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FIJI'S WEIGHTED REAL EXCHANGE RATE

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Introduction

By definition, an exchange rate is a nominal measure, that is, the relative price of two currencies. Like any other price, it is essentially determined in the long run by demand and supply. Exchange rates have a direct bearing on the prices of traded goods and services, and thus have impacts on international trade flows as well as domestic prices. They also have a direct effect on capital flows and reserve movements. Developments in exchange rates play a crucial role in the Fijian economy, through their effect on exports, imports, tourism, foreign debt servicing and inflation.

A number of weighted real exchange rate indices have been developed and used since the mid-seventies to measure the appreciation or depreciation of a currency. If the focal point of the weighted real index is the study of the effects of exchange rate movements on the competitiveness of a country's exports and import-substitution, then a trade-weighted index would be appropriate. In other words, trade with the country's major trading partners would be given weights depending on the proportion and importance of their trade with this country. However, not only visible trade is considered in determining a weighted index. Other factors such as travel and private transfers, which add to a country's currency exposure, could also be considered. It is essential to remember that the kind of weighting method adopted depends on the aim in mind.

Before 25 February 1974, the Fiji dollar was linked to the pound sterling. For approximately fourteen months after this period, the central rate of the Fiji dollar was linked to the US dollar. Later, on 7 April 1975, a basic change was made in fixing the exchange rate of the Fiji dollar, which began to be determined in relation to a basket of currencies of Fiji's major trading partners. The exchange rate was then calculated daily in terms of the US dollar, which is Fiji's intervention currency. At present the Fiji dollar is linked to a basket of five currencies, namely the Australian dollar, NZ dollar, pound sterling, US dollar, and Japanese yen. Linking the Fiji dollar to a basket of currencies has imparted an element of stability to the external value of the currency. An in-depth analysis of the real exchange rate of the Fiji dollar has been made. A weighted real exchange rate index has also been constructed, showing the movements of the Fiji dollar since 1974.

Exchange rate indices

a) Nominal exchange rate index

This index reflects the nominal value of one currency in relation to another. The base period is one in which the exchange rate is considered 'appropriate'. The nominal exchange rate indices would then show the relative movement in the values of currencies at different points of time, when compared with the base period. The nominal exchange rate index, however, has a limited purpose, and cannot directly measure the international competitiveness of a country's traded goods sector.

In Fiji's case, two nominal exchange rate series have been compiled, one with its base set at 25 September 1974, and the other using a more recent base set at the March quarter of 1979. In these series the nominal exchange rate index has been derived by indexing the exchange rate of the Fiji dollar against each of the five currencies.

b) Relative price movement index

The index of relative price movements would help to analyse movements in domestic prices relative to foreign prices, and would provide some measurement of the change in price competitiveness of a given country with respect to its major competitors. An increase in prices in Fiji, relative to that of its trading partners, is equivalent to an appreciation of the Fiji dollar in terms of its effect on the balance of payments, given that there would be no change in nominal exchange rates. Likewise, a decline in the price level in Fiji, relative to that in its trading countries, is tantamount to a depreciation of the exchange rate. Relative prices are important to Fiji for many reasons. Tourist receipts, which constitute a major source of foreign exchange for Fiji, are particularly responsive to price changes, especially those which are due to exchange rate movements. Given the high proportion of imports within GDP, Fiji's inflation rate is also affected by inflation rates in her major trading partners. Approximately 60 per cent of Fiji's inflation is estimated to be attributed to imports.

The price indices chosen in Fiji's real effective exchange rate exercise have been the consumer price indices in respect of Australia, New Zealand, Japan, USA and Fiji, and the retail price index in respect of the United Kingdom. An index of relative price movements has been obtained by dividing Fiji's price index by the price index of each of the other trading partners.

c) Real exchange rate index

A real exchange rate index is, in effect, the nominal exchange rate index adjusted by relative prices. It measures the real appreciation or depreciation of a currency. It therefore shows the change in the underlying price competitiveness between a given country and its competitors. The index value at a certain point of time would represent the gain or loss in price competitiveness relative to the base period. This index would also give an idea of the purchasing power parity between a given country and its trading partners.

d) Weighted real exchange rate index

The weighted real exchange rate index is the weighted sum of exchange rate relatives subject to a certain base period. In simpler terms, it is the summation of the relative exchange rate indices against each currency, adjusted by the weights assigned to them. It summarizes in a single series the average value of a chosen basket of currencies relative to a base.

Methodology used in deriving indices

A weighted real exchange rate index, or an effective exchange rate index is always based on a weighted basket of currencies in which the weights are determined by the purpose for which the index would be used. If the country considers the balance of payments to be of crucial importance, the weights would be determined by the distribution of exports and imports. The time-span chosen for setting these currency weights should be adequate to capture recent developments, and should preferably cover a number of years. Periodic updating is necessary, since the pattern of trade with different countries would change with the passage of time. In view of this, it is necessary that the weighting system be reviewed to reflect the most recent pattern of trade.

There are various kinds of weighting methods used in arriving at the weights. The Reserve Bank of Fiji computes its weights on the basis of exports to a particular country, and imports from that country, tourist arrivals from and resident departures to, and interest payments on public and private sector debt to the countries whose currencies feature in the basket. The weights used by the Reserve Bank of Fiji have been reviewed four times since their implementation. These reviews have not been based on any particular time-span. The weights were reviewed as and when it was thought necessary to make such adjustments. The purpose of these reviews was also to find out whether or not the present weights assigned to different currencies in the basket are still appropriate for Fiji, in view of the changes that take place with respect to our trade, tourism, etc. The first exercise on Fiji's currency basket was undertaken in 1975, the second in 1981, the third in 1984 and the most recent in 1986.

