) and its subsequent empirical success, the legitimacy of the gravity model has been firmly established, theoretically and empirically (Jacks, et al. 2011). The gravity equation states that trade flows between countries depend upon their respective national incomes measured by GDPs and bilateral trade cost (measured by bilateral distance, tariff barriers and policy-induced costs etc.). Formally, following Jacks et al. (2011),

$$\ln(x_{ij}) = \alpha_i + \alpha_j + \gamma \ln(y_{it}y_{jt}) + \beta z_{ijt} + \delta FTA + \varepsilon_{ijt} \quad \dots \quad \dots \quad (3)$$

Where  $\alpha_i$  and  $\alpha_j$  represent reporters and partners fixed effects.  $x_{ij}$  is total bilateral trade between home country *i* and trading partner *j*. the  $y_{it}$  and  $y_{jt}$  represent economic size of countries *i* and *j* measured in terms of GDP, and  $z_{ijt}$  is a vector of trade barriers between

countries  $i$  and  $j$ . These barriers can be distance, language (whether the official language of trading partners is the same), and contiguity (whether trading partners share borders). We introduce fixed effects to capture time-invariant characteristics of countries, which might affect their trade patterns, for example, differences in factor endowments and productivity differences among trading partners.

Equation (3) implies that trade between countries is an increasing function in economic size measured by GDP and a decreasing function in bilateral trade costs—such as bilateral distance, language barriers and their proximity. In other words, high-income countries tend to trade more while the volume of trade will be lesser among countries located farther from each other.

#### 4.4. Data and Data Sources

Annual trade and GDP data are derived from UN Comtrade database and data on trade barriers and regional trade agreements are extracted from CEPII and Asia-Pacific Trade and Investment Agreement Database (APTIAD) respectively.

## 5. RESULTS AND DISCUSSION

### 5.1. Trade Complementarity and Trade Cost Analysis

An analysis of trade complementarity between Pakistan and the RCEP countries is conducted to gauge their potential as trading partners. We observe that a high level of trade complementarity exists between Pakistan and member states of the proposed RCEP, and that trade complementarity with almost all the RCEP countries has increased overtime (Table 4). In other words, the import pattern of Pakistan tends to match over time with the export pattern of RCEP countries. We have also analysed Pakistan's comprehensive bilateral trade cost with ASEAN+6 countries derived from ESCAP-WB trade cost database (Table 4). The tariff based cost and the cost of non-tariff measures, reported separately, are expressed in ad-valorem equivalent form. Non-tariff cost includes the cost of freight, documentation, customs procedures, and the cost arising from the number of days required to process the shipment of goods.

The ad valorem equivalent trade cost of Pakistan-Malaysia for manufacturing goods in 2011 is 96.45 percent, which means that, on average, trading manufactured goods between Pakistan and Malaysia involves an additional cost amounting to 96.45 percent of the value of goods as compared to when the two countries trade these goods domestically.

The trade cost between Pakistan and China in 2010 was 116.32 percent, which implies that trading manufactured goods between Pakistan and China involves an additional ad valorem equivalent cost of 19.87 percent compared to trading goods between Pakistan and Malaysia. Table 5 shows that Malaysia is the lowest cost trade partner for Pakistan in ASEAN+6 economies followed by Vietnam, China, Republic of Korea and India. Brunei Darussalam and Lao PDR are very high cost trade partners in the region. Given the low level of Pakistan's trade with Asean+6, the high trade cost between the potential partners may reflect the rather high cost associated with market entry. These trade costs can be reduced given the presence of high trade complementarities between Asean+6 and Pakistan if Pakistan is allowed to be a member of the proposed regional economic partnership.

Table 4

*Complementarity Index of the RCEP with Pakistan*

| Countries   | 2000  | 2009  | 2015         |
|-------------|-------|-------|--------------|
| Australia   | 16.21 | 28.17 | 44.33        |
| Brunei      | 18.37 | 26.13 | 29.47        |
| Cambodia    |       |       | 14.81        |
| China       | 15.09 | 21.01 | 47.62        |
| India       | 10.40 | 21.12 | 56.13        |
| Indonesia   | 18.90 | 24.37 | 66.43 (2014) |
| Japan       | 20.47 | 31.35 | 56.21        |
| Korea, Rep. | 14.28 | 24.42 | 55           |
| Lao, PDR    |       |       |              |
| Malaysia    | 11.90 | 25.40 | 60.72        |
| Myanmar     |       |       |              |
| New Zealand | 17.48 | 59.23 | 24.43        |
| Philippines | 13.26 | 25.53 |              |
| Singapore   | 11.82 | 22.34 | 52.36        |
| Thailand    | 13.68 | 24.74 | 50.48        |
| Vietnam     | 20.81 | 30.71 | 39.97        |

