PAPER

Free Trade Agreements and International Trade Flow of Pakistan: the Gravity Modelling Approach

Shujaat Abbas*

Abstract This study explores the effect of regional and bilateral free trade agreements on international trade flow of Pakistan with respects to 47 global trading partners from 1980 to 2016 using log-linear panel generalized ordinary least technique on augmented gravity equations. The result of the standard gravity equation is consistent with the theory of the model. The findings of the augmented gravity models revealed that the SAFTA have a significant negative effect in both export flow and import flow indicating lower trade creation among regional countries. The findings of bilateral free trade agreements with China, Malaysia, and Indonesia revealed a significant positive effect on import flow; whereas, insignificant and/or negative effect is observed in exports flow. The FTA with Sri Lanka and the USA revealed the negative effect on import flow with a positive effect on bilateral export flow. Pakistan should revisit these free trade agreements and renegotiate for corresponding market access.

Keywords: free trade agreements; export flow; imports flow; economic integration; gravity model; panel data

JEL Classification: C23; F12; F14; F15

Introduction

The world has witnessed a considerable proliferation of regional and bilateral free trade agreements (BFTAs) for greater trade diversification and development due to the continued stalemate in multilateral trade negotiations involving the World Trade Organization. The countries around the world have been exploring options of regional/bilateral trade liberalization through granting preferential/free trade agreements.Pakistan has also signed a regional trade agreement with South Asian countries known as the South Asian Free Trade Agreement (SAFTA).

A plethora of empirical studies have reported ineffectiveness of SAFTA to create sufficient trade among regional countries, (Gul and Yasin, 2011; Abbas and Waheed, 2015). It has also signed various bilateral free trade agreements, (BFTA), with the USA in 2003; Sri Lanka in 2005, Indonesia in 2006, China in 2006, Malaysia in 2007,

Dr. Shujaat Abbas* (✉)
Department of Economics, Institute of Business Management, Karachi, Pakistan
email: shujaat.abbass@gmail.com

Mauritius in 2007, and Afghanistan in 2010, for greater diversification and expansion. China and India are major competitors of Pakistan in both domestic and international market. The free trade agreements resulted in a considerable increase in competitive pressure on domestic manufacturing sectors and hence distorted productivity growth and exports. The local textile producers with the relatively higher cost of production are facing serious challenges from more competitive foreign industries, especially from China and India.

This study does not find any reliable empirical study on effect of bilateral free trade agreements on trade (export and import) flow of Pakistan and fills this gap by modelling export flow and import flow through augmented standard gravity model of international trade flow with binary variables for a free trade agreement with China, Indonesia, Malaysia, Mauritius, Sri Lanka, and the USA, and SAFTA. The rest of the study is organized as follows: Section 2 reviews international trade performance; whereas, section 3 surveys selected theoretical and empirical literature. Section 4 discusses modeling strategy and data sources. Section 5 analyses estimated results, and section 6 concludes the study with policy implications.

International Trade of Pakistan

International trade is the medium of income redistribution among the world's nations and is the founding concept of economic thought. The early mercantilism was a first national economic policy that dominated in Europe in the 16th to 18th century, much before the emergence of classical economic thought by Adam Smith 1776. International trade has always been very important, but its importance has considerably increased in recent years due to globalization and advancements in science and technology, especially in communication and transportation. International trade is directly associated with the increase or decrease in the national wealth and living standard.

The exports are income generated through international sales of domestic products that embody the contribution/earning of a domestic factor of production. In this regards, we can say that exports are a foreign investment on domestic factor market; similarly, imports are a domestic investment in foreign factor market/earning. The trade deficit indicates that domestic investment in foreign factor market is greater than foreign investment in domestic factor market resulting outflow of capital and employment. The figure 1 (see Appendix A) shows that International trade balance of Pakistan is facing persistent deficit balance since 1995 which has considerably distorted in recent years, especially after 2003. Figure 1 shows that the trade balance of Pakistan started to deteriorate after 2002, 1.6 billion US$, onward and reached 26.1 billion US$ in 2016.

