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# Implications of a US Dollar Depreciation for Asian Developing Countries

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# Implications of a US Dollar Depreciation for Asian Developing Countries

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The US dollar has appreciated[1] considerably since the mid 1990s. Between May 1995 and January 2002, the dollar's nominal effective exchange rate appreciated by 44.5 percent, and the real effective exchange rate[2] appreciated 34.0 percent. However, the dollar depreciated between 1 March and 19 July 2002 by 17.4 percent against the euro, and 13.2 percent against the yen. In the same period, the dollar's nominal effective exchange rate depreciated by 3.9 percent, while its real effective exchange rate depreciated 4.0 percent. This has prompted speculation that the dollar may have started a major realignment, though a moderate appreciation since July has somewhat muted this speculation.

The depreciation came amid concerns about economic growth prospects, weak equity markets, and accounting scandals in the US. It may, however, also reflect the US's large current account deficit, with the annualized deficit rising to 4.4 percent of gross domestic product (GDP) in the first quarter 2001. The current account balance represents the difference between exports of goods and services and the income received from abroad, and imports of goods and services and income transferred abroad. In essence, a current account deficit means that foreign capital is financing some segments of domestic spending. Financing a current account deficit with foreign capital is feasible in the short term, but unsustainable in the long run. Large current account deficits are often corrected by exchange rate depreciation.

As a large current account deficit cannot be financed by foreign capital forever, there is a real possibility that dollar depreciation may occur, although the timing is not certain. Given their level of dependence on the US market, it is useful to consider the likely ramifications for Asian developing member countries (DMCs) should

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[1]Appreciation/revaluation refers to the strengthening of a currency, and depreciation/devaluation is the opposite. Appreciation and deprecation are changes under floating exchange rate conditions, while revaluation/ devaluation is brought about by the deliberate action of monetary authorities under a fixed exchange rate regime.

[2]The real exchange rate takes into account both nominal exchange rate change and relative price change between a country and its trading partners. Effective real exchange rate indices are trade-weighted real exchange rates of a currency against a basket of foreign currencies.

a substantial dollar depreciation take place. While exchange rate movements affect various aspects of the economy, this brief focuses on the trade and macroeconomic policy implications.

## Exchange Rate Arrangements of DMCs

Dollar depreciation will have different effects on economies with floating exchange rates and those with currencies pegged to the dollar. Most DMCs maintain floating exchange rates, under which authorities normally do not intervene in the foreign exchange market and the currency is left to react to market signals. Currencies with floating exchange rates will appreciate in response to dollar depreciation.

A few DMCs peg their currencies to the US dollar. Hong Kong, China formally pegs the Hong Kong dollar to the US dollar. The People's Republic of China (PRC) maintains a de facto peg to the US dollar. The Malaysian currency is also kept within a very narrow range of exchange rate with the dollar. The pegged exchange rate arrangement requires authorities to intervene in the foreign exchange market to maintain the fixed exchange rate. They will have to buy domestic currency when it is in excess supply and sell it when it is in excess demand to avoid a currency depreciation or appreciation. When the dollar depreciates, currencies pegged to the dollar will also depreciate against other currencies.

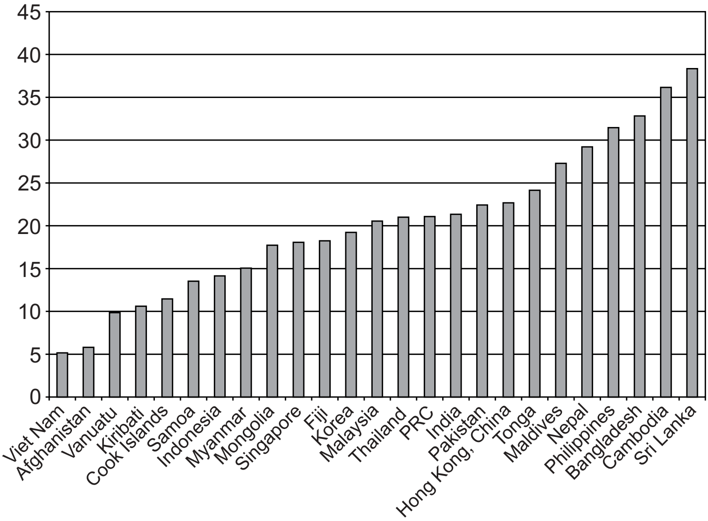
Different policy regimes mean DMC currency changes will vary relative to the dollar. The effect of a dollar depreciation will be different for economies with floating and pegged exchange rates.

## Analytical Framework

The US market takes about 20 percent of DMC exports in general and nearly 40 percent of some countries' exports (Figure 1). Changes in price competitiveness due to a dollar depreciation can have an important impact on DMCs.

Macroeconomic theory has long established that export and import growth, and thus the trade balance, are determined by changes in price competitiveness, economic growth of trading partners, and income growth in the home country. Exchange rate changes alter both price competitiveness and income growth of countries.

Figure 1. **DMC Exports to the US (% of total exports, 1997-2001 average)**




Source: International Monetary Fund *Direction of Trade* (various years).

