
CHAPTER 7: FOREIGN EXCHANGE RATE DETERMINATION

- 1. Forecasting using the BOP approach. Explain how a country's BOP can be used to forecast pressure to devalue its exchange rate under a fixed exchange rate regime.**

Under a fixed exchange rate system the government bears the responsibility to ensure a BOP near zero. If the sum of the current and capital accounts does not approximate zero, the government is expected to intervene in the foreign exchange market by buying or selling official foreign exchange reserves. If the sum of the first two accounts is greater than zero, a surplus demand for the domestic currency exists in the world. To preserve the fixed exchange rate, the government must then intervene in the foreign exchange market and sell domestic currency for foreign currencies or gold so as to bring the BOP back near zero.

If the sum of the current and capital accounts is negative, an excess supply of the domestic currency exists in world markets. Then the government must intervene by buying the domestic currency with its reserves of foreign currencies and gold. It is obviously important for a government to maintain significant foreign exchange reserve balances to allow it to intervene effectively. If the country runs out of foreign exchange reserves, it will be unable to buy back its domestic currency and will be forced to devalue.

For fixed exchange rate countries, then, business managers use balance of payments statistics to help forecast devaluation or revaluation of the official exchange rate. (Recall from Chapter 2 that a change in fixed exchange rates is technically called "devaluation" or "revaluation," while a change in floating exchange rates is either "depreciation" or "appreciation.")

- 2. BOP approach: forecasting the spot rate under a floating exchange rate regime. Explain how a BOP deficit on current account under a floating exchange rate regime creates downward pressure on a country's spot exchange rate. What is the role of a country's government in this case?**

Under a floating exchange rate system, the government of a country has no responsibility to peg its foreign exchange rate. The fact that the current and capital account balances do not sum to zero will automatically (in theory) alter the exchange rate in the direction necessary to obtain a BOP near zero. For example, a country running a sizable current account deficit with a capital and financial accounts balance of zero will have a net BOP deficit. An excess supply of the domestic currency will appear on world markets. As in all cases where goods are in excess supply, the market will rid itself of the imbalance by lowering the price. Thus the domestic currency will fall in value, and the BOP will move back toward zero. Exchange rate markets do not always follow this theory, particularly in the short to intermediate term.

- 3. BOP approach: forecasting the spot rate under a managed float exchange rate regime. Explain how a government could seek to influence its spot exchange rate under a managed float exchange rate regime.**

Although they still rely on market conditions for day-to-day exchange rate determination, countries operating with managed floats often find it necessary to take action to maintain their desired exchange rate values. They therefore seek to alter the market's valuation of a specific exchange rate by influencing the motivators of market activity, rather than through direct intervention in the foreign exchange markets.

The primary action taken by such governments is to change relative interest rates, thus influencing the economic fundamentals of exchange rate determination. In the context of the BOP equation, a change in domestic interest rates is an attempt to alter the term $CI-CO$, especially the short-term portfolio component of these capital flows, in order to restore an imbalance caused by the deficit in the current account. The power of interest rate changes on international capital and exchange rate movements can be substantial. A country with a managed float that wishes to "defend its currency" may choose to raise domestic interest rates to attract additional capital from abroad. This will alter market forces and create additional market demand for the domestic currency. In this

process, the government “signals” exchange market participants that it intends to take measures to preserve the currency’s value within certain ranges. The process also raises the cost of local borrowing for businesses, however, so the policy is seldom without domestic critics. For managed float countries, MNE business managers use BOP trends to help forecast changes in government policies on domestic interest rates.

4. Asset market approach to forecasting. Explain how the asset market approach can be used to forecast future spot exchange rates. How does the asset market approach differ from the BOP approach to forecasting?

The *asset market approach* assumes that whether foreigners are willing to hold claims in monetary form depends on an extensive set of investment considerations or drivers. These drivers include the following:

