



Comparative Empirical Analysis of the International Trade Growth in India, Pakistan and Nepal : Identifying the Bottlenecks (1991-2014)

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Abstract

This research paper has attempted to scrutinize the international trade sector of the three South Asian countries namely India, Pakistan and Nepal using the Marshall-Lerner Condition. The period from 1991-2014 is particularly interesting to study as it involves various reforms, policy measures and economic situations which led to structural changes in the domestic markets of these countries and as a result affected their international share. The sole stimulus to explore this region came as very few studies were undertaken to verify the J-curve pattern using the Marshall-Lerner Condition in any of these countries which are historically, culturally and economically well integrated with each other. In order to derive the conclusion, an export-import model is created by the annual data of five variables namely; Exports, Imports, GNI, Exchange Rate and the World Income taken from World Bank database (for total exports and imports). This model is analyzed using the best possible econometric technique where all these variables are tested for Stationarity and then for Cointegration via SAS and finally OLS technique has been applied in order to find the import and export elasticity. Overall, the results of this study suggest a fulfillment of the Marshall-Lerner Condition criteria in all the three countries but the degree of satisfaction differs due to the export and import elasticity and the factors effecting them .

The findings are also supported with the theoretical aspects. Thus, establishing the relationship between a country's trade balance and the domestic currency carries practical significance for the nation's monetary policy. Therefore, this paper serves as a stepping stone towards future research on which the policies can be adopted in India, Pakistan and Nepal & this will be helpful for the growth and development of the global market as a whole. This research will provide a trademark improvement in the field of economics as it is integrating the two most important aspects which are "Economic Scenario of Instability and Recession" with the "theoretical support" and hence providing a "platform for development".

Keywords: Balance of Payment, Marshall-Lerner condition, Depreciation, Export elasticity, Import Elasticity

JEL Classification: F14, F31

Paper Classification: Research Paper

Introduction

In today's world the problem of depression and recession is faced by not only the developing countries but also the developed countries. As a result of which there occurs deficit in the Balance of Payment. If a country's currency depreciates (under a floating regime) or is devalued (under a fixed system) this should lead to an improvement in the economy's current account position if Marshall-Lerner Condition is satisfied. A depreciation/devaluation will lead to a fall in the price of exports, thereby encouraging exports and a rise in the price of imports, thereby leading to decline in imports. Whether this improvement in the current account happens depends upon the price elasticity of demand for exports and imports. Also, there is a time lag involved between when the depreciation takes place and when the improvement starts in BOP. This pattern of the BOT is depicted in the form of J-curve. Marshall- Lerner has given the most useful insight on how can the Balance of Payment be improved in such situation.

This condition says that if the sum of price elasticity of demand (E_{xd}) for export and price elasticity of demand for import (E_{md}) is greater than 1, only then the Balance of Trade will improve. This condition tells us whether the foreign exchange market is stable or unstable. If this equation is satisfied then the foreign exchange is stable and if this sum is less than 1 then the market is unstable and if it is equal to 1, then the change in exchange rate will leave the Balance of Payments unchanged.

However, the overall effect of the devaluation or the depreciation has an effect on the BOP of a country in three ways:

- i. The imports become costlier and so their volume reduces.
- ii. The exports are encouraged as they become cheaper for the rest of the world.
- iii. Lesser foreign currency is earned by a given quantity of exports.

Therefore, the ultimate effect depends upon how the imports and exports of a country respond to the depreciation which in turn depends upon the import and export demand elasticity. So, any combination of export and import elasticities that satisfies the Marshall-Lerner condition will cause the first two effects described above to outweigh the third, leading to an improved trade balance. However, one thing to take into consideration is that if the supply elasticities are low, then the Marshall-Lerner Condition will only be the sufficient condition and not the necessary condition.

Hence, the major objectives of this research study are as follows:

- a. To compare the export and import pattern of India, Pakistan and Nepal with respect to the policies and the economic scenarios.
- b. To scrutinize India, Pakistan and Nepal international trade using the Marshal-Lerner Condition model.
- c. To focus on the strengths and bottlenecks faced by India, Pakistan and Nepal.

Literature Review

The empirical assessment of these conditions worldwide encompasses a wealthy heritage. Studies have shown mixed results in this regard (Bahmani-Oskooee 1986, Boyd, Caporale and Smith, 2001), and for India one major analysis – Trade Elasticities and the Marshall-Lerner Condition for India (1993-2011) was undertaken by Ritesh Pandey, 2013 wherein his results

showed that devaluation of exchange rate leads to improvement in the trade balance. Our paper has used and extended the model developed in this study.

Various studies have analyzed the relationship between exchange rate volatility and trade in Pakistan. Aftab and Khan (2008) conducted study in Pakistan with time series quarterly data for 12 major trading partners using unit root test and ARDL model. It stated no evidence in support of the theory. Aftab and Aurazeb (2002) used Johansen's cointegration methodology to re-investigate the long-run trade elasticities and existence of the Marshall-Lerner condition and also investigated the short-run exchange rate dynamics by tracing the j-curve. This study concluded that real depreciation of the Pak rupee may be used as a policy tool to improve the trade balance. Akhtar and Malik (2000), using quarterly data and applying the 3SLS technique, investigated the ML conditions with Pakistan's 4 trading partners, UK, USA, Germany, and Japan. They concluded that "real devaluation is unlikely to improve our trade balance with USA and Germany, while [it] can arrest the trade balance deterioration with UK and Japan". Bahmani-Oskooee (1998) conducted research for Pakistan by using quarterly data for time period 1973–90 and cointegration technique and concluded that the ML condition was strongly satisfied in the case of Pakistan. Khan and Aftab (1995) used Instrumental Variable tool and quarterly data for 11 years (1983–93) to find that the sum of import and export demand elasticities is slightly greater than one and therefore the "ML condition is barely satisfied for Pakistan". Ananda Weliwita and Hiroshi Tsujii conducted research "The Exchange Rate and Sri Lanka's Trade Deficit" and concluded that devaluation of LKR is unable to favor balance of trade. It also showed that the trade volumes are unresponsive to the changes in the real exchange rate.