Table 5

*Bilateral Trade Cost of Pakistan with the RCEP*

| Countries        | Manufacturing |                       | Agriculture         |                       |
|------------------|---------------|-----------------------|---------------------|-----------------------|
|                  | $t_{ij}$      | Non-tariff $t_{ijji}$ | $t_{ij}$            | Non-tariff $t_{ijji}$ |
| Australia 2010   | 168.01        | 142.95                | 192.04              | 178.30                |
| Brunei 2010      | 361.19        | 317.37                | n.a                 | n.a                   |
| Cambodia 2011    | 194.93        | 152.75                | 363.31 <sup>a</sup> | 327.05 <sup>a</sup>   |
| China 2010       | 116.32        | 96.03                 | 194.86              | 171.97                |
| India 2011       | 147.27        | 124.13                | 169.81              | 128.27                |
| Indonesia 2011   | 166.84        | 135.33                | 179.79              | 156.41                |
| Japan 2010       | 177.99        | 154.26                | 335.85              | 323.34                |
| Korea, Rep. 2011 | 137.56        | 111.44                | 330.67              | 229.26                |
| Lao, PDR 2011    | 599.64        | 526.89                | 631.43              | 580.58                |
| Malaysia 2011    | 96.45         | 70.23                 | 182.52              | 167.92                |
| Myanmar          |               |                       |                     |                       |
| New Zealand 2006 | 172.20        | 148.20                | 441.40              | 422.87                |
| Philippines 2011 | 199.34        | 161.29                | 277.25              | 235.20                |
| Singapore 2011   | 211.70        | 190.96                | 197.96              | 194.85                |
| Thailand 2010    | 148.06        | 112.44                | 197.57              | 161.58                |
| Vietnam 2011     | 106.47        | 81.12                 | 164.37              | 149.13                |

a: data for the year 2005.  $t_{ij}$ : Comprehensive bilateral Trade Cost; Non-Tariff  $t_{ijji}$ : bilateral trade cost excluding tariff, n.a.: not available.

## 5.2. Evidence from Gravity Model

Equation (3) is estimated using fixed effects panel data techniques. The dependent variable ( $\ln trade_{ij}$ ) is log of trade between country  $i$  and country  $j$ . The coefficients of  $GDP$  of reporter and partner countries are expected to be positive, which implies that countries with similar income tend to trade more. Similarly, coefficients of *Contiguity* and *Common Language* are expected to be positive. The language dummy is used to capture the historical and cultural similarities between trading partners, which are thought to increase the bilateral trade. Coefficient of distance is expected to be negative, which implies that the farther the countries, the lower their bilateral trade will be. Table 6 reports the estimation results. All estimated coefficients are significant at less than one percent significance level in the both specifications. The estimated coefficients of the  $\ln GDP_i$  and  $\ln GDP_j$  imply that, on average, a 1 percent increase in a country's GDP will lead to more-than-proportional increase in its imports and exports.

Table 6

### *Estimates of the Gravity Equation*

| Variable                             | Specification 1<br>Coefficients | Specification 2<br>Coefficients |
|--------------------------------------|---------------------------------|---------------------------------|
| Ln(Distance)                         | -0.809(0.0234)                  | -0.832(0.0211)                  |
| Ln(GDP <sub>i</sub> )                | 1.021 (0.0692)                  | 0.899 (0.0468)                  |
| Ln(GDP <sub>j</sub> )                | 1.048 (0.00638)                 | 0.767 (0.0439)                  |
| (Common Language) <sub>off</sub>     | 0.681 (0.0402)                  | 0.131 (0.0386)                  |
| Contiguity                           | 0.438 (0.658)                   | 0.895 (0.0509)                  |
| FTA                                  | 1.045 (0.0394)                  | 0.468 (0.0349)                  |
| R <sup>2</sup>                       | 0.74                            | 0.84                            |
| Reporters and Partners fixed effects | No                              | Yes                             |
| Time fixed effects                   | Yes                             | Yes                             |

*Note:* Dependent variable is bilateral trade between Pakistan and its trading partners; robust standard errors clustered by distance are used; coefficients are significant at less than 1 percent; Standard errors are reported in parentheses.