This sharp and continual distortion in the trade balance indicates deteriorating domestic productivity and international competitiveness. The export growth is witnessing a deterioration from 31.4 billion US$ in 2011 to 26.8 billion US$ in 2016; whereas, import has grown considerably from 15.2 billion US$ to 51.6 billion US$ in 2016. The stagnation/distortion of export growth is a matter of great concern as the population is growing continuously. Pakistan has signed a regional trade agreement with South Asian countries known as SAFTA along with various other bilateral

free trade agreements, with China, Indonesia, Malaysia, Sri Lanka, Mauritius, and the USA, for the expansion of trade flow. The trade balance with the majority of countries with bilateral trade agreement has deteriorated considerably except Sri Lanka and the USA, see Table 1, 2 and 3 below. Pakistan being a member of South Asia is a signatory of South Asian free trade agreement (SAFTA) along with Bangladesh, India, and Sri Lanka. The ineffectiveness of SAFTA led to the formation of a free trade agreement with Sri Lanka in 2005. Table 1 shows exports, imports, and trade balance of Pakistan with selected South Asian countries.

Table 1. Trade Balance with Bangladesh, India, and Sri Lanka

	Bangladesh			India			Sri Lanka		
Years	Export	Import	TB	Export	Import	TB	Export	Import	TB
1981	59.64	51.30	8.34	67.40	2.77	64.63	30.74	49.56	-18.82
1986	40.24	43.89	-3.65	20.75	12.78	7.97	47.02	35.26	11.76
1996	108.64	36.15	72.49	41.43	211.55	-170.12	80.22	44.51	35.71
2001	119.48	25.52	93.96	66.18	241.06	-174.88	74.86	27.25	47.60
2006	266.84	55.89	210.95	326.70	1,114.99	-788.29	177.59	70.97	106.62
2011	947.23	82.73	864.49	272.86	1,607.35	-1,334.4	347.72	61.13	286.59
2016	656.16	48.60	607.56	348.10	1,644.39	-1,296.3	237.18	76.69	160.49

Source: Author's tabulation. Data were taken from the direction of trade statistics, published by the International Monetary Fund, 2018.

The values in Table 1 revealed that Pakistan is facing a persistent trade surplus with Bangladesh and Sri Lanka; whereas, India revealed the highest trade deficit of 1.3 billion US$ in 2016. Pakistan should revisit free trade agreement with India to expand market access for Pakistani products, and diversify its imports from Bangladesh and Sri Lanka. Pakistan has also signed free trade agreements with South East Asian countries like China, Indonesia, and Malaysia. Table 2 shows exports, imports, and trade balance of Pakistan with China, Indonesia, and Malaysia. The figures in Table 2 revealed persistent and large trade deficit of Pakistan with China, Indonesia, and Malaysia which has considerably increased in recent years after signing free trade agreements in 2006. Pakistan had a trade surplus of 92 million US$ with China in 1981 which has transformed into a deficit of 12089 million US$ in 2016, indicating considerable loss of international specialization with respect to China. The recent years witnessed a considerable increase in the trade deficit with China, which has considerably increased from 485 million in 2011 of 12090 million US$ in 2016 due to relatively sluggish export growth along with a large increase in imports due to CPEC related imports. Similarly, Pakistan is facing large and increasing trade deficit with Indonesia and Malaysia. These two countries account to trade deficit of Pakistan by

approximately 2.7 billion US$ in 2016. Exports to Indonesia is stagnant below 200 million US$; whereas, imports have witnessed considerable growth especially from 2001 onward.

Table 2. Trade Balance with China, Indonesia, and Malaysia

Years	China: Mainland			Indonesia			Malaysia		
	Export	Import	TB	Export	Import	TB	Export	Import	TB
1981	271.87	180.32	91.55	20.27	36.88	-16.61	3.88	165.98	-162.10
1986	14.19	161.97	-147.78	25.91	22.55	3.36	6.85	178.80	-171.95
1996	119.45	576.12	-456.67	142.08	113.96	28.13	38.48	652.28	-613.80
2001	289.33	484.96	-195.63	95.09	187.32	-92.23	53.30	435.14	-381.83
2006	506.64	2,914.93	-2,408.28	61.93	808.94	-747.01	60.97	765.85	-704.88
2011	1,678.96	6,470.65	-4,791.69	188.53	929.76	-741.23	243.05	2,727.99	-2,484.94
2016	1,590.86	13,680.15	-12,089.3	127.69	2,088.83	-1,961.1	151.75	944.63	-792.89

Source: Author's tabulation. Data were taken from the direction of trade statistics, published by the International Monetary Fund, 2018.

Pakistan has also signed free/preferential trade and investment agreement with the United States of America and small island country of Mauritius in 2003 and 2007, respectively. Table 3 shows the exports, imports, and trade balance of Pakistan with the USA and Mauritius.