Judith Olivia Canipe (2012) conducted analysis of ML Condition in Ghana- prior 1983 and concluded that it is not satisfied. On the other hand, Adnan Ali Shahzad (2013) supported the ML condition for some South Asian Countries in his study estimated the relationship between the real exchange rate and the balance of trade – South Asian Countries (India not included). Eita, Joel Hinaunye (2013) also provided evidence of trade balance improving with depreciation in Namibia as export elasticity and import elasticity were large. A study undertaken by Khan and Knight in 1988 of 34 developing countries rejects this hypothesis that currency devaluation adjusts the balance of trade through import compression and export expansion (J-curve is rejected). Imports of these countries are used as inputs into the production of exports. Thus, import compression has an adverse affect on export expansion. A relevant argument in favor of J-curve hypothesis is provided by Bahmani-Oskooee (1985) for 4 developing countries is that devaluation of a currency requires time lags before improving the trade balance in less developed countries, which support the pattern of movement describe by the J-curve. Bahmani-Oskooee and Cheema (2009) found no significant impact of exchange rate depreciation on balance of trade of Pakistan's trade with two large trading partners and found no empirical evidence in favor of J-curve hypothesis.

India-Pakistan-Nepal Economy

Initially, until 1991 the primary sector of the Indian economy was the main source of income and the economy was in a closed structure to a large extent. But, a major transition in the international trade sector happened after the LPG model (Liberalization, Privatization and Globalization) adopted by the then finance minister Dr. Manmohan Singh. This model was adopted in order to make the Indian currency strong and most importantly to increase the foreign exchange by opening the domestic markets to foreign markets.

The impact of the opening up of the market can be seen in the long term more clearly. This is the sole base for taking the period from 1997 onwards so that the impacts can be seen on a large sphere of the time. The agricultural sector contributed about 35% in GDP in 1991 and it has reduced to 14% in 2010. However, during the same time period, the industry sector have shown an increase in the contribution from 20% to 27% but the remarkable increase has been noted in the share of services sector from 30% to 59% Also, India's share in the world market has fallen to 0.53 in 1991 which has increased to 0.86% in 2003.(Ministry of Commerce and Industry Databank for Sector wise data, 2016)

Especially, the current account deficit was 3% of GDP in 1991 but in the 2003, India had surplus of 1.08% of GDP. Currently, services sector is the largest sector contributor of India. At current prices, Gross Value Added (GVA) for Services sector is 61.18 lakh crore INR in 2014-15. Services sector accounts for 52.97% of total India's GVA of 115.50 lakh crore INR. Industry sector contributes 30.02% which is Rs. 34.67 lakh crore GVA. While, with GVA around 19.65 lakh crore INR, agriculture sector shares 17.01 %.(Ministry of Commerce and Industry Databank for Sector wise data, 2016). Hence, the transition trend pattern noticed in India is from agriculture to services and now from services it is moving towards the secondary sector.

The international trade of India, Pakistan and Nepal is of special nature such that they trade with each other some basic necessities for the dairy products, vegetable oil, organic chemicals, sugar, etc. These three countries follow the same demand pattern and hence satisfy most of the demand of the products by trading with each other.

In order to increase and compliment the trade between them, various international agreements have been signed and organizations have been developed and one such organization is SAARC. This is done for the smooth flow of the goods and service among these countries for the mutual development of the South Asia region.

In the case of bilateral trade between India and Pakistan, the share of exports from India has decreased from 0.46 in 1997 to 0.06 in 2015 but in value terms it has shown an upward trend moving from 157.22 to 1857.18 USD million and in the case of imports, it has increased from 0.09 to 0.11 which is an increase from 36.16 to 497.31 USD million. Overall, the trade has reduced from 0.52 to 0.17 but in value terms, there has been a significant increase in total trade which is 193.38 to 2354.49 USD million.(Ministry of Commerce and Industry Databank for Country wise Export and Country Wise Import, 2016). While in the case of India and Nepal, the exports from India to Nepal is consistently increasing and reached 4558.77 USD million in 2015 as compared to USD million 165.7 in 1997 which accounts for an increase of 2651.21 % increase. However, the imports from Nepal to India has also shown an upward trend and increased 898.76%.

Thus, the various policies undertaken in the LPG model has led to the manifold increased trade of India with Nepal and Pakistan. So, much so that now India's trade balance with respect these two increase is showing an upward trend. This can be represented through the J-curve analysis which also depicts the impact of depreciation in the short and the long term.