A one percent increase in distance tends to decrease trade by about 0.81 percent. The indicator variable for common official language implies that countries trade 98 percent more, on average, with a partner with the same official language. The countries that share a common border tend to trade 55 percent more than those countries that do not share a common border. Our particular interest lies in the effect of the coefficient of future FTA dummy on the level of bilateral trade, which is positive and significant in both specifications. More specifically, according to the model without reporters and partners' fixed effects, FTA between Pakistan and RCEP will increase, on average, bilateral trade by a factor of 1.84 or by 184 percent ( $\exp^{1.045} - 1 = 1.843$ ). Though the impact of FTA becomes much smaller in model with fixed effects, the trade is predicted to increase significantly (60 percent) because of RCEP. Thus, the estimation results of the gravity equation are consistent with the predictions of the gravity model in determining international trade flows.

### 5.3. Trade Potential

To assess trade potential of the member states of the proposed RCEP with Pakistan and vice-versa, we use the following formula:

$$TP_{ij} = \frac{\text{Estimated trade}_{ij}}{\text{Actual trade}_{ij}}$$

If  $TP_{ij} > 1$ : potential for trade expansion

If  $TP_{ij} < 1$ : *exceeding* trade potential

where  $TP_{ij}$  is trade potential of country  $i$  with its trading partner  $j$ ; *estimated trade<sub>ij</sub>* is the estimated bilateral trade of country  $i$  with its trading partner  $j$ ; and *actual trade<sub>ij</sub>* is the actual trade of country  $i$  with its trading partner  $j$ . If this ratio is greater than 1 then it implies that there exists potential for trade expansion between the trading partners and if this ratio is less than 1 then it implies that bilateral trade has exceeded its trade potential. The results show that Australia, Brunei, China, India, Japan, Korea, Lao, Myanmar, New Zealand and the Philippines have potential for trade expansion with Pakistan and vice versa, which implies that, in the given situation, bilateral trade between Pakistan and the aforementioned countries can be increased (Tables 7 and 8).

On the other hand, Cambodia, Indonesia, Malaysia, Singapore, Thailand and Vietnam appear to have fully exploited their trade potential with Pakistan and, in the given situation, there is no room left for improvement in their bilateral trade. However, if the countries offer concessions to each other, trade flows can be increased. In other words, a free trade agreement can help Pakistan and these countries to expand their bilateral trade by lowering tariffs and removing trade barriers. Pakistan has already signed preferential trade agreements with Indonesia and Malaysia. To increase their trade potential these countries have to renegotiate their trade agreement and introduce concessions on each other's product lines, which are of high value to them.

Table 7

*Trade Potential of Pakistan with the RCEP*

| Partner     | $\ln(\text{Trade}_{ij})$ | Predicted $\ln(\text{Trade}_{ij})$ | Difference in Predicted Values |
|-------------|--------------------------|------------------------------------|--------------------------------|
| Australia   | 20.376                   | 21.091                             | 1.035                          |
| Brunei      | 13.442                   | 16.129                             | 1.2                            |
| Cambodia    | 17.323                   | 16.706                             | 0.964                          |
| China       | 23.282                   | 24.949                             | 1.072                          |
| India       | 21.402                   | 24.245                             | 1.133                          |
| Indonesia   | 21.5                     | 20.485                             | 0.953                          |
| Japan       | 21.359                   | 22.146                             | 1.037                          |
| Korea, Rep. | 20.709                   | 21.111                             | 1.019                          |
| Lao PDR     | 13.878                   | 16.609                             | 1.197                          |
| Malaysia    | 20.807                   | 20.597                             | 0.99                           |
| Myanmar     | 16.964                   | 18.211                             | 1.074                          |
| New Zealand | 18.261                   | 18.803                             | 1.03                           |
| Philippines | 18.505                   | 20.098                             | 1.086                          |
| Singapore   | 20.786                   | 20.181                             | 0.971                          |
| Thailand    | 20.693                   | 20.06                              | 0.969                          |
| Vietnam     | 20.036                   | 19.307                             | 0.964                          |