Table 3. Trade Balance with the USA and Mauritius

Years	USA			Mauritius		
	Export	Import	TB	Export	Import	TB
1981	197.27	470.65	-273.38	10.48	**N.A**	10.48
1986	365.71	705.49	-339.78	8.01	1.28	6.73
1991	742.01	942.86	-200.85	13.00	1.33	11.67
1996	1,550.78	1,291.08	259.70	20.15	0.36	19.79
2001	2,233.85	569.31	1,664.55	29.55	0.08	29.47
2006	4,343.42	1,885.80	2,457.62	34.42	1.17	33.25
2011	3,839.16	1,753.21	2,085.95	33.99	3.49	30.49
2016	3,429.74	2,006.82	1,422.92	17.17	4.20	12.97

Source: Author's tabulation. Data were taken from the direction of trade statistics, published by the International Monetary Fund, 2018.

The values in Table 3 revealed that Pakistan has a persistent and large trade surplus

with the USA and Mauritius from 1991 onward, and recent years witnessed a satisfactory export growth performance with considerable distortion of imports. Import flow from the USA has decreased from 2.085 billion in 2011 to 1.42 billion in 2016. Similarly, import flow from Mauritius has witnessed a decline from 13 million in 1991 to 33 million in 2011. The recent years witnessed a decline in exports from 34 million to 17 million in 2016. Pakistan should diversify its imports from these countries in order to ensure future export market and growth.

Literature Review

The idea of gravity model has emerged in Physics which is taken to international trade by Tinbergen (1962) to explain the behavior of bilateral trade flow across the nations. The gravity model has now taken as the shape of standard models to explain the behavior of trade (export and import) flow, migration, and capital flow. Linnemann, (1966), Anderson, (1979), Bergstrand, (1985; 1989; 1990); Leamer and Stem (1970); and Leamer (1974) provide required microeconomic foundation to explain bilateral trade and capital flow across the national boundaries[1].The gravity model has been intensively used in the empirical analysis to address international trade and export flows due to strong explanatory power with acceptable theoretical foundations.

Regional and bilateral free trade remains debatable and investigated issue. Plethora of empirical studies have used the gravity model to explore the effects of various bilateral and/or regional trade agreements. Pastore et. al., (2009) investigates Barcelona's trade integration with the Mediterranean (MED) countries and with the new EU members by computing trade potential with these EU partners from 1995 to 2002 using an out-of-sample methodology. The finding suggests the existence of unexploited trade potential with both groups of partners. Cinar et al., (2016) investigated the extent to which countries in the former Silk Road regions are either reaching or failing to reach their trade potential with China by using an augmented gravity model and estimated trade potential using in-sample, out of sample, and counterfactual technique. The estimated result revealed that China's former Silk Road trading partners have yet to realize the potential benefits of China's growth for the period from 1990 to 2013. In more recent studies, Magrini et al., (2017) assessed the causal impact of the EU trade preferences granted to the Southern Mediterranean Countries (SMCs) in agriculture and fishery products over the period 2004–2014 by using highly disaggregated data on the sectoral level. This study applied a non-parametric matching technique for continuous treatment – specifically, a generalized propensity score matching technique to evaluate the preferential treatment. The results showed that the impact of the EU preferences is positive and significant on SMCs agriculture and fishery trade.

The literature of Pakistan shows a plethora of empirical studies on the use of the gravity model to address the behavior of capital flow, export flow, and total trade flow, (i.e. Achakzi, 2006; Butt, 2008; Akther and Ghani, 2010; Gul and Yasin, 2011; and Abbas and Waheed, 2015; Abbas, 2016) . The empirical research on the behavior of

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[1] For details, see Bergeijk, (2010).

import flow is relatively scant. Malik and Chaudhary (2012) investigated imports flow to Pakistan from selected Asian economies using the augmented gravity model on panel generalized methods of movement estimation technique. The focus of previous studies where either identification of determinants of trade flow or exploration of trade potential. The above-discussed literature has incorporated SAFTA and findings revealed insignificant and/or negative effect. This study does not find any reliable empirical study conducted to explore the effect of bilateral free trade agreements on its trade (export and import) flow of Pakistan.

