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Exchange Rate Change And It's Impact On Foreign Trade Balance In Nepal

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INTRODUCTION

Nepal is one of the land locked country in Asia having 800 km. long open border with India. Like other land locked countries it happens to be among the least developed of the developing countries. Landlockedness is the major geographic weakness that becomes the main hinderance in overall development of Nepal.

Nepal has been facing trade deficit for a long time with world economy while the trade sector of the economy has a great role to increase the economic growth and to alleviate the poverty. Various measures like export exchange entitlement scheme, dual exchange rate, direct cash subsidies and frequent changes in other procedural aspects such as the licensing system and the tariff structure were made in the past making much fanfare with little impact. The trade deficit continued to grow unbridled, and is increasingly posing a serious challenge to the various economic structure of the nation (Bajracharya and Sharma 1996).

Among the tools of export promotion and import curtailment, exchange rate devaluation is one. However, this is not a sufficient tool in case of underdeveloped countries like Nepal because of the absence of the monopoly power over its exports and its imports. On the other hand the financial market is not well developed and the economy is not fully monetised. Thus, to correct the trade deficit, stabilization tool such as exchange rate policy and fiscal and monetary policies have greater role.

EXISTING SCENARIO OF FOREIGN TRADE BALANCE

In Nepal's foreign trade history, the data on BOPs are relatively of recent origin, hence the data taken here are of 1975 onwards to Eight Five Year Plan. The trade balance over this study period had has been always in deficit.

The average trade deficit in Fifth Five Year Plan period was NRs. 1396.02 million per annum, of which 59.17 percent was with India. The average annual deficit for the perid as a whole was 1.527 percent of the total GDP of the same period. Out of five fiscal years three had current account surplus with a slight margin but the deficit for the other two years was heavy in size. However, the average annual deficit for the period as a whole was 0.27 percent of GDP of the same period.

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The trade sector of the Nepalese economy during Sixth Five Year Plan period lagged behind compared to the preceding subsequent periods. The balance of payments deficit was increased by 204.5 percent in comparison to the Fifth Five Year Plan period. As a result of this, despite almost the same rate of export growth compared to the preceding plan period, imports capacity of exports came down to 28.75 percent during this plan period. In this period also, the average trade deficit was NRs. 4250.25 million per annum of which 39.15 percent was with India. At the first-two years of this plan period the current account deficit was increased by marginal rate, however, it was increased by a heavy percentage rate at the remaining three fiscal years of this plan period. The average annual deficit for the period as a whole in current account was 2.52 percent of GDP of the same period.

Table 1
Periodic Average Trade Balance

(In Million NRs.)

Plans / Headings	Fifth Five Year Plan Period	Sixth Five Year Plan Period	Seventh Five Year Plan Period	Plan Holiday	Eighth Five Year Plan Period
Trade Balance with India	-826.08	-1664.16	-3198.64	-7783.2	-15862.0
(Percent of Total Trade)	59.17 percent	39.15 percent	32.52 percent	45.49 percent	40.51 percent
Trade Balance with Rest of the World Countries	- 569.94	-2586.36	-6635.16	-9253.05	-23366.075
(Percent of Total Trade)	40.83 percent	60.85 percent	67.48 percent	54.51 percent	59.49 percent
Total Trade	-1396.2	-4255.2	-9833.8	-17106.9	-39278.075
Percent of GDP	1.527 percent	3.31 percent	3.86 percent	6.55 percent	13.92 percent
Current Account Balance	-55.82	-4438.6	-4795.3	-9786.85	-13402.35
Percent of GDP	0.27 percent	2.82 percent	1.97 percent	8.00 percent	3.62 percent

Source : NRB *Quarterly Economic Bulletin* 1997.
Economic Survey, MOF/HMG, 1998/99.

Among the period under study, the Seventh Five Year Plan period should be considered to be the best so far as the improvement in the external sector

of the economic is concerned. The trade deficit with India was the least in Seventh Five Year Plan period among the periods under study. It was 32.50 percent. The trade deficit tremendously increased in Eighth Five Year Plan period, i.e. trade deficit in percentage of GDP increased form 3.86 percent to 13.92 percent in during this period.