Table 8

*Trade potential of the RCEP with Pakistan*

| Partner     | $\ln(\text{Trade}_{ij})$ | Predicted $\ln(\text{Trade}_{ij})$ | Difference in Predicted Values |
|-------------|--------------------------|------------------------------------|--------------------------------|
| Australia   | 20.355                   | 21.048                             | 1.034                          |
| Brunei      | 13.759                   | 16.211                             | 1.178                          |
| Cambodia    | 17.466                   | 16.779                             | 0.961                          |
| China       | 23.663                   | 24.85                              | 1.05                           |
| India       | 21.607                   | 24.19                              | 1.12                           |
| Indonesia   | 21.495                   | 20.454                             | 0.952                          |
| Japan       | 21.384                   | 22.072                             | 1.032                          |
| Korea, Rep. | 20.795                   | 21.067                             | 1.013                          |
| Lao PDR     | 15.294                   | 16.687                             | 1.091                          |
| Malaysia    | 20.976                   | 20.595                             | 0.982                          |
| Myanmar     | 17.436                   | 18.252                             | 1.047                          |
| New Zealand | 18.378                   | 18.814                             | 1.024                          |
| Philippines | 18.578                   | 20.096                             | 1.082                          |
| Singapore   | 20.996                   | 20.179                             | 0.961                          |
| Thailand    | 20.741                   | 20.05                              | 0.967                          |
| Vietnam     | 20.178                   | 19.316                             | 0.957                          |

**5.4. Revealed Comparative Advantage**

To complement the analysis of gravity model, we have computed revealed comparative advantage of Pakistan with each member country of the RCEP. The results for Pakistan's trade with each country are discussed below. The summary of the number of products with comparative advantage equal to/greater than one is presented in Table 9.<sup>6</sup> Among Pakistan's potential RCEP partners, there is significant potential in the export markets of Australia, China, Indonesia, Malaysia, South Korea, Singapore and Thailand. Similarly, these countries, in the proposed RCEP partnership, can expand their exports to Pakistan in a variety of products including basic raw materials, machinery and equipment, steel products, and miscellaneous manufactured goods. Pakistan's export potential in these markets exists in a wide array of products including cotton, made-up textiles and clothing, fish, cereals, leather products, pharmaceutical products, sugar and sugar confectionary, and light engineering manufactures.

<sup>6</sup>For each country, we calculated RTA for each product in which the country enjoys comparative advantage. The details are available upon request.

Table 9

*RCA at HS-6 Digits*

|                   | RCEP Countries CA with<br>Pakistan<br>Number of Products | Pakistan CA with RCEP<br>Countries<br>Number of Products |
|-------------------|--|--|
| Australia         | 107  | 335  |
| Brunei Darussalam | 04   | 52   |
| Cambodia          | 06   | 45   |
| Indonesia         | 218  | 120  |
| Malaysia          | 252  | 340  |
| Japan             | 443  | 235  |
| Rep. of Korea     | 494  | 300  |
| Philippine        | 114  | 161  |
| Thailand          | 546  | 248  |
| Singapore         | 571  | 331  |
| China             | 999  | 300  |
| New Zealand       | 77   | 200  |

**5.5. Pakistan's Locational Advantage**

Besides the potential to expand trade based on economic factors, Pakistan's geostrategic location also makes it an important player in world relationships. To establish seamless connectivity within the RCEP region, Pakistan's geographical location will prove to be a strategic asset for the Asia-Pacific economies. The proposed TIPI-BM (Turkey, Iran, Pakistan, and India-Bangladesh, Myanmar) road corridor and ITI-DKD (Istanbul-Tehran-Islamabad-Delhi-Kolkata-Dhaka) Railway Corridor are under consideration. The TIPI-BM would be Asia's new silk route connecting Central and West Asia with East Asia, with South Asia functioning as a land bridge. The route will be a vital corridor for expansion in trade and transportation. The ITI-DKD Railway Corridor has the potential to become a premier trade corridor for Europe, Central Asia, West Asia, South Asia, and East Asia.

Although the quality of seaports and rail transport is not exceptionally high in Pakistan, it still has a significant cost advantage over its neighbours in the South and South-West Region in terms of the time involved in procedural formalities, and cost per container to export a shipment (see Table 1 in the appendix). The economic integration with ASEAN countries is expected to encourage Pakistan to further improve the trade related infrastructure with increased bilateral investment flows from the RCEP region – which means investment opportunities for the RCEP member states.