- 1) Relative real interest rates are a major consideration for investors in foreign bonds and short term money market instruments.
- 2) Prospects for economic growth and profitability are an important determinant of cross-border equity investment in both securities and foreign direct investment.
- 3) Capital market liquidity is particularly important to foreign institutional investors. Cross-border investors are not only interested in the ease of buying assets, but also in the ease of selling those assets quickly for fair market value if desired.
- 4) A country’s economic and social infrastructure is an important indicator of that country’s ability to survive unexpected external shocks and to prosper in a rapidly changing world economic environment.
- 5) Political safety is exceptionally important to both foreign portfolio and direct investors. The outlook for political safety is usually reflected in political risk premiums for a country’s securities and for purposes of evaluating foreign direct investment in that country.
- 6) The credibility of corporate governance practices is important to cross-border portfolio investors. A firm’s poor corporate governance practices can reduce foreign investors’ influence and cause subsequent loss of the firm’s focus on shareholder wealth objectives.
- 7) *Contagion* is defined as the spread of a crisis in one country to its neighboring countries and other countries that have similar characteristics -- at least in the eyes of cross-border investors. Contagion can cause an ‘innocent’ country to experience capital flight with a resulting depreciation of its currency.
- 8) Speculation can both cause a foreign exchange crisis or make an existing crisis worse. We will observe this effect through the three illustrative cases that follow shortly.

5. Technical analysis. Explain how technical analysis can be used to forecast future spot exchange rates. How does technical analysis differ from the BOP and asset market approaches to forecasting?

Technical analysts, traditionally referred to as *chartists*, focus on price and volume data to determine past trends that are expected to continue into the future. The single most important element of technical analysis is that future exchange rates are based on the current exchange rate. Exchange rate movements, similar to equity price movements, can be subdivided into three periods: (1) day-to-day movement, which is seemingly random; (2) short-term movements extending from several days to trends lasting several months; (3) long-term movements, which are characterized by up and down long-term trends. Long-term technical analysis has gained new popularity as a result of recent research into the possibility that long-term “waves” in currency movements exist under floating exchange rates.

6. **Forecasting services.** Many treasurers subscribe to rather expensive on-line foreign exchange forecasting services even if these services have a dubious record of consistently correct forecasts. What might motivate a treasurer to continue to use a forecasting service?

A treasurer might continue to use a forecasting service because “it exists.” If the treasurer does not use it, and guesses wrong on an exchange rate, the treasurer could be criticized for not using available “expert advice.”

7. **Cross-rate consistency in forecasting.** Explain the meaning of “*cross-rate consistency*” as used by MNEs. How do MNEs use a check of cross-rate consistency in practice?

International financial managers must often forecast their home currency exchange rates for the set of countries in which the firm operates, not only to decide whether to hedge or to make an investment, but also as an integral part of preparing multi-country operating budgets in the home country’s currency. These are the operating budgets against which the performance of foreign subsidiary managers will be judged. Checking the reasonableness of the cross rates implicit in individual forecasts acts as a reality check to the original forecasts.

8. **Infrastructure weakness.** *Infrastructure weakness* was one of the causes of the emerging market crisis in Thailand in 1997. Define infrastructure weakness and explain how it could affect a country’s exchange rate.

Infrastructure weakness refers to situations where public services (roads, railroads, electric power, impartial judicial system, minimum corruption by politicians, adequate police and fire services, reasonable health care systems, etc.) are dysfunctional. Lack of quality services increases the difficulty and risk of operating a business in that country, which in turn means domestic investment funds will tend to escape from the country and foreign investment funds will not enter. The flight of domestic currencies and the lack of foreign demand for the domestic currency force the exchange rate down (floating regime) or force the government to devalue (fixed exchange rate regime.)

9. **Infrastructure strength.** Explain why infrastructure strengths have helped to offset the large BOP deficits on current account in the United States.

The strength of the U.S.-infrastructure encourages foreign capital to invest in the safety of the United States. Foreign investors like the U.S. legal system, protection of intellectual property rights, freedom from ethnic strife, and other aspects of the U.S. infrastructure conducive to business development.

10. **Speculation.** The emerging market crises of 1997-2002 were worsened because of rampant speculation. Do speculators cause such crisis or do they simply respond to market signals of weakness? How can a government manage foreign exchange speculation?

“Hot money” is a term used to describe funds held in one currency (country) that will move very quickly to another currency as soon as it is deemed weak. Such a quick flow will create severe short-term pressures on the exchange rate., forcing depreciation or a devaluation. This run on the currency may cause others to also try to exchange their local currency holdings for foreign money, aggravating the already apparent weakness.

If a currency is fundamentally weak, a speculator such as George Soros may lead a flight from that currency. He will succeed if he is correct in his assessment of the fundamentals, but if he is in error he will lose on the speculation. In the Malaysian situation, Soros correctly assessed the situation, and by moving first was probably instrumental in setting in motion underlying factors that would have influenced exchange rates in any case – possibly at a later date. In other words, Soros did not cause the currency crisis in a fundamental sense, but he may well have caused (and advanced) the timing of what would have occurred eventually in any case.