TRADE POLICIES ADOPTED BY HMG/N

The out going analysis signify that Nepal has been facing the trade deficit for a long time to the present and it countinued to grow unbridled, increasingly poking a serious challenge to the nation. To correct this His Majesty Government of Nepal adopted the different trade policies in the past to control the trade deficit. In this regard, the first measure introduced by Nepal was Exporter's Exchange Entitlement Scheme, popularly known as the *Bonus System*. To get bonus they had to export goods in the third countries. The bonus was to be used for the purpose of importing various goods from third countries. Other measures that Nepal adopted in the past were:

- Dual Exchange Rate System.
- Auction System.
- Duty Draw-Back Facility.
- Bonded Warehouse System.
- Partial and then full convertibility of Current Account.

Each of these system contributed significantly in the process of diversification of Nepal's exports to third countries. However, certain lacunas were felt in these systems. As a result, each one of these system was decided to be scraped one after another and to be replaced each by another new, last system being in practice.

Despite the introduction of these measures, no significant improvement was noticed in the trade sector of the country. Trade deficit continued to grow and the rate of economic growth was also not encouraging. This shows that simply providing incentives on exports is not enough to correct the trade deficit which continued to grow while the rate of economic growth was not encouraging. This shows that simply providing incentives to exports is not enough to correct the trade deficit of the nation. To alleviate these problems, Nepal opted for trade liberalization, though the tendencies of trade deficit have not been arrested.

FOREIGN TRADE AND ECONOMIC GROWTH

According to the classical and nco-classical economists, foreign trade is an important factor of economic development of any country. Adam Smith's model of foreign trade postulates the existence of ideal land and labour before a country is opened to world markets. In general, classical

economists considered comparative advantages as determining the pattern of trade. With widening of the market, induced innovations, and increased productivity, and expected results of increased savings and capital accumulation, and transforming technology, skills, and entrepreneurship, affecting the supply side of the development process.

Modern economists too pleaded for the gain from the trade, not only change in resource allocation, but in continuous impact on the economic development of a nation. In this regard, foreign trade has been regarded both by traditional and modern economists as the stimulus for changing productivity of the economy. Similarly the Staple's demand-motored model and Corden's Supply-motored model, both give the positive relation of trade and development emphasizing that the direct gain comes from international specialization giving additional support to a country's development through a number of spread effects within the domestic economy.

PROBLEM IN BALACNE OF PAYMENTS AND CORRECTION MEASURES

One of the most important sources of information about a country's international economic position is its balance of payments. This is a summary statement of all the transactions between the residents of one country and the rest of the world. It covers a given period of time, usually a year. The balance of payment accounts consist of the two accounts: Current Account and Capital Account.

The current a/c is a part of the balance of payments in both visible and invisible trade. Visible imports and exports consists of physical merchandise of all kinds, whereas the invisible imports and exports are services, transfers and interest, profit and dividends. If X denotes the gross exports and M the gross imports in monetary term then current a/c balance of payments equation becomes:

$$B = X-M \quad \ldots\ldots (1)$$

If $X>M$, $B>O$, the case of current a/c surplus.
If $X<M$, $B>O$, the case of current a/c deficit.
If $X = M, B = O$, the case of current a/c balance.

The capital a/c is a part of the balance of payments which records long term and short term capital movements between the countries. However, in this study, I consider only the current a/c balance.

In equation (1), when $B \neq O$, we need correction and when $B<O$, serious problem arises. In this case the balance of payments is in deficit.

Now the question is of suitable action desirable to be taken by the government to control a persistent payments imbalance, and in this respect there are three main possibilities :

- To adopt demand-management policies.
- To impose import controls.
- To allow the exchange rate to change.

But normally, a currency depreciation is appropriated to correct serious deficit. A depreciation will immediately effect the relative prices of traded goods: the foreign price (P) of exports will fall and the domestic price (P_d) of imports from foreign countries will rise. These price changes will inturn cause a rise in the demand for exports and a fall in the demand for imports. So long as these demand changes can be realised, they will affect the country's balance of payments. However, the price effect of depreciation do not tell us the complete story because it is possible that the national income will also be affected. These changes in income will cause changes in the demand for imports and this will exert a further influence on the trade balance. At the same time, the inflationary impact of devaluation may come through various channels eroding the real exchange rate, then the nominal. Thus, to consider the price effects of depreciation, we have to make safeguard that the supply elasticity is very large so that increase in demand can easily be met, and the possible income change is nil. Under these assumptions, an increase in B in the above equation. (1) will represents a movement from a deficit towards surplus and so can be regarded as an improvement in the B/P.