Furthermore, Pakistan has signed ECOTTA (Economic Cooperation Organisation Transit Trade Agreement) which will be instrumental in providing a range of transit facilities allowing quick transportation to ultimate destinations. Assuming that the agreement will take effect in the coming years, Pakistan's entry into the proposed RCEP can provide the member states with a cheaper and quicker route to the Middle East thus boosting their trade prospects.

## 6. CONCLUSIONS AND POLICY RECOMMENDATIONS

This paper has explored the potential benefits accruing to proposed RCEP members and Pakistan in the event of Pakistan's inclusion in the proposed trade grouping. Employing a variety of approaches including trade indices and trade-cost augmented gravity model, the study shows that a significant potential exists for expanding intra-regional trade of all the member states. An added benefit of lower cost of trading can prove beneficial for all members of the trading block. More specifically, our analysis suggests that with the entry of Pakistan in the proposed trading block the quantum of bilateral trade of all the member states will increase. In addition, the geographical location of Pakistan will allow the member states quicker and cheaper access to wider markets, including Middle East and Central Asian Republics.

The inclusion of Pakistan in the proposed trading block is thus clearly a win-win scenario whereby all the countries can reap the dividends emanating from greater intra-regional trade and investment flows, reduced transactions costs, and improved access to important markets. Therefore, the study recommends that Pakistan should actively pursue its membership in the proposed RCEP to boost bilateral trade with members of the RCEP.

At the sectoral level, while Pakistan can enhance its exports of textiles and made-ups, leather products and light engineering, it can be a market for RCEP countries in electric machinery and equipment, mineral fuels, oils and products, basic raw materials, and steel products. Finally, in view of the limited room for further trade expansion with existing PTA partners such as Malaysia and Indonesia, renegotiation of the terms is needed to seek concessions on products that are of high value to Pakistan, such as cotton, made-up textiles and clothing, cereals, leather products, pharmaceuticals and light engineering manufactures. The revised concessions are likely to help Pakistan boost its exports of products in which it has a significant comparative advantage, resulting in the revival of the export-oriented sector, job creation and economic growth.

## APPENDIX

Table 1

*Documents, Cost and Time to Exporting South and South-West Asia, 2012*

| Country                  | Documents to Export (Number) | Time to Export (Days) | Cost to Export (US\$/Container) |
|--------------------------|------------------------------|-----------------------|---------------------------------|
| Afghanistan              | 10                           | 74                    | 3545                            |
| Bangladesh               | 6                            | 25                    | 965                             |
| Bhutan                   | 8                            | 38                    | 2230                            |
| India                    | 8                            | 16                    | 1095                            |
| Iran, Islamic Republic   | 7                            | 25                    | 1275                            |
| Maldives                 | 8                            | 21                    | 1550                            |
| Nepal                    | 9                            | 9                     | 1960                            |
| Pakistan                 | 7                            | 7                     | 660                             |
| Sri Lanka                | 6                            | 6                     | 715                             |
| Turkey                   | 7                            | 14                    | 990                             |
| Coefficient of Variation | 16                           | 82                    | 56                              |

*Source:* UN-ESCAP based on Doing Business Database, World Bank.