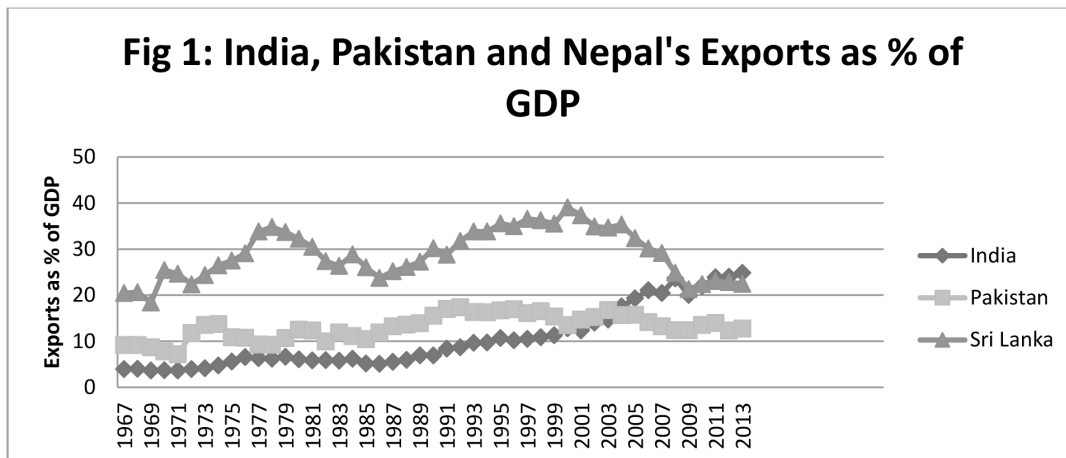


Fig 1: India, Pakistan and Nepal exports as % of GDP

Source: Author's representation using Appendix 1, 2 and 3

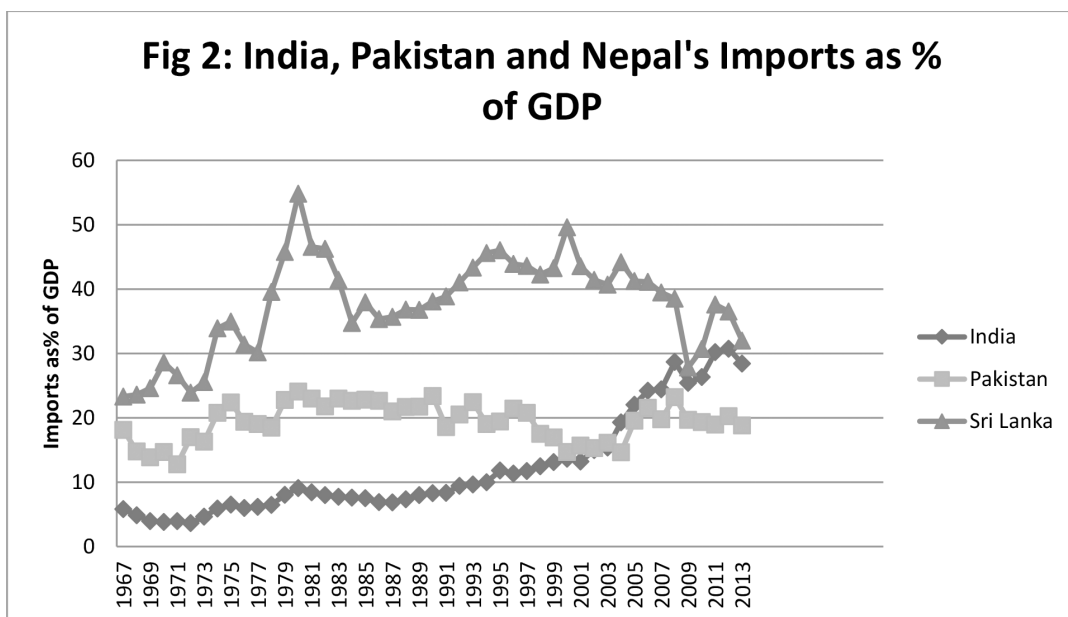


Fig 2: India, Pakistan and Nepal imports as % of GDP

Source: Author's representation using Appendix 1, 2 and 3

Research Gap and Contribution of the Study

After the in depth literature surveys the following literature gaps were noticed:

- a. No study has been undertaken to analyze these three South Asian countries: India, Pakistan and Nepal 's trade with the rest of the world and provided the comprehensive impact of depreciation on their exports and imports.

- b. Most of the studies did not test for the properties of the time series data such as stationarity and cointegration prior to analyzing the data.

This study has removed both these gaps and provides an in depth econometric analysis of the impact of depreciation on their export-import.

Research Methodology

Type of study, Method of Data Collection and Statistical tools used

This is empirical analysis where Marshall-Lerner Condition is estimated by collecting the yearly data for all the variables and Unit root test for stationary testing and augmented dickey-fuller test is applied for testing the co-integration.

Variable	Data for the variable	Source
Exports (X)	Exports as percentage of GDP	World Bank Databank of Exports, 2015
Imports(Y)	Imports as percentage of GDP	World Bank Databank of Imports, 2015
Exchange Rate(ER)	Exchange Rate in terms of USD (\$)	World Bank Databank of Exchange Rate, 2015
Domestic Income (DI) (Country specific)	Gross National Income (GNI) of the country in USD million	World Bank Databank of GNI, 2015
World Income (WI)	Summation of GNI of 107 countries in USD million	World Bank Databank of GNI, 2015

Variables studied and their detailed definition

Five variables have been identified in order to conduct the analysis:

1. **Exports** : Exports and Exchange Rate are negatively related. This means that when the currency depreciates and lose its value, the exports become cheaper for the rest of the world. It is denoted by " X " in the study.
2. **Imports** : Imports and Exchange Rate are positively related. This means that when the currency depreciates and lose its value, the imports become costlier for the domestic country. It is denoted by "Y" in the study.
3. **Exchange Rate** : The international trade depends on the exchange rate which specifies the price of the imported and the exported goods. It is denoted by "ER" in the study.
4. **Domestic Income** : The imports depend on the domestic income of the importing country. There is a positive relationship between the imports and the income. It is denoted by "DI" in the study.
5. **World Income** : The exports and the world income are directly related which means that with the increase in the world income, the demand of the goods also increases and the exports will also rise. Also, this promotes the production of the goods. It is denoted by "WI" in the study.