Model Specification

The gravity model of international trade flow argues that the bilateral trade flow is a positive function of the economic size of each country, measured through the gross domestic product (GDP) and the negative function of bilateral distance. The standard gravity model of the international trade, introduced by the Tinbergen (1962) and Pöyhönen (1963) describes the trade relationship between heterogeneous economies at various geographic distances, is presented in Equation 1.

$$T_{ij} = \alpha \frac{Y_i \cdot Y_j}{D_{ij}} \qquad (1)$$

Where: T_{ij} is bilateral trade (export and import) flow, Y_i is domestic productivity measured by real GDP; Y_j is the income of a trading partner, and D_{ij} is bilateral distance. The log-linear form of the standard gravity model (1) is presented as follows:

$$Ln\,T_{ij} = \beta_0 + \beta_1 Ln\,Y_i + \beta_2 Ln\,Y_j + \beta_3 Ln\,D_{ij} + \mu_{it} \qquad (2)$$

The stochastic standard gravity equations used to explore the behavior of bilateral import and export flow of Pakistan with respected to selected global trading partners are presented as;

$$LnM_{ijt} = \beta_0 + \beta_1 LnY_{it} + \beta_2 LnY_{jt} + \beta_3 LnD_{ij} + \mu_{it} \qquad (3)$$

$$LnX_{ijt} = \beta_0 + \beta_1 LnY_{it} + \beta_2 LnY_{jt} + \beta_3 LnD_{ij} + \mu_{it} \qquad (4)$$

Where: the subscription M_{ijt} is imports of Pakistan from selected trading partners (j); Y_{it} is the gross domestic product of home (Pakistan) country; Y_{jt} is the domestic product of partner countries, and D_{ij} is the geographic distance between capitals of sampled countries. β_0 is intercept, β_1 and β_2 are slope coefficients of GDP of trading the country (Y_i) and its partners (Y_j), repectively. β_3 is coefficient of distance (D_{ij}). According to the theory of standard the gravity model the coefficient β_1 and β_2 are expected to be positively associated with the volume of bilateral trade (import and export) flow; whereas, β_3 is expected to be negatively associated.

The review of previous reviewed studies on international trade flow of Pakistan have augmented gravity model by incorporated real exchange rate, common language, common border, SAFTA, and other economic integrations, except bilateral

free trade agreements of Pakistan (see, Butt 2008; Gul and Yasin 2011; Abbas and Waheed 2015). The augmented gravity models used in this study incorporates free trade agreement with China (FTACH), Indonesia (FTAIND), Malaysia (FTAMAL), Mauritius (FTAMAU), Sri Lanka (FTASRL), and USA (FTAUSA) and is presented in the Equation 5 and 6.

$$
\begin{aligned}
LnM_{ijt} = {} & \beta_0 + \beta_1 LnY_{it} + \beta_2 LnY_{it} + \beta_3 LnD_{ij} + \beta_4 LnRER_{ijt} + \beta_5 BDR_{ij} \\
& + \beta_6 SAFTA_{ij} + \beta_7 FTACH + \beta_8 FTAIND + \beta_9 FTAMAL \\
& + \beta_{10} FTAMAU + \beta_{11} FTASRL + \beta_{12} FTAUSA + \mu_{it}
\end{aligned}
\tag{5}
$$

$$
\begin{aligned}
LnX_{ijt} = {} & \beta_0 + \beta_1 LnY_{it} + \beta_2 LnY_{it} + \beta_3 LnD_{ij} + \beta_4 LnRER_{ijt} + \beta_5 LnM_{ijt} \\
& + \beta_6 BDR_{ij} + \beta_7 SAFTA_{ij} + \beta_8 FTACH + \beta_9 FTAIND \\
& + \beta_{10} FTAMAL + \beta_{11} FTAMAU + \beta_{12} FTASRL + \beta_{13} FTAUSA
\end{aligned}
\tag{6}
$$

Where, RER_{ij} is relative price level measured by the real exchange rate. BDR_{ij} is dummy variable for bordering countries, constructed valuing 1 to adjacent countries and 0 otherwise. $SAFTA_{ij}$ is binary variable South Asian free trade agreement constructed by valuing 1 from 2004 onward and zero, otherwise. Similarly, binary variables for bilateral free trade agreements where constructed.

The relative prices measure the responsiveness of trade (export and import) to change in the relative price level. The data on relative prices of Pakistan with selected trading partners is not directly available and is calculated using purchasing power parity condition, see Equation 7.

$$
RER_{ijt} = ER_{ijt} \left(P_{it} \big/ P_{jt} \right)
\tag{7}
$$

Where ER_{ij} measures the exchange rate of Pakistani Rupee in term of the unit currency of selected trading partners, P_j is price level at trading partner, measured by their respective GDP deflators and WPI; P_i is a domestic price level, measure by domestic consumer price index.

