**Chapter Four: Theories of Exchange Rate Adjustments**

The previous section demonstrated that BOPs disequilibria tend to be reversed by automatic adjustments in prices, interest rates and incomes. If these adjustments are not allowed to operate, however, reversing BOPs disequilibria may come at the expense of domestic recession or price inflation. The cure may be perceived as worse than the disease.

Instead of relying on adjustments in prices, interest rates, and incomes to counteract payments imbalances, governments permit alternation in exchange rates. By adopting a floating exchange rate system, a nation permits its currency to appreciate or depreciate in a free market in response to shifts in either the demand for or supply of the currency. Under a fixed exchange rate system, rates are set by the government in the short–run with the adoption of devaluation or revaluation over a period of time.

In this section, we will see the various ways of adjusting exchange rates. On our way, we will examine the impact of exchange rate adjustments on the balance of payments. We will learn under what conditions currency depreciation (devaluation) and appreciation (revaluation) will improve /worsen a nation’s payments position.

Basically, we have three approaches towards exchange rate adjustment. The first - the *elasticity approach* emphasizes the relative price effects of depreciation and suggests that depreciation works best when demand elasticities are high.

The *absorption approach* deals with the income effects of depreciation. The implication is that a decrease in domestic expenditure relative to income must occur for depreciation to promote payments equilibrium.

The *monetary approach* stresses the effects depreciation has on the purchasing power of money and the resulting impact on domestic expenditure levels.

Let us now see each approach one by one.

**A. The Elasticity Approach**

Currency devaluation (depreciation) affects a country’s balance of trade through changes in the relative prices of goods and services internationally. A trade deficit nation may be able to reverse its imbalance by lowering its relative prices, so that exports increase and imports decrease. The nation can lower relative prices by permitting its exchange rate to depreciate in a free market or formally devaluing its currency under a system of fixed exchange rates. The ultimate outcome of currency depreciation (devaluation) depends on the price elasticity of demand for a nation’s imports and its exports.

In short, price elasticity of demand refers to the responsiveness of buyers to changes in price. Mathematically,

*Elasticity = %Change in Quantity Demanded= ΔQ /Q*

*% Change in Price Δ P/P*

The elasticity coefficient is stated numerically, without regard to the algebraic sign. If the coefficient exceeds 1, demand is said to be relatively elastic. This means a given percentage change in price results in a larger percentage change in quantity demanded. If the ratio is less than1, demand is relatively inelastic. If exactly 1, it is called unitary elastic (the percentage change in quantity demanded just matches the percentage change in price). Let us now take an example to understand more about the *elasticity approach.*

Suppose the Ethiopian government decides to devalue the birr by 5 percent to correct a trade deficit with Japan. Whether the Ethiopian trade balance will be improved depends on what happens to the *yen* in-payments for Ethiopian exports as opposed to the *yen* out- payments for its imports. This, in turn, depends on whether the demand for Ethiopian exports is elastic or inelastic and whether the Ethiopian demand for Japanese imports is elastic or inelastic.

Depending on the size of the demand elasticities for Ethiopian exports and imports, Ethiopia’s trade balance may improve, worsen or remain unchanged in response to the birr devaluation. The general rule that determines the actual outcome is the so-called *Marshal-Lerner condition.*

The Marshal Lerner condition states:

1. Devaluation (depreciation) will improve the trade balance if the devaluing nation’s demand elasticity for imports plus the foreign demand elasticity for the nation’s exports exceeds 1.
2. If the sum of the demand elasticity’s in less than 1, devaluation will worsen the trade balance.
3. The trade balance will be neither helped nor hurt if the sum of the demand elasticities equals 1.

The condition may be stated in terms of the currency of either the nation undergoing devaluation or its trading partner, but it cannot be expressed in terms of both currencies simultaneously.

**B. The Absorption Approach to Exchange Rate Adjustment**

According to the elasticities approach, currency devaluation offers a price incentive to reduce imports and increase exports. But even if elasticity conditions are favorable, whether the home country’s trade balance will actually improve may depend on how the economy reacts to the devaluation. The *absorption approach* provides insights into this question by considering the impact of devaluation on the spending behavior of the domestic economy and the influence of domestic spending on the trade balance.

The absorption approach starts with the idea that the value of total domestic output (Y) equals the level of total spending. Total spending consists of consumption (C), investment (I), government expenditure (G) and net exports (X-M.

That is:

*Y = C+I +G+ (X-M)*

The absorption approach then consolidates *C+I+G* in to a single term *A*, which is referred to as *absorption.* (X-M) is designated as *B.* Total domestic output thus equals the sum of absorption and the level of net exports, or *Y= A + B ☞B = Y - A*

This expression suggests that the balance of trade (B) equals the difference between total domestic output (Y) and the level of absorption (A). If national output exceeds domestic absorption, the economy’s trade balance will be positive. Conversely, a negative trade balance suggests than an economy in spending beyond its ability to produce.

The absorption approach predicts that, if currency devaluation is to improve an economy’s trade balance, national output must rise relative to absorption. This means that a country must increase its total output, reduce its absorption, or do some combination of the two.

**C. The Monetary Approach to Exchange Rate Adjustment**

You could easily note that the elasticity and absorption approaches of exchange rate adjustment apply only to the trade account of the BoPs. They neglect the implications of capital movements. It is the monetary approach to devaluation which addresses this shortcoming.

According the *monetary approach,* currency devaluation may induce a temporary improvement in a nations BOPs position. Assume, for instance, that equilibrium initially exists in the home country’s money market. A devaluation of the home currency would increase the price level (that is , the domestic currency prices of potential imports and exports). This increases the demand for money because larger amounts of money are needed for transaction. If that increased demand is not fulfilled from domestic sources, an inflow results in a BOPs surplus and a rise in international reserves.

But the surplus doesn’t last forever. By adding to the international component of the home – country money supply, the devaluation leads to an increase in spending (absorption), which reduces the surplus. The surplus eventually disappears when equilibrium is restored in the home country’s money market. The effects of devaluation on real economic variables are thus temporary. Over the long run, currency devaluation merely raises the domestic price level.