Research Models Used

The following export-import model is used to empirically investigate the Marshall-Lerner Condition:

$$\log X = \beta_1 + \beta_2 \log WI + \beta_3 \log ER + \mu_1 \text{-----to calculate Export Elasticity-----}(1)$$

$$\log Y = \alpha_1 + \alpha_2 \log DI + \alpha_3 \log ER + \mu_2 \text{-----to calculate Import Elasticity-----}(2)$$

Where,

- β_1 = The intercept coefficient which represents the change in the Exports (Dependent variable) is not dependent on World Income and Exchange Rate (Independent variables).
- β_2 = The slope coefficient representing the responsiveness of Exports (Dependent variable) with the change in World Income (Independent variable).
- β_3 = The slope coefficient representing the responsiveness of Exports (Dependent variable) with the change in Exchange Rate (Independent variable).
- α_1 = The intercept coefficient which represents the change in the Imports (Dependent variable) is not dependent on Indian Domestic Income (GNI) and Exchange Rate (Independent variables).
- α_2 = The slope coefficient representing the responsiveness of Imports (Dependent variable) with the change in Indian Domestic Income (Independent variable).
- α_3 = The slope coefficient representing the responsiveness of Imports (Dependent variable) with the change in Exchange Rate (Independent variable).
- μ_1 and μ_2 = the disturbance term in the export and import equation respectively.

Data Analysis

This section analyses the India, Pakistan and Nepal's international trade front economy from 1991-2014 with respect to the Marshall- Lerner Condition. In total there are 7 Tables wherein the export and import elasticity is derived for each country individually to obtain the Marshall-Lerner Condition and then the results are compared in the concluding Table 8. All the results are supported with extensive theoretical framework and viewpoints.

India's Marshall-Lerner Condition

Table 2: Export Equation of India (1991-2014)				
<i>Regression Statistics</i>				
Multiple R	0.548058335			
R Square	0.300367938			
Adjusted R Square	0.233736313			
Standard Error	0.406617496			
Observations	24			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	-2.677210833	4.206350091	-0.63646886	0.531348
Log exchange rate	2.449129835	1.233413948	1.985651159	0.060283
Log world Income	-0.004407302	0.872635653	-0.00505056	0.996018

Source: Calculated by author from Appendix 1

Hence, we can write the following equations using the result in Table 2:



- $\log X = B_1 + B_2 \log WI + B_3 \log ER + a_1$
- $X = -2.67 + 2.44 ER - 0.004 WI$
(4.20) (1.23) (0.87)
- World Income Elasticity = $1/0.004 = 250$
- Export Elasticity = $1/2.449 = 0.408$

Discussion of Table 2:

1. As multiple regression is 0.54. So, it indicates that there is a normal level of correlation between the dependent (Export) and independent variables (World Income and Exchange rate).
2. R^2 is 0.30 therefore 30 % of the variation in Exports is explained by the World Income and the Exchange rate.
3. A 1% appreciation in the Real Exchange rate causes the exports (as a percentage of GDP) to increase by 0.408%.
4. A 1% increase in the World Income causes 250% increase in the exports.

Table 3: Import Equation of India (1991-2014)				
Regression Statistics				
Multiple R	0.887986338			
R Square	0.788519737			
Adjusted R Square	0.76837876			
Standard Error	0.089997244			
Observations	24			
	Coefficients	Standard Error	t Stat	P-value
Intercept	-0.847483268	0.297175814	-2.85179085	0.009550355
Log GNI	0.370314203	0.092061369	4.022471168	0.00061575
Log exchange rate	0.633005397	0.266011217	2.379619193	0.026888262

Source: Calculated by author from Appendix 1

Hence, we can write the following equations using the result in Table 3:

- $\log Y = B1 + B2 \log GNI + B3 \log ER + a1$
- $Y = -0.847 + 0.307 \text{ GNI} + 0.6330 \text{ ER}$
(0.29) (0.09) (0.26)
- Domestic Income Elasticity = $1/0.370 = 2.702$
- Import Elasticity = $1/0.633 = 1.579$

Discussion of Table 3:

1. As multiple regression is 0.88. So, it indicates that there is a very high level of correlation between the dependent (Import) and independent variables (Domestic Income and Exchange rate).

2. R^2 is 0.78 which is a good fit as it means that 78% of the variation in Imports is explained by the Domestic Income and the Exchange rate.
3. A 1% appreciation in the Real Exchange rate causes the imports to increase by 1.579%.
4. A 1% increase in the domestic income causes 2.702 increase in the imports.