- 11. Foreign direct investment. Swings in foreign direct investment flows into and out of emerging markets contribute to exchange rate volatility. Describe one concrete historical example of this phenomenon during the last 10 years.**

Cross-border investment flows are of two types: direct and portfolio. Investment flows into a country mean that foreigners are buying the local currency, which factor will drive up the value of that local currency. Such flows also give local entities, either private individuals and corporations or the central bank, foreign exchange balances that can be used to import goods and services or held as foreign exchange reserves. Together the investment inflows and their usage influence the country's exchange rate.

In the case of Thailand, investment flows went into the country before the 1997 crisis because Thai interest rates and expected returns on direct investments were high, because the outside world believed the Thai government would continue to support its currency, and because the outside world did not pay attention to the infrastructure weaknesses in Thailand. When Thailand devalued its baht, the outside world suddenly became aware of structural weaknesses and new investment inflows stopped at once. This precipitated the devaluation of the baht and the beginning of devaluation in neighboring countries.

- 12. Thailand's crisis of 1997. What were the main causes of Thailand's crisis of 1997? What lessons were learned and what steps were eventually taken to normalize Thailand's economy?**

The basic cause was a period of large imports of goods (deficit on current account) financed by inflows of foreign capital (surplus on financial account), including local borrowing in cheaper overseas markets. Maintenance of exchange rates of the various southeast Asian currencies had been expected. The crisis was exacerbated by what came to be called "crony capitalism" where many dealings were driven by friendships and relationships to governing officials rather than by market factors.

Once the crisis was apparent, financial managers of MNEs should rationally stop expansion of local facilities and try to repatriate cash balances in local currencies, if possible. This would cause the financial component of the balance of payments to worsen for the countries involved. For companies manufacturing for local consumption, a drop in local demand, possibly caused by an increase in costs if imported components were needed, would lead to cut backs in production and resultant unemployment, making the crisis-caused depression even worse.

- 13. Russia's crisis of 1998. What were the main causes of Russia's crisis of 1998? What lessons were learned and what steps were taken to normalize Russia's economy?**

This crisis was caused by a deterioration over the prior half decade or so of the Russian economy. During these years private and governmental Russian entities had borrowed large amounts of money abroad, most of which was denominated in U.S. dollars. To service this foreign currency debt Russia had to earn dollars from exports; however dollars earned, as well as dollars obtained by borrowing, flowed out almost at once in the form of capital flight. Furthermore, most dollar earnings came from the export of commodities, and commodity prices were falling worldwide, in part because of the Asian crisis.

Deteriorating conditions in Russia, combined with corruption and incompetence by governmental officials and continued capital flight meant that MNE financial managers should minimize the amount of cash held in any Russian subsidiary. In effect they should join the capital flight, although the form might be that of avoiding inflows of capital rather than flight of capital already in Russia. Plans for additional investments should be delayed until the Russian economy stabilized. Of course, such rational behavior on the part of managers of individual private entities worsens to some degree what is already happening.

14. Argentina' crisis of 2001-2002. What were the main causes of Argentina's crisis of 2001-2002? What lessons were learned and what steps were taken to normalize Argentina's economy?

By 2001 crisis conditions had revealed three very important underlying problems with Argentina's economy: 1) the Argentine peso was overvalued; 2) the currency board regime had eliminated monetary policy alternatives for macroeconomic policy; and 3) the Argentine government budget deficit – and deficit spending – was out of control.

The peso had indeed been stabilized. But inflation had not been eliminated, and the other factors which are important in the global market's evaluation of a currency's value – economic growth, corporate profitability, etc. – had not necessarily always been positive. The inability of the peso's value to change with market forces led many to believe increasingly that it was overvalued, and that the overvaluation gap was rising as time passed.

Argentina's large neighbor to the north, Brazil, had also suffered many of the economic ills of hyperinflation and international indebtedness in the 1980s and early 1990s. Brazil's response, the *Real Plan*, was introduced in July 1994. The real plan worked, for a while, but eventually collapsed in January 1999 as a result of the rising gap between the real's official value and the market's assessment of its true value.

Brazil was by far Argentina's largest trading partner. With the fall of the Brazilian real, however, Brazilian consumers could no longer afford Argentine exports. It simply took too many real to purchase a peso. In fact, Argentine exports became some of the most expensive in all of South America as other countries saw their currencies slide marginally against the dollar over the decade. But not the Argentine peso.