## Dollar Depreciation and Trade Balance

An exchange rate depreciation can make a country's exports cheaper and imports more expensive. By depreciating in line with the dollar, products in the DMCs whose currencies are pegged to the dollar will become more competitive against third country products. This can boost their exports, curb imports, and improve their trade balances with countries other than the US. The opposite is likely to be true for DMCs with floating exchange rates, as their currencies will appreciate. There are a few factors that complicate this general relationship, however. The first is that for exchange rates to affect trade balances, export and import demand has to be responsive to price changes, as prescribed by the Marshall-Lerner condition.[3] The second is that there can be substantial lags between exchange rate movements and changes in trade balances. Trade balances can

[3]The Marshell-Lerner condition states a devaluation/depreciation will improve the trade balance only if the sum of foreign price elasticity of demand for exports and the home country price elasticity of demand for imports is greater than unity.

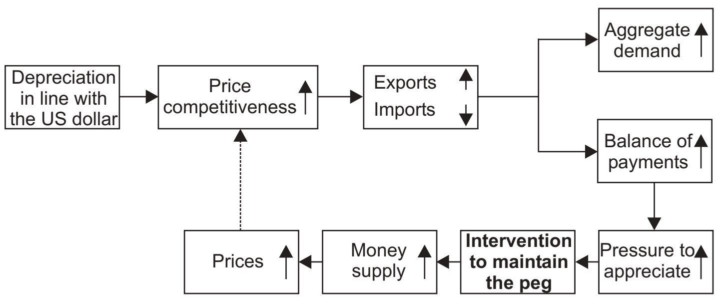
even deteriorate following deprecation as imports become more expensive. They only improve as the quantity of exports increase, and imports decrease. This quantitative adjustment often takes a long time, so that it can take up to two years for trade balances to improve.

Exchange rate changes also affect economic growth, which, in turn, affects trade balances. Depreciation can lead to higher economic growth by stimulating exports. This can eventually lead to increased import demand, and benefit the exports of its trading partners. However, increased demand for imports due to higher income growth often comes after initial import reductions following depreciation. Trading partners may feel the impact of reduced import demand more quickly. For this reason, depreciation of a currency often becomes a concern for trading partners. Furthermore, due to differences in products traded, some countries' trade is more responsive to changes in price competitiveness, while others are more sensitive to trading partner economic growth. Consequently, a deprecation of a currency may have variable effects on trading partners.

**Dollar Depreciation and Macroeconomic Indicators**

Exchange rate changes have other macroeconomic impacts. One of the most important is altering aggregate demand. When a country's exchange rate depreciates, aggregate demand for its products can increase. This comes about because both domestic and foreign demand for its products may increase as they become cheaper. Such cases apply to economies whose currencies are pegged to the dollar as they depreciate in line with the dollar (Figure 2). As currency depreciation increases competitiveness, demand for their exports may increase, while these countries' import demand may decrease, leading to increased aggregate demand. The monetary side of this is that the country's receipts from foreigners may exceed its outgoing payments, resulting in an improved balance of payments. The flipside of an increased supply of foreign currency is that domestic currency will be in short supply. This will place upward pressure on the domestic currency. A key feature of the pegged exchange rate arrangement is that monetary authorities will not allow this to happen. They will expand the money supply in order to neutralize the pressure and maintain the fixed exchange rate. Increases in the money supply raise price levels. This, together with the fact that imports become more expensive after depreciation, may result in higher price levels in the depreciating country. Over time, prices are likely to increase, the exchange rate is likely to remain unchanged, and output and employment levels are likely to rise. This naturally raises concerns about inflation. However, price pressure in the US as well as all economies with pegged exchange rates has remained subdued. Hong Kong, China, in particular, has been battling with deflation for nearly four years. From the usual concern about inflation there is now a shift in focus toward deflation. The increased price pressure may even be viewed as a positive development.

Figure 2. **Macroeconomic Impact of Exchange Rate Depreciation under a Pegged Exchange Rate Arrangement**




Most DMCs maintain flexible exchange rates. The strengthening of their currencies relative to the US dollar may cause exports to fall and imports to rise. This can put a strain on output growth and employment, especially for countries that depend heavily on exports to the US. Growth in most DMCs is still subdued, and currency appreciation may dampen economic recovery due to the synchronized nature of the recent economic downturn. Relative prices, however, are only one factor affecting export growth. The level of economic activity in trading partners is also important. Over time, a depreciation of the dollar can inject impetus into the US economy, boosting DMC export growth.

Although countries with floating exchange rates do not normally intervene in the foreign exchange market, they may not be totally indifferent to major exchange rate movements. It is for this reason that many countries' exchange rates are labeled "managed or dirty floats." The potential dampening effect of a depreciating dollar on the output and employment of trading partners may prompt governments to take action. This might involve directly selling or purchasing a currency to counter the depreciation, but, more often, indirect ways of implementing monetary policies such as lowering interest rates or deferring interest rate rises are resorted to. Such measures can boost economic growth in the DMCs. The strengthening of domestic currencies will also help economies to contain inflation as imports become cheaper, reducing the need for monetary tightening.