The Marshall –Lerner Condition in India (1991-2014)

Here, the affect of the changes in Real Exchange rate and the Domestic Income on the imports is represented in the value terms (Price *Quantity). Moreover, supply and demand quantities take time to adjust. There are various lap years involved. Apart from that there are various factors which influenced the imports of India discussed later in this paper. So, using export and import elasticity from the above we can write Marshal - Lerner Condition is $0.408 + 1.579 = 1.987$. Therefore, since it is greater than 1, Marshall-Lerner equation is justified for India for the period 1991-2014. However, there are various factors worth noting which have influenced the international trade such as these 24 years witnessed following dramatic changes:

1. The reforms began in 1991 which have contributed significantly in the international trade.
2. In 2004, Indian ocean earthquake and Tsunami took place.
3. The year 2008 experienced the depression.
4. North India floods in 2013.

Also, the export elasticity is greater than 1. This indicates that there are domestic constraints or obstacles in the growth of India which are discussed in later sections.

Pakistan's Marshall-Lerner Condition

Table 4: Export Equation of Pakistan (1991-2014)				
Regression Statistics				
Multiple R	0.850825668			
R Square	0.723904318			
Adjusted R Square	0.697609491			
Standard Error	0.028491508			
Observations	24			
	Coefficients	Standard Error	t Stat	P-value
Intercept	1.873975084	0.407712817	4.596311442	0.000156
Log Exchange Rate	-0.19115195	0.060788455	-3.14454364	0.004893
Log World Income	-0.059435829	0.078524444	-0.75690863	0.457513

Source: Calculated by author from Appendix 2

Hence, we can write the following equations using the result in Table 4:

- $\text{Log } X = 1.873 - 0.191 \text{ ER} - 0.059 \text{ WI}$
(0.40) (0.60) (0.078)
- Export Elasticity = $1/0.191 = 5.235$
- World Income Elasticity = $1/0.059 = 16.949$

Discussion of Table 4:

1. As multiple regression is 0.85. So, it indicates that there is a very high level of correlation between the dependent (Export) and independent variables (World Income and Exchange rate).
2. R^2 is 0.72 therefore 72 % of the variation in Exports is explained by the World Income and the Exchange rate.
3. A 1% appreciation in the Real Exchange rate causes the exports (as a percentage of GDP) to decrease by 5.235%.
4. A 1% increase in the World Income causes 16.949 % decrease in the exports.

Table 5: Import Equation of Pakistan (1991-2014)				
<i>Regression Statistics</i>				
Multiple R	0.49218244			
R Square	0.242243555			
Adjusted R Square	0.170076274			
Standard Error	0.050851426			
Observations	24			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	1.164740433	0.119865715	9.717044	3.2E-09
Log GNI	0.167071411	0.06699727	2.493705	0.021063
Log exchange rate	-0.21216368	0.088987757	-2.38419	0.026629

Source: Calculated by author from Appendix 2

Hence, we can write the following equations using the result in Table 5:

- $\text{Log } Y = 1.164 - 0.212 \text{ ER} + 0.167 \text{ GNI}$
(0.11) (0.06) (0.08)
- Import Elasticity = $1/0.212 = 4.716$
- Domestic Income Elasticity = $1/0.167 = 5.988$

Discussion of Table 5:

1. As multiple regression is 0.49. So, it indicates that there is a normal level of correlation between the dependent (Import) and independent variables (Domestic Income and Exchange rate).
2. R^2 is 0.24 which means that only 24% of the variation in imports is explained by the Domestic Income and the Exchange rate.
3. A 1% appreciation in the Real Exchange rate causes the imports to decrease by 4.716%.
4. A 1% increase in the domestic income causes 5.988% increase in the imports.

Marshall-Lerner Condition in Pakistan (1991-2014)

Here, the affect of the changes in Real Exchange rate and the Domestic Income on the imports is represented in the value terms (Price *Quantity). Moreover, supply and demand quantities

take time to adjust. There are various lag years involved. Apart from that there are various factors which influenced the imports of Pakistan discussed later in this paper. So, using export and import elasticity from the above we can write Marshall - Lerner Condition is $5.235 + 4.716 = 9.951$. Therefore, since it is greater than 1, Marshall-Lerner equation is justified for Pakistan for the period 1991-2014. However, there are various issues worth noting which might have affected the outcome. The theoretical aspect of the country is done in the later sections.

Nepal's Marshall-Lerner Condition

Table 6: Export Equation of Nepal (1991-2014)				
<i>Regression Statistics</i>				
Multiple R	0.813018118			
R Square	0.660998459			
Adjusted R Square	0.628712598			
Standard Error	0.087824423			
Observations	24			
<i>Coefficients</i>				
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	8.066339756	1.089618186	7.4029048	2.79E-07
Log Exchange Rate	0.85773314	0.238182378	3.6011612	0.001679
Log World Income	-1.334111807	0.225217384	-5.9236627	7.03E-06

Source: Calculated by author from Appendix 3

Hence, we can write the following equations using the result in Table 6:

- $\text{Log } X = 8.066 + 0.857 \text{ ER} - 1.33 \text{ WI}$
(1.08) (0.23) (0.22)
- Export Elasticity = $1 / .857 = 1.166$
- World Income elasticity = $1 / 1.33 = 0.749$

Discussion of Table 6:

1. As multiple regression is 0.81. So, it indicates that there is very high level of correlation between the dependent (Export) and independent variables (World Income and Exchange rate).
2. R^2 is 0.66, so 66 % of the variation in Exports is explained by the World Income and the Exchange rate.
3. A 1% appreciation in the Real Exchange rate causes the exports (as a percentage of GDP) to increase by 1.166%.
4. A 1% increase in the World Income causes 0.749% decrease in the exports.

