AN ANALYSIS OF PEGGED EXCHANGE RATE BETWEEN BHUTAN AND INDIA

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Abstract

This paper analyzes the applicability of the theory of optimum currency area to the pegged exchange rate regime between Bhutan and India. Most of the optimum currency criteria hold true for Bhutan and India. The paper then analyzes the implications of establishing a free-floating exchange rate. It outlines the negative consequences and concludes that the present system is optimal. Any attempt to deviate from it will cause economic uncertainties.

Introduction

The financial sector in Bhutan has begun to develop only recently. Bhutan remained closed to the rest of the world till the early 1960s. Until then, there was limited barter trade with India and Tibet. Most internal transactions took the form of barter. Although some historical documents mention the use of coins in Bhutan during the pre-modern period, studies have shown that apart from the coins minted in Bhutan, Indian and Tibetan coins were in circulation. However, barter trade was predominant.

Even after it opened to the outside world in 1961, Bhutan did not have its own banknotes, but transactions were no longer confined to barter. India provided both financial and technical assistance to initiate development activities. Through this assistance, Indian rupees began to circulate in Bhutan. The rupee has been legal tender in Bhutan since then [1]. The use

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[1] For detailed information on coinage and monetization of Bhutanese economy, read "Coinage in Bhutan" in *Journal of Bhutan Studies*, Vol.1, No. 1 (Autumn, 1999) and "Monetisation of Bhutan" in

of money increased with the progress in development activities. A Secretariat of Finance was established in order to facilitate the flow of cash in the country. It was upgraded to a Ministry of Finance in 1968. In that same year, the Bank of Bhutan, which was the first commercial bank, was established. The Bhutanese banknote called Ngultrum [Nu.) was introduced in 1974. In 1975, the Royal Insurance Corporation of Bhutan was established[2] as the first non-bank financial institution. Developments continued apace. In 1982 the government passed an act that established the Royal Monetary Authority as the country's central bank. In 1988, the Bhutan Development Finance Corporation was established, and in 1993 a capital market came into existence with the opening of the Royal Securities Exchange. The Bhutan National Bank, the first private bank in the country was opened in 1996.

Exchange Rate and Dual Monetary System

Since the introduction of the Ngultrum, the Bhutanese government has pegged it at par with the Indian Rupee. Bhutanese currency has no independent exchange rate vis-à-vis other major currencies of the world. The Nugultrum's exchange rate vis-à-vis some prominent currencies such as the USD or Euro is replicated from the rupee's rate against these currencies. The peg is not an irrevocable one. The Bhutanese government can withdraw from it at any time in favor of its own independent floating exchange rate. It can also decide to peg the Ngultrum to some other currency. This has not happened till now and the exchange regime with India has been maintained for almost thirty years. Another important characteristic of Bhutan's financial sector is the circulation of two currencies. In addition to pegging its currency to the rupee, Bhutan allows free circulation of the

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[2] It was mandated with the task of carrying out all forms of insurance business, undertaking commercial and development projects.

rupee in Bhutan. Rupee is accepted as a legal tender. Bhutanese currency is also accepted in those frontier regions of India that have major business transactions with Bhutan. However, it is not accepted in rest of India. Bhutanese do not prefer one currency to the other; Ngultrum and Rupee are equally preferred. While it is hard to provide an accurate estimate, it can be assumed that the volume of rupees that circulate in Bhutan is much lower than Ngultrum. Therefore, in terms of circulation the rupee can be called a subsidiary currency.

Was and Is Pegging a Good Policy for Bhutan?

The crucial question is if this arrangement is beneficial to Bhutan. To answer this question, I will use the theory of optimum currency discussing some of the main economic characteristics of Optimum Currency Areas (OCA) to see if Bhutan's economic conditions satisfy them and therefore support its decision to establish and maintain a pegged exchange rate regime with India.

In his seminal article[3] on optimum currency theory (1961), Robert Mundell defines the optimal currency area as a domain within which exchange rates are fixed. His idea of optimum currency theory rests on the existence of a high degree of mobility of factors between countries and regions and between those that experience symmetric shocks from outside shocks such as oil crisis.