Fiji's present currency weights, used since 7 March 1986, average data obtained for the years 1982, 1983 and 1984. The five major trading partners mentioned earlier (Australia, New Zealand, USA, UK and Japan) are still being considered for the country distribution of the weights. These five countries account for more than 80 per cent of total trade. Since 80 per cent of Fiji's foreign exchange earnings from tourism are from these five countries, the adjustment for travel gives some currencies more weight in the basket than they would have had in a visible trade-weighted basket. Having thus arrived at the weighted currency basket, the weighted real exchange rate index of the Fiji dollar against the currencies which constitute our basket has been computed on a quarterly basis. The weighted real exchange rate index gives an idea of the influence that exchange rate and price movements have on competitiveness, and hence is superior to a nominal exchange rate index for this purpose.

Exchange rate movements

An analysis of trends in the index since 1974 show that Fiji's real weighted exchange rate has fallen by over 15 per cent, but there have been three distinct phases. There was a general fall between September 1974 and December 1976 (of 8 per cent). Then the weighted real exchange rate index moved within a narrow band from this period until March 1985. From then onwards there was a downward trend, when the index fell by 9 per cent between March 1985 and September 1986. This period would include the 5 per cent devaluation of the Fiji dollar early in 1986. A seasonal trend is also evident in the first quarter of each year. This is due to higher relative price movements. The increases should be seen in the light of the declines in the fourth quarter of each year, which experiences price reductions by most supermarkets because of the Diwali and Christmas festivals.

Table 1 shows the percentage change in various exchange rate indices of the Fiji dollar relative to the major foreign currencies over the 12-year period from September 1974 to September 1986.

Table 1 Exchange and price movements, September 1974 to September 1986 (percentage change)

	Australia	NZ	UK	USA	Japan
Real exchange rate	14.3	-5.4	-26.9	-24.6	-50.4
Relative price movements	-20.9	-46.6	-31.6	9.6	37.9
Nominal exchange rate	44.5	77.1	6.9	-31.2	-64.0

Overall, real exchange rate movements show that the Fiji dollar has depreciated markedly against Japan, the UK, and the US but less so against the NZ dollar. In the case of Australia, although our inflation rates have been generally lower, the strength of our dollar has offset this depreciation. New Zealand's rates of inflation far exceeded Fiji's rates up to 1983, when the 'wage and price freeze' imposed in New Zealand helped to ease inflationary pressures. Despite the 20 per cent devaluation by the New Zealand authorities in July 1984, the Fiji dollar depreciated by 5 per cent (in real terms) against this currency. The fall in real terms against Japan would have been sharper had there not been a gain of 38 per cent in relative price movements. Except for the period around 1974, when Japanese inflation rates soared owing to the oil 'shock', Japan's rates of inflation have generally been lower than Fiji's.[1]

An analysis of developments over the year shows that the Fiji dollar has appreciated in real terms only against the Australian dollar. The weighted real exchange rate index shows a drop of almost 5 per cent, reflecting the 5 per cent devaluation of the Fiji dollar between 13 March and 2 May 1986. Nominal appreciations of 10 per cent and 1 per cent have occurred against the Australian and NZ dollars respectively, while we have depreciated by 10 per cent and 2 per cent against the pound sterling and US dollar. The 36 per cent depreciation against the yen is conspicuous. Because of strong economic fundamentals, the yen remained strong throughout the year.

Table 2 Exchange and price movements, September 1985 to September 1986 (percentage change)

	Australia	NZ	UK	USA	Japan
Real exchange rate	2.1	-7.6	-10.5	-2.2	-35.4
Relative price movements	-7.1	-8.8	-1.2	-0.4	-0.7
Nominal exchange rate	9.9	1.4	-9.5	-1.8	-35.8

Conclusions

This article explains the computation of Fiji's weighted real exchange rate index used by the Reserve Bank of Fiji, and analyses the trends in this index. It provides a framework for analysing the relationship between Fiji's real weighted exchange rate and various economic indicators.

The methodology used by the Reserve Bank of Fiji to derive exchange rate indices is relatively simple, and open to further refinement if it is to reflect economic developments in Fiji more adequately. Construction of indices is constrained by the availability of data, and it is apparent that there has been some trade-off between the methods used in deriving indices and theoretical considerations.

Further, Fiji's basket includes only five currencies. No attempt has been made to include in some way the 'missing' currencies, since their combined weight in the basket is relatively small. This article has also not intended to assess the advantages and disadvantages of the weighting scheme adopted.

It has been argued that a price index is not the ideal index of

[1] More detailed tables on exchange rate movements are presented in the original article.

changes in the costs of production, as competitive forces can equalize the prices through changes in profit margins. This has led some countries to adopt indices of unit labour costs in manufacturing industries. For Fiji's purpose, it is implicitly assumed that consumer prices are relevant to the determination of wages and factors of production, and that they have some effects on unit labour costs. It is also true that the consumer price index of a country covers only some of the products sold, and hence it does not reflect overall price movements.

In practice, Fiji's weighted real exchange rate index measures the performance of the Fiji dollar against the currencies of its major trading partners for a number of purposes, namely for the effect the movements in this index would have on the trade balance, on tourism, which is the mainstay of the economy, and on the servicing of our debt. Given the extent of the dependence of Fiji's economy on foreign trade and tourism, and its exposure to international influences, Fiji's exchange rate can be used as a powerful instrument of policy. However, adjustments in exchange rates cannot be used in isolation and, in order to be effective, this instrument has to be combined with an appropriate monetary, fiscal and incomes policy. The main objectives of exchange rate policy in Fiji are economic stability and equilibrium in the balance of payments. This tool should be used together with other financial policies which are aimed at achieving price stability and full employment.