The greater the elasticity of demand for exports, the bigger will be the increase in the total value of exports following the depreciation only if the demand for exports is perfectly inelastic and the total volume remains unchanged. That is, if e_x is the elasticity of demand for exports, and if $e_x = 0$, depreciation does not infcrease exports.

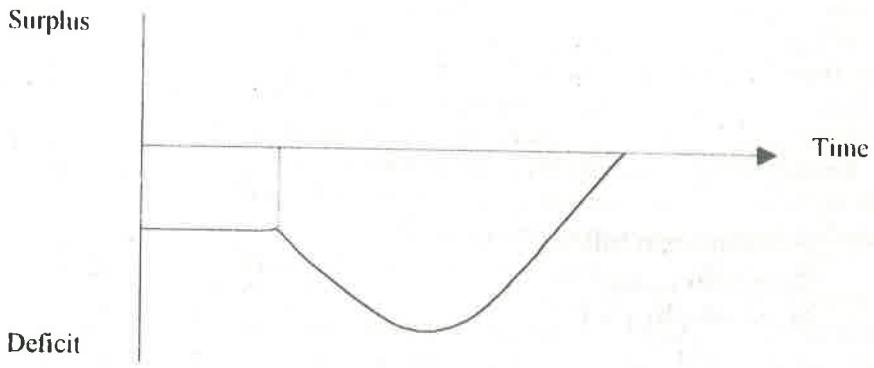
In case of imports, if $e_m < 1$, depreciation wil rise the total value of imports and if $e_m > 1$, depreciation will reduce the total value of imports where e_m is the elasticity of demand for imports. Clearly, what happens to the trade balance of a country depends crucially on both the elasticity of demand for exports (e_x) and elasticity of demand for imports (e_m). Assuming that we start from an equilibrium position initially, the trade balance will improve following a depreciation if:

$$e_x + e_m > 1 \quad \ldots\ldots (2)$$

This has been known as the Marshall-Lerner Condition which states that a depreciation of a currency will result in an improvement in the balance of trade, if the sum of the elasticity of demand for exports and for imports exceeds unity.

Although demand elasticity in international trade is extremely difficult to estimate, it is possible that the existing evidence suggests that the sum of elasticity is considerably greater than one in the long run, while it may not be satisfied in the short run. It may take time for the country's importer to find alternative supplies in response to the increase in import prices. It may also take time for foreign buyers to increase their purchase of exports following the fall in exports prices. So, a depreciation may, at first, bring the trade balance to deteriorate, but latter on imports and exports would respond to the changed price and the trade balance may improve. This delayed improvement in the trade balance following depreciation is often referred to as the J-Curve Effect (Figure 1). If the Marshall-Lerner condition is not satisfied in the long run either than the curve in the figure will flatten out at a deficit greater than that before the devaluation.

Figure 1
J- Curve Effect



HYPOTHESIS

To this deliberation the author has assumed hypothesis that changes in real effective exchange rate (REER) will bring change in exports, i.e. there exists relationship between REER and exports.

Mathematically,

$H_0: b_2 = 0$

$H_1: b_2 \neq 0$ (Two-tail)

Similarly changes in REER will bring change in imports, i.e. there exists relationship between REER and imports.

Mathematically,

$H_0: b_2 = 0$
$H_1: b_2 \neq 0$ (Two-tail)

THE MODEL

The analysis is mainly concentrated on the impact of exchange rate change on foreign trade balance. Thus, the following exports and imports functions are considered:

$X1 = f(NGDP, REER, X_{t-1})$ ..... (1)

Where,

NGDP = Nominal GDP.
X_t = Exports in the year t.
REER = Real Effective Exchange Rate.
X_{t-1} = Exports in year t-1.

and,

$M_t = f(NGDP, REER, M_{t-1})$ ..... (2)

Where

Mt = Imports in the year t, and
Mt-1 = Imports in the year t-1.