Table 7: Import Equation of Nepal (1991-2014)				
<i>Regression Statistics</i>				
Multiple R	0.632884078			
R Square	0.400542256			
Adjusted R Square	0.343451042			
Standard Error	0.044960917			
Observations	24			
<i>Coefficients</i>				
Intercept	1.069784029	0.121970648	8.770832	1.83E-08
Log GNI	0.078239648	0.046909426	1.667888	0.110182
Log Exchange Rate	0.133942739	0.087045223	1.538772	0.138793

Source: Calculated by author from Appendix 3

Hence, we can write the following equations using the result in Table 7:

- $\text{Log } Y = 1.069 + 0.133 \text{ ER} + 0.078 \text{ GNI}$
(0.26) (0.24) (0.03)
- Import elasticity = $1/0.133 = 7.518$
- Domestic Income elasticity = $1/0.078 = 12.820$

Discussion of Table 7:

1. As multiple regression is 0.63. So, it indicates that there is high level of correlation between the dependent (Import) and independent variables (Domestic Income and Exchange rate).
2. R^2 is 0.40 which means that 40% of the variation in Imports is explained by the Domestic Income and the Exchange Rate.
3. A 1% appreciation in the Real Exchange Rate causes the imports to increase by 7.518%.
4. A 1% increase in the domestic income causes 12.820% increase in the imports.

Marshall-Lerner Condition in Nepal (1991-2014)

Here, the affect of the changes in Real Exchange Rate and the Domestic Income on the imports is represented in the value terms (Price *Quantity). Moreover, supply and demand quantities take time to adjust. There are various lap years involved. Apart from that there are various factors which influenced the imports of Nepal discussed later in this paper. So, using export and import elasticity from the above we can write Marshall-Lerner condition is $1.166 + 7.518 = 8.684$. Therefore, since it is greater than 1, Marshall-Lerner equation is justified for Nepal for the period 1991-2014. However, there are various points worth noting which might have affected the results.

Discussion and Conclusion

The results show that the Marshall-Lerner Condition is satisfied in India, Pakistan and Nepal though there is difference in the degree of satisfaction. Broadly we can conclude and compare the outcomes of the three countries in Table 8 in order to have a clear picture of these country's economies.

Table 8: India, Pakistan and Nepal : At a glance (1991-2014)			
Variable/Country	India	Pakistan	Nepal
Export Elasticity	1.079	5.97 (Highest)	1.66
Import Elasticity	3.033	2.869	7.518 (Highest)
World Income Elasticity	3.269	3.840(Highest)	0.749
Domestic Income Elasticity	1.512	2.424	12.82 (Highest)
Marshall-Lerner Condition	4.112 (Verified)	8.839(Verified) (Highest)	8.684 (Verified)

Source: Author compilation from tables 2, 3, 4, 5,6 and 7

So, as we can see that the condition is satisfied in all the three countries, this means that the depreciation will be helpful in raising the country's economy but there are certain domestic constraints which are listed below:

Bottlenecks faced by India to increase exports

Former Prime Minister, Dr. Manmohan Singh analyzed in one of his studies that India's own domestic policies are creating obstacles for the export-oriented growth in India. Complementary to this, the Great economist, Amartya Sen said that to see development in the export sector of the country, literate workforce and female empowerment are indispensable instruments. On the other hand, Montek Ahluwalia has given importance to the infrastructural development for the growth of the country. He says that during the reform period, India experienced a boom in the international market for some time in spite of the low infrastructure level but now all the little available is used up to the maximum and hence there is need to pay attention to this crucial part of the economy. In order to do so, one way is to adopt a pro-active approach to involve the private sector to the max and to create the pre-conditions for financing the private infrastructure projects. Moreover, the various plans under the Planning Commission have initially focused on the service sector but the studies shows that now the service sector has reached the saturation level. Therefore, this is the correct time to put emphasis on the manufacturing sector. Apart from the above domestic constraints, there are some economic situations that also played a significant role in the foreign trade of the country. One of the major economic phenomenon was the Recession of 2007. We conclude as follows:

- a. India: High cost of domestic production, therefore, the industrial sector is craving for modernization, diversification, capacity building; prevalence of rampant poverty and unemployment requires high subsidies be given. India's needs a change in the domestic policies such as high public investment in the required areas such as to modernize and diversify the industrial sector. Moreover welfare programmes are needed to remove the obstacles in the country such as illiteracy and poverty. Therefore, a proper policy mix in the domestic front is the need of the time. Many programmes such as Make in India have been launched by PM Modi. Hoping them to become a success and help India to top the ladder of the development.
- b. Pakistan: Poor infrastructural facilities, inability to take advantage of the international agreements, regulatory issues, the biggest issue the country is facing is terrorism and a poor state-controlled market. Therefore, Pakistan needs immediate policies to recover the damaged economy, stabilize it and then follow the track of development. It will be highly beneficial for the economy as the Marshall- Lerner condition is satisfied with a very high Export-Elasticity.

- c. Nepal: The major problem that Nepal is dealing with currently is the economic challenges after the powerful earthquake 2015. The various effects were services sector including tourism and hospitality are on the declining trend, the inflation is rising, the high trade deficit. Therefore, the government should make the policies in order to curb the problems and take advantage of the depreciation in the world economy scenario. Also, there is political turmoil in the country regarding the Constitutional amendments happened recently which needs to be encountered at very first.