The coefficient β_4 measures responsiveness of import and export flows to change in the eal exchange rate (relative prices). According to the standard economic theory, relative prices have positively effects on export flow and negatively associated with the import demand. The coefficients β_5 are also expected to be positively associated with each other. The findings of Abbas and Waheed (2018) found the significant positive effect of bilateral imports flow on volume of exports from selected GCC countries. The coefficient β_5 according to theory should positively affect bilateral trade flow but the findings revealed insignificant and/or negative effect on exports flow, see Abbas and Waheed, (2015). Similarly, SAFTA has also revealed insignificant and/or negative effect on bilateral export flow and trade (exports +imports) flow, (see, Butt 2008; Gul and Yasin, 2011; Abbas and Waheed, 2015). These selected binary variables for bilateral free trade agreements of Pakistan are first time incorporated in the augmented

gravity model. According to the theory of gravity model the free trade agreements, β_8 to β_{13}, have a significant positive effect on bilateral export and import flow.

The data on bilateral trade flow to Pakistan from its 47 global trading partners[2], from 1980 to 2016, are taken from various data sources. The data on import and export flow of Pakistan is taken from the Direction of Trade Statistic (DOT)[3], published by the International Monetary Fund (IMF). The data on gross domestic products, consumer price index, and deflator of the gross domestic product are taken from the WDI published by the World Bank. The data of geographic distance and the border is collected from Centre d'Etudes Prospectives et d'informations internationales (CEPII)[4]. The data of bilateral exchange rate of Pakistan taken from international financial statistics, published by the International Monetary Fund. The dummy variable for SAFTA and BFTA are generated valuing 1 for selected members of the bilateral and regional trade agreement, otherwise 0; similarly, dummy for the common border is generated. This study constructed dummy variables to capture the individual effect of each trade agreement by valuing 1 from date of signing onward, otherwise 0.

Estimated Results

This section will discuss the macroeconomic behavior of import flow and potential of Pakistan from its 47 global trading partners, investigated using an augmented gravity model on panel data from 1980 to 2016. The estimated result of the Hausman test suggests the efficiency of panel fixed effect model over the random effect model. The bilateral distances are time-invariant and panel fixed effect model is not applicable in this case. The random effect model through relating individual-specific variation to error term can cause autocorrelation and bias estimates, (Baltagi, 2013).

Table 4. Hausman test for model selection

Test Summary	Export Model			Import Model		
	Chi-Sq. Stat.	Chi-Sq. d.f.	Prob.	Chi-Sq. Stat.	Chi-Sq. d.f.	Prob
Cross-section random	26.423	10	0.003	40.023	10	0.00

Source: Author's estimation

This study, therefore, employed panel generalized ordinary least square estimation technique with cross-sectional weight to explore the effect of selected core and policy variables on trade (import and export) flow of Pakistan. The standard and augmented gravity model used to explore behavior of import flow are presented as follows;

[2] The list of selected trading partners are presented in Table 2 in result section.
[3] http://elibrary-data.imf.org/
[4] http://www.cepii.fr/

Table 5. Result of Gravity model of import flow

Dependent variable: LnMij

Variables	Coeff.	t-Stat.	Prob.	Coeff.	t-Stat.	Prob.
C	-10.480	-9.759	0.000	-3.716	-4.090	0.000
LnYi	1.045	12.378	0.000	0.260	2.788	0.005
LnYj	0.805	34.131	0.000	0.389	20.210	0.000
LnDij	-0.803	-12.067	0.000	-0.197	-5.210	0.000
LnRERij				0.007	0.837	0.403
BDRij				0.704	6.933	0.000
SAFTA				-0.834	-7.887	0.000
FTACH				0.911	6.520	0.000
FTAIND				2.048	16.409	0.000
FTAMAL				2.598	31.138	0.000
FTASRL				-0.228	-2.957	0.003
FTAUSA				-0.495	-7.425	0.000
Adjusted R²	0.476			0.799		
S.E. of Reg.	1.553			1.302		
F-stat.	527.048			576.864		
Prob. (F-stat.)	0.000			0.000		

Source: Author's estimation

The result in Table 5 revealed that the findings of standard gravity variables are consistent with the model theory. The coefficient of the real exchange rate revealed the insignificant effect on import flow; whereas, common border revealed significant positive impact indicating 0.70 times greater import from bordering countries as compare to other countries in the model.

The SAFTA revealed significant negative impact indicating 0.83 times lower import from South Asian countries. The significant negative effect is inconsistent with the findings of previous studies, Abbas and Waheed (2015). The result of binary variables shows that Pakistan's import from China, Indonesia, and Malaysia is 0.91, 2.05, 2.56 times greater, whereas, import from Sri Lanka and the United States revealed significant negative effect indicating lower import of 0.23 and 0.50 times, respectively.