In linear form following models are considered :

(a) Case with India :

$X_t = a + b_1 X_{t-1} + b_2 REER_{ic} + b_3 NGDP + U_t$
$M_t = a + b_1 M_{t-1} + b_2 REER_{ic} + b_3 NGDP + U_t$

(b) Case with Rest of the World (ROW) Country:

$X_t + a + b_1 X_{t-1} + b_2 REER_{\$} + b_3 NGDP + U_t$
$M_t = a + b_1 M_{t-1} + b_2 REER_{\$} + b_3 NGDP + U_t$

All the above models include the concept of constant term "a" because of the fact that there will be some exports and imports even if all other variables are zero. U_t the residual term, shows that the exports and import are also affected by other variables not included in the model.

The Ordinary Least Square (OLS) method of regression has been used to estimate the parameters.
In the above analysis, REER is calculated by using the formulae:

$$REERic = \frac{\frac{1}{(NER)_c}}{\frac{1}{(NER)_b}} \times \frac{CPI_N}{WPI_i} \times TWi \times 100$$

$$REER\$ = \frac{\frac{1}{(NER)_c}}{\frac{1}{(NER)_b}} \times \frac{CPI_N}{CPI_{US}} \times TW_{ROW} \times 100$$

Where,

NER = Nominal Exchange Rate.
CPI_N = Consumer Price Index of Nepal.
CPI_{US} = Consumer Price Index of United States.
WPI_i = Wholesale Price Index of India.
TW_{ROW} = Trade Weight (Rest of the World Countries).
TW_1 = Trade Weight (India), and
the suffices:
c = current year.
b = base year.

Empirical Evidence

The relationship between exports and REER and imports and REER can be seen with the help of following estimated regression equations shown in the Table 2 below.

Tabel 2

Relation Between Exports and REER and Imports and REER

No.	Regression Equation	t-value of REER coefficient	t-significant	F-value	F-significant	R2-value	D-W
	Case with India						
1.	$X_t = -1040.78+0.548 X_{t-1}+22.24$ REERic + 0.0096 NGDP	2.678	0.015	43.128	0.0000	0.8838	1.98
2.	$M_t = -5346.027+0.658 M_{t-1}+83.19$ $REER_{ic}+0.005$ NGDP	3.351	0.0038	556.006	0.0000	0.8999	2.01
	Case with ROW Countries						
1.	$X_t = -1714.89+0.494X_{t-1}-47.03$ $REER_\$$ + 0.045 NGDP	-0.705	0.49	111.11	0.0000	0.9514	1.19
2.	$M_t = -51569.31 + 0.983 M_{t-1}+19.228$ $REER_\$+0.042$ NGDP	0.436	0.668	1614.68	0.000	0.9965	1.5

Source : Conputed by the Author based on the Table 1.

It can be concluded from Table 2 that income from India due to exchange rate devaluation is found to be significant but has failed to correct trade deficit. By devaluation both exports and imports have been decreased in percentage term and not in absoulute term. In case of rest of the world countries it has been insignificant. However, in the latter case, it will possible to correct trade deficit by devaluation of NC against US dollar together with the proper management of other economic tools to correct trade deficit.

In most of the cases of the world countries, both exports and imports have been increased after devaluation. The Marshall-Learner condition is also found to have fulfilled in each devaluation except the case of 1982 devaluation, and the export growth is found to have higher then that of the import growth. However, due to the large import base and comparatively small export base in absolute term, trade balance has been found to be impossible by devaluation only.

CONCLUSION

Nepal is a land locked country having 800 km. open border with India. It has been facing the trade deficit from a long time to the present. His Majesty Government had adopted the different policies in different time but most of them are found to be failed. It is mainly due to the long open border, unscruplus trading and inefficient tax administration.

Our export is mostly import based. Data on exports show that export has been increasing at a high rate as a result import has also increased. Thus, even if the Marshall-Learner condition is fulfilled, by devaluation X-M gap does not decrease. The model shows that in Nepal, exchange rate devaluation is not the proper way of correcting the trade deficit. Thus, to correct the trade deficit in Nepal, we should increase the export by mobilising the domestic resources which curtail imports by using the fiscal tools and by increasing the efficiency of tax administration.

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