We can conclude that India, Pakistan and Nepal are grappling in their domestic economies which are restricting them to grow global.

Future Prospects

This paper has analyzed India, Pakistan and Nepal's foreign trade situation taking total exports and total imports into consideration. It concluded by proving the Marshall-Lerner Condition. But even then the exports are not able to rise to the potential level and the credit for this goes to the domestic constraints except for some world economic situation in all the three countries. Therefore, this paper provides the track on which they and especially India can walk to achieve the level of a developed country. The conclusion can be used to form major policies contributing to the development. The study can be further extended by analyzing the manufacturing sector and the important industries which are considered to be the backbone of the economy as it fuels growth, productivity and employment and strengthens other sectors.

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Appendix 1: India Variables (1962-2014)

Year	Log Exports1	Log Imports2	Log GNI3	Log Exchange Rate4
1962	0.61247914	0.772897824	1.9542425	0.6777802713
1963	0.62394466	0.763804618	2	0.6777802713
1964	0.56364035	0.747180115	2.0413927	0.6777802713
1965	0.5119461	0.709417693	2.0413927	0.6777802713
1966	0.60971765	0.816685472	2.0413927	0.8033973623
1967	0.59823362	0.766719835	2.0413927	0.8750612638
1968	0.59869905	0.686438098	2	0.8750612638
1969	0.56227334	0.597855486	2.0413927	0.8750612638
1970	0.57026608	0.581163359	2.0791812	0.8750612638
1971	0.55678503	0.594770454	2.0791812	0.8745940142
1972	0.59748421	0.561696152	2.1139434	0.8804973779

(Continued...)

1973	0.61660431	0.666698367	2.1760913	0.8888553302
1974	0.67651571	0.772087374	2.2304489	0.90857097
1975	0.74427239	0.815070012	2.2787536	0.923031066
1976	0.8176495	0.778824277	2.2552725	0.9523280143
1977	0.79748635	0.789365994	2.2787536	0.9414406762
1978	0.79281115	0.81121571	2.3222193	0.913434492
1979	0.82173031	0.904627559	2.3617278	0.909865645
1980	0.78058644	0.958357942	2.4313638	0.8955852214
1981	0.76594566	0.925493379	2.4771213	0.9374438057
1982	0.76939059	0.903214407	2.462398	0.9756675932
1983	0.75868634	0.88748345	2.462398	1.0042739963
1984	0.79064462	0.880403091	2.462398	1.0554770813
1985	0.71298576	0.875854643	2.4771213	1.0923258115
1986	0.70813749	0.838975593	2.50515	1.100743786
1987	0.74099296	0.836319747	2.5563025	1.1126552642
1988	0.77314291	0.864910886	2.60206	1.1435482277
1989	0.83854746	0.903714086	2.60206	1.2101980888
1990	0.84084527	0.919456129	2.5910646	1.2431248989
1991	0.92157439	0.921535782	2.544068	1.3568369303
1992	0.93904585	0.97427622	2.544068	1.4136028819
1993	0.98518963	0.984442869	2.5185139	1.4842043078
1994	0.98756201	1.000626536	2.544068	1.4965663278
1995	1.02763805	1.072480028	2.5797836	1.5109077984
1996	1.0088634	1.054818122	2.6127839	1.5494100487
1997	1.02145666	1.069041826	2.6232493	1.5600655481
1998	1.03457108	1.095603352	2.6232493	1.6155225397
1999	1.05133361	1.118371123	2.6532125	1.6340279141
2000	1.10630083	1.135579788	2.6627578	1.6526485783

Source: (1)World Bank Databank for exports, (2) World Bank Databank for imports, (3) World Bank Databank for GNI, (4) World Bank Databank for Exchange Rate, All these data have been converted by the author into Log

Appendix 2: Pakistan Variables (1967-2014)

Year	Log Exports1	Log Imports2	Log GNI3	Log Exchange Rate4
1967	0.962404735	1.2579636681	2.1139433523	0.6777802713
1968	0.9618559268	1.1694055408	2.1760912591	0.6777802713
1969	0.9377343786	1.1419270124	2.2041199827	0.6777802713
1970	0.8903535074	1.166428692	2.2304489214	0.6777802713
1971	0.8538399969	1.10686908	2.2552725051	0.6777802709
1972	1.0709357192	1.2300014638	2.2304489214	0.9385888957
1973	1.1311959755	1.2122843586	2.1760912591	0.9997502088
1974	1.1361040208	1.3175893982	2.1760912591	0.9956351946

(Continued...)