The result of the augmented gravity model for export flow is presented in Table 6. The result shows that the findings of standard gravity variables are consistent with the model theory. The result of the augmented gravity model of export flow revealed that the real exchange rate has the significant positive effect of lower intensity, as one percent increase in the real exchange rate is associated with an increase in export flow

by only 0.02 percent. The effects of selected macroeconomic and binary variables on bilateral export flow of Pakistan with its global trading partners are presented in the Table 6 as follows;

Table 6. Result of Gravity Model for Export Flow
Dependent variable: LnXij

Variables	Coeff.	t-stat.	prob.	Coeff.	t-stat.	prob.
C	-11.904	-14.146	0.000	-5.791	-11.231	0.000
LnYi	1.288	19.47	0.000	0.782	20.922	0.000
LnYj	0.658	35.654	0.000	0.459	33.330	0.000
LnDij	-0.774	-14.842	0.000	-0.705	-17.140	0.000
LnRERij				0.020	3.472	0.001
LnMij				0.343	26.793	0.000
BDRij				-0.816	-7.451	0.000
SAFTA				-0.662	-3.066	0.002
FTACH				0.574	1.234	0.126
FTAIND				-0.864	-5.510	0.000
FTAMAL				-0.618	-2.299	0.022
FTASRL				1.439	5.154	0.000
FTAUSA				1.136	4.873	0.000
Adj. R²	0.543			0.812		
S.E. of Reg.	1.217			1.028		
F-stat.	688.251			624.628		
Prob.(F-stat.)	0.000			0.000		

Source: Author's estimation

The estimated results revealed that the result of standard gravity model for export flow are consistent with the models' assumption. The findings of augmented variables revealed that the coefficient of import flow reveals a significant positive effect on bilateral export flow. It implies that Pakistan tends to export more to countries with higher imports. The binary variable of the common border and SAFTA revealed a significant negative effect on export flow showing 0.81 times lower exports from bordering countries and 0.66 times from selected South Asian countries. The result of bilateral free trade agreements shows that the export flow of Pakistan to Sri Lanka is 1.43 times greater than sampled countries, whereas, export flow to USA and China is 1.14 and 0.51 times greater. The binary variable for a free trade agreement with Indonesia and Malaysia revealed significant negative effect indicating 0.86 times and 0.62 times lower exports, respectively.

The result of the diagnostic test confirmed goodness of fit of the regression model and the coefficient of determination revealed that approximately 77.7 % variation in the dependent variables is explained by selected explanatory variables in the models. The result of F-stat. validates overall goodness of fit of the regression model. The standard error of the regression model and bias proportion is low indicating forecasting efficiency.

Conclusion

This study investigates the effect of regional and bilateral free trade agreements of Pakistan on trade flow with 47 global trading partners from 1980 to 2016. The log-linear panel generalized methods of movement estimation technique are applied to augmented gravity equations. The estimated results of standard gravity models are consistent with the theory.

The estimated result of the standard gravity equation is consistent with the theory of the model. The findings of the augmented gravity equation revealed that the SAFTA have a significant negative effect in both the models for export flow and import flow indicating lower trade creation among regional countries. The findings of bilateral free trade agreements with China, Malaysia, and Indonesia showed the significant positive effect on import flow with insignificant and/or negative effect on exports flow; whereas, FTA with Sri Lanka and the USA revealed the negative effect on import flow with a positive effect on bilateral export flow.

This study urges Pakistan to revisit and renegotiate all bilateral free trade agreements for greater market access especially with China, Indonesia, and Malaysia. Future studies should address the disaggregated trade flow with selected countries with free trade agreements using both 2 digits and 4 digits HS data. The study urges Pakistan to diversify its imports towards Bangladesh, Sri Lanka, and the USA as imports from these countries have decreased considerably.
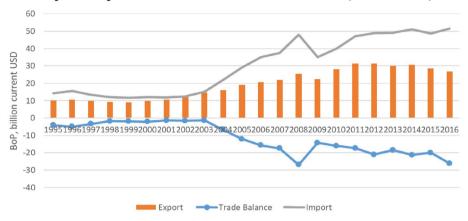
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Appendix A

Figure 1. Export, Imports, and Trade Balance of Pakistan, (1995 to 2016)

Source: Authors construction. Data were taken from World Development Indicators, Jan 26, 2018.