In sum, a dollar depreciation may increase price pressures, improve trade balances, and facilitate output growth for economies whose currencies depreciate in line with the dollar. For economies whose currencies appreciate against the dollar, the appreciation may put some strain on trade balances and output growth, but reduce inflationary pressure. Over time, dollar depreciation may boost growth in the US and the world economy in general. A growing US economy will benefit economies with both floating and pegged exchange rates alike.

## Empirical Evidence in Asia

Economic patterns in Asia reveal the complexity of relationships between exchange rates, trade balance, and macroeconomic variables.[4] Some research confirms that exchange rate depreciation improves trade balances. A study of nine developing Asian economies from 1973 to 1991 indicates that real devaluation improved the trade balance in most of these economies (Arize 1994). On the other hand, the real exchange rate does not seem to have had a significant impact on Republic of Korea, Malaysia, and Singapore's bilateral real merchandise trade balance with Japan and the US from 1970 to 1996 (Wilson 2001). Researchers comparing the relative importance of the real exchange rate and trading partner income conclude that recipient's income growth constitutes a major determinant of Asia's trade with the world, and trade volume is not closely aligned with real effective exchange rate changes (Zhang 2001). This implies that Asian trade may be more sensitive to economic growth in trading partner economies than to exchange rate changes.

Literature examining the impact of currency devaluation on output growth also shows a varied pattern. A study of 22 countries

[4]The empirical studies cited concern Asian economies in general, rather than just reactions to a dollar depreciation specifically, due to limited evidence. Although less specific, they illustrate the complex relationship between exchange rate changes and other economic indicators.

finds that devaluation stimulated output growth (Connolly 1983). However, a study of Indonesia, Korea, Malaysia, Philippines, and Thailand from 1968 to 1998 finds that currency devaluation led to a short-run contraction in these economies, but had no impact on the long-run output of most economies (Chou and Chao 2001). Another study of 12 developing countries (including five from Asia) concludes that real devaluation had different effects at different times (Edwards 1985). Output contracted in the short run; after one year, however, it expanded. In the long run, real devaluation was found to be neutral to output growth.

## What Explains the Gap between Theory and Empirical Outcomes?

One explanation for the subdued relationship between trade and exchange rates is that the prices of imports do not respond proportionally to exchange rate movements. This phenomenon is known as the “partial pass through” effect of nominal exchange rate. Slow price movements are attributed to falling production costs and declining prices of business equipment. These means import prices do not increase proportionally to currency depreciation. In addition, increased competition and increasing production-sharing networks in Asia lead exporters and importers to resist price increases to maintain or increase their market shares. In some cases, importers may reduce prices in the face of depreciation, thereby neutralizing the effects of depreciation. The experience of the US in the mid-1980s demonstrates how inert the trade balance can be in response to exchange rate changes. The merchandise trade deficit in the US continues to widen in the face of substantial dollar depreciation since March 1985. The trade deficit in manufactured items increased by 24 percent from 1985 to 1987 while the effective exchange rate index between the US and the G-10 countries plus Switzerland fell by over 45 percent.

One reason for the negative relationship between output growth and exchange rate depreciation in some cases is low price elasticity, that is, the low responsiveness of imports and exports in the short run. These cause the trade balance to worsen and output to contract. Furthermore, while depreciation can generate output expansion through increasing aggregate demand, it can result in reduced aggregate supply by increasing the cost of imported intermediate inputs. Macroeconomic theory tends to focus more on the demand side effect of exchange rate change, and give less emphasis on its effect on the supply side. Exchange rate depreciation can also raise the general price level, thus partially dampening the increase in aggregate demand brought about by depreciation.

These complex relationships suggest that more emphasis needs to be placed on the importance of microeconomic foundations in determining macroeconomic outcomes of exchange rate movements. Ultimately, the impact of exchange rate movements on trade and growth depends on how firms react to them. This, in turn, depends on many factors, including specific market structures and conditions, technological change, and relative exchange rate changes, price movements, trade relationships, and structures of interaction between multiple trading partners.

## Conclusion

Three points concerning dollar depreciation are particularly worthy of note. First, dollar depreciation is not necessarily deleterious to DMCs whose currencies strengthen. The limited evidence seems to suggest that income growth of trading partners may be a more important factor in determining a country's export growth. Dollar depreciation can eventually benefit DMCs by stimulating growth in the US economy, although it may cause short-term difficulties for DMCs whose currencies appreciate.

Second, various factors influence the outcome of exchange rate changes, and exchange rate movements also affect numerous other aspects of an economy. These factors are interlinked and dynamic. Moreover, adjustments can take a long time, and short-term and long-term effects often differ. These factors preclude predictable, simple, and definite outcomes. Policy analysis and responses must be based on careful evaluation of the specific features of each economy and each episode of exchange rate adjustment.

Third, exchange rate changes are one of the demand management tools under a fixed exchange rate arrangement. Policies such as devaluation/revaluation are sometimes termed *expenditure switching* policies because exchange movements can shift demand between domestic goods and imports. The mixed empirical results demonstrate that countries need to be particularly careful when considering using exchange rate policies to achieve desired output growth, as the expenditure switching effect may not be substantial, and usually takes a long time to occur.

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