Table 2

*Salient Features of Pakistan's Preferential Trade Agreements*

|                     |  |
|---------------------|--|
| Indonesia<br>(2013) | <p>Tariffs:</p> <ul style="list-style-type: none"> <li>Indonesia and Pakistan offer preferential rates on 216 and 287 tariff lines, respectively.</li> <li>Pakistan has extended a 15 percent Margin of Preference (MoP) over the standard tariff rate to Indonesian palm oil products</li> </ul> <p>Rules of Origin:</p> <ul style="list-style-type: none"> <li>Wholly Produced or Obtained: Yes</li> <li>Minimum Value Addition: 40 percent of f.o.b.</li> <li>Cumulation Rules: Minimum value addition in two countries of 40 percent</li> <li>Product Specific Rules: none</li> </ul>  |
| Malaysia<br>(2008)  | <p>Tariffs:</p> <ul style="list-style-type: none"> <li>Under fast track tariffs would be reduced to 0 %in 2009.</li> <li>Under Normal Track tariffs will gradually reduce to 0 percent in 2012</li> <li>Sensitive Tracks (ST): tariffs would be brought down to 5 percent by 2014 under ST1; tariffs would be brought down to 10 percent under ST2; and under ST3 tariffs would be reduced to 20 percent by 2011.</li> <li>Margin of preference (MoP) would be increased to 20 by 2014 and to 15 percent by 2010 for some products.</li> </ul> <p>Rules of Origin:</p> <ul style="list-style-type: none"> <li>Wholly Produced or Obtained: yes</li> <li>Minimum Value Addition: 40 percent of f.o.b.</li> <li>Cumulation Rules: Minimum value addition of 25 percent in exporting country</li> <li>Product Specific Rules: Certain textiles and jewelry</li> </ul>   |
| China<br>(2007)     | <p>Tariffs:</p> <ul style="list-style-type: none"> <li>For china, 35.6 percent tariff lines are tariff free by 2010, 19.9 percent tariff lines would be charged 0-5 percent tariff by 2012; and 1.4 percent tariff lines are excluded.</li> <li>MoP would be reduced from 50 percent by 2012 on 2 percent tariff lines. Whereas MoP would be reduced from 20 percent by 2012 on 26.1 percent tariff lines.</li> <li>For Pakistan, 35.5 percent tariff lines are tariff free by 2010; 34.4 percent would be charged 0-5 percent customs duties by 2012.</li> <li>MoP would be reduced from 50 percent by 2012 on 8 percent tariff lines. Whereas MoP would be reduced from 20 percent by 2012 on 7 percent tariff lines.</li> <li>Both countries offer no concession on 15 percent of their respective tariff lines.</li> </ul> <p>Rules of Origin:</p> <ul style="list-style-type: none"> <li>Wholly Produced or Obtained: Yes</li> <li>Minimum Value Addition: 40 percent of f.o.b.</li> <li>Cumulation Rules: Minimum value addition of 25 percent in exporting country</li> <li>Product Specific Rules: None</li> </ul> |
| Mauritius<br>(2007) | <p>Tariffs:</p> <ul style="list-style-type: none"> <li>Pakistan offers Mauritius TRQ and MoP that varies from 35 percent at entry to 50 percent while 100 percent at end of the year on textiles and non-textiles item whereas</li> <li>Mauritius offers MoP of 30-100 percent in two years.</li> </ul> <p>Rules of Origin</p> <ul style="list-style-type: none"> <li>Wholly Produced or Obtained: Yes</li> <li>Minimum Value Addition: 35 percent of f.o.b.</li> <li>Cumulation Rules: Minimum value addition of 25 percent in exporting country</li> </ul>   |
| Iran (2006)         | <p>Tariffs:</p> <ul style="list-style-type: none"> <li>Pakistan offers Iran concessions of 5-30 percent on 338 product lines whereas Iran offered the same on 309 product lines.</li> </ul> <p>Rules of Origin:</p> <ul style="list-style-type: none"> <li>Wholly Produced or Obtained: Yes</li> <li>Minimum Value Addition: 50 percent of f.o.b.</li> <li>Cumulation Rules: None</li> </ul>   |
| Sri Lanka<br>(2005) | <p>Tariffs:</p> <ul style="list-style-type: none"> <li>206 and 102 tariff lines of Pakistan and Sri Lanka, respectively, enjoy duty free access immediately.</li> <li>Pakistan grants MoP on applied MFN rates of 20 percent for ceramic products and</li> <li>TRQ access of 1200MT per financial year at 35 percent MoP to articles of Apparel knitted or crocheted/not knitted or crocheted.</li> <li>Duty free TRQ access to tea of MT for each financial year</li> <li>Sri Lanka allows duty free TRQ access to Pakistani Basmati rice and potatoes of 6000 MT per year and 1000 MT per year respectively.</li> </ul> <p>Rules of Origin:</p> <ul style="list-style-type: none"> <li>Wholly Produced or Obtained: Yes</li> <li>Minimum Value Addition: 35 percent of f.o.b.</li> <li>Cumulation Rules: Minimum value addition of 25 percent in exporting country</li> <li>Product Specific Rules: None</li> </ul>  |

Source: UNESCAP/TID/APTIAD/trade agreement database; and Ministry of Commerce, Pakistan.

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