1975	0.3010299957	1.3501009656	2.2041199827	0.9956351946
1976	1.0302598048	1.2872196033	2.278753601	0.9956351946
1977	0.9677649701	1.2792291344	2.3222192947	0.9956351946
1978	0.9657043295	1.2666815637	2.414973348	0.9956351946
1979	1.029084258	1.3571204316	2.4623979979	0.9956351946
1980	1.0964680135	1.3820155416	2.531478917	0.9956351946
1981	1.0905109722	1.3619603563	2.5797835966	0.9956351946
1982	0.997630766	1.3377486724	2.591064607	1.0736254954
1983	1.0762220154	1.3613040881	2.5797835966	1.1178336908
1984	1.044162905	1.354610399	2.5682017241	1.1475629704
1985	1.0180072706	1.3582048277	2.5682017241	1.2021719261
1986	1.0755742702	1.3553864467	2.5563025008	1.221349241
1987	1.1217183693	1.3222942934	2.591064607	1.2405192959
1988	1.1331051382	1.3358626217	2.6232492904	1.2553519174
1989	1.142486769	1.3373985237	2.6127838567	1.3126319777
1990	1.1914036947	1.3686807889	2.6127838567	1.3366073089
1991	1.2303708211	1.268525094	2.6127838567	1.3765909467
1992	1.2395322543	1.3123584402	2.6334684556	1.399375871
1993	1.2123600942	1.351039693	2.6434526765	1.4488173264
1994	1.211721499	1.2797703766	2.6434526765	1.4852470153
1995	1.2229756612	1.2883114808	2.6720978579	1.500273305
1996	1.2279664064	1.3309618775	2.6812412374	1.5572506799
1997	1.2063387946	1.3174430386	2.6812412374	1.6139635869
1998	1.21708345	1.2437059514	2.6532125138	1.6536626599
1999	1.1862073743	1.2295913267	2.6532125138	1.6946112666
2000	1.12844207	1.1669710226	2.6720978579	1.7295550458
2001	1.1661203313	1.1962313091	2.6812412374	1.7918811753
2002	1.1825178549	1.1850890035	2.6989700043	1.7761472991
2003	1.2232094511	1.2075139529	2.7323937598	1.7615670037
2004	1.1949830576	1.1653401752	2.7923916895	1.7653545524
2005	1.1956089771	1.2914530945	2.8512583487	1.7746226069
2006	1.1502639447	1.3334022676	2.903089987	1.7801108111
2007	1.1210544626	1.296134394	2.9493900066	1.7834641756
2008	1.0928017036	1.3657105152	2.9956351946	1.8476222136
2009	1.0932728935	1.2939389293	3.0170333393	1.9122905796
2010	1.1308567894	1.2867406383	3.0253058653	1.9304080733
2011	1.144892613	1.2779411488	3.0569048513	1.9362290623
2012	1.091020702	1.3066677527	3.096910013	1.9703245435
2013	1.1053056099	1.2746466472	3.1398790864	2.0070172215
2014	1.0890958	1.27241257	3.706718	2.004751535

Source:(1)World Bank Databank for exports, (2) World Bank Databank for imports, (3) World Bank Databank for GNI, (4) World Bank Databank for Exchange Rate, All these data have been converted by the author into Log.

Appendix 3: Nepal Variables (1967-2014)

Year	Log Exports ¹	Log Imports ²	Log GNI ³	Log Exchange Rate ⁴
1967	0.837242	0.842138	1.90309	0.881898
1968	0.835381	0.875081	1.90309	0.881798
1969	0.845913	1.009415	1.90309	0.904941
1970	0.690568	0.919231	1.90309	1.005395
1971	0.732707	0.96045	1.90309	1.005395
1972	0.752901	0.898606	1.90309	1.005395
1973	0.820234	1.015869	1.954243	1.005395
1974	0.736374	1.023174	2	1.005395
1975	0.30103	1.126025	2.079181	1.020009
1976	1.03237	1.151594	2.079181	1.023664
1977	1.071447	1.155856	2.079181	1.041505
1978	1.024143	1.189556	2.079181	1.09691
1979	1.071323	1.203215	2.113943	1.09691
1980	1.062253	1.272573	2.146128	1.083162
1981	1.110639	1.292648	2.20412	1.079181
1982	1.064143	1.274326	2.20412	1.079181
1983	1.00992	1.328689	2.176091	1.091186
1984	1.02745	1.2889	2.20412	1.122014
1985	1.0618	1.301021	2.230449	1.162721
1986	1.066784	1.307555	2.255273	1.216414
1987	1.07237	1.320284	2.278754	1.261178
1988	1.058698	1.349896	2.322219	1.326947
1989	1.044054	1.34798	2.342423	1.338838
1990	1.022317	1.335687	2.342423	1.367156
1991	1.060348	1.365194	2.342423	1.434391
1992	1.203025	1.410536	2.322219	1.467892
1993	1.265595	1.458738	2.30103	1.571185
1994	1.278615	1.497457	2.30103	1.630606
1995	1.397473	1.538038	2.322219	1.6867
1996	1.358269	1.55194	2.342423	1.693705
1997	1.420415	1.57643	2.361728	1.715086
1998	1.358355	1.53004	2.342423	1.753521
1999	1.358857	1.473027	2.342423	1.763499
2000	1.367058	1.510901	2.361728	1.819385
2001	1.353222	1.522226	2.380211	1.834035
2002	1.248883	1.454747	2.380211	1.851832
2003	1.195896	1.455576	2.414973	1.874767
2004	1.222266	1.4693	2.462398	1.891407

2005	1.163867	1.469517	2.50515	1.881621
2006	1.128613	1.495757	2.544068	1.867312
2007	1.109096	1.501383	2.579784	1.8535
2008	1.106389	1.521927	2.643453	1.861866
2009	1.094099	1.53983	2.690196	1.822266
2010	0.98148	1.56113	2.732394	1.843617
2011	0.949587	1.517516	2.78533	1.889555
2012	1.003197	1.526136	2.845098	1.864247
2013	1.029547	1.574139	2.863323	1.869347
2014	1.065986	1.615224	3.382017	1.997958

Source: (1)World Bank Databank for exports, (2) World Bank Databank for imports, (3) World Bank Databank for GNI, (4) World Bank Databank for Exchange Rate, All these data have been converted by the author into Log.

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