Factor Mobility

Free cross-border flow of labor between the countries enables them to smooth out unemployment problems and equalizes wages in different countries and regions. Countries that have free movement of labor between them offer best

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[3] For those readers interested in the article, it is entitled "A Theory of Optimum Currency Areas" which was published in The American Economic Review, Vol. 51, No. 4 (Sep. 1961), pp. 657-665.

circumstances for fixed exchange rates or for currency unions. There is no need to use exchange rate adjustment or other monetary instruments to address the problem of unemployment. Indian workers in Bhutan are required to get Bhutanese work permits. Regulations limiting the duration of employment and the number of Indian workers that Bhutanese firms can hire are strictly enforced. Given these facts, one would tend to think that the mobility of labor between Bhutan and India is limited. However, because the size of the Bhutanese workforce is very small, a large number of Indians are hired to work in Bhutan. The presence of so large a number of Indian workers is an indication that there is some mobility of labor[4], although the number would be even larger had it not been for these restrictions. Bhutanese workers, on the other hand can move freely in India[5]. Thus, the mobility factor as a determinant for having fixed exchange rate holds only partially true for Bhutan.
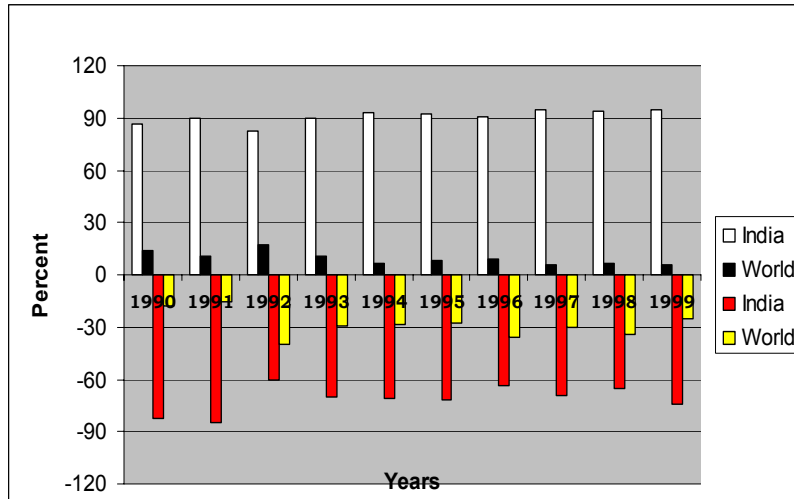
Trade Integration

A country with a high geographic concentration of its international trade will find it convenient to use a common currency in its transactions with its trading partner. This will reduce transaction costs. This criterion also validates Bhutan's decision to peg its exchange rate to the Indian rupee and to allow the circulation of Indian currency within Bhutan's boundaries. As is obvious from the chart below, over 90% of Bhutan's exports go to India and about 70% of its imports come from there. The upper panel of the chart shows the split in Bhutan's exports between India and rest of the world. The lower panel shows their relative in Bhutan's imports.

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[4] No official statistics were accessible at the time of writing this paper but I would estimate that over 50,000 Indians (close to 7% of Bhutan's population) work in Bhutan.
[5] There is no empirical evidence to support this. Because the workforce is so small and the work opportunities are better in Bhutan, Bhutanese rarely go to India to find jobs.

*Figure 2: Bhutan's Exports and Imports from India and rest of the world*

Symmetric Shocks

Countries are said to experience symmetric shocks if external changes like a sharp fall in the supply of oil or other economic goods affect all the countries in a similar way. For example, a sharp fall in the supply of oil could cause a decline in the outputs of various countries in a particular region. Countries facing symmetric shocks make better candidates for an optimum currency area and tend to have pegged or fixed exchange rates. When shocks are highly correlated, a depreciation of one country's currency against the other will not be effective in stabilizing outputs. Since both are experiencing the same shock, both will be induced to devalue and, as they are devaluing at the same time, neither of them would succeed in changing the relative prices of its own goods to make them more competitive in the market.

In order to see if these arguments hold true for Bhutan and India, I have chosen output growth for some years before and

after 1991 for analysis. In 1991, India experienced a balance of payments crisis. Its whole economy suffered from sluggish growth. A host of factors, including its own past policies were held responsible, but the crisis was triggered mainly by the oil shock of 1991. We see in figure 3 that Bhutan and India experienced a symmetric shock. Both experienced a sharp decline in growth of output in 1991 followed a largely similar upward trend thereafter. There is a high degree of correlation between the business cycles of both countries. Thus, prevalence of symmetric shock as a criterion for establishing fixed exchange rate is valid for Bhutan.

Figure 3: GDP growth rates for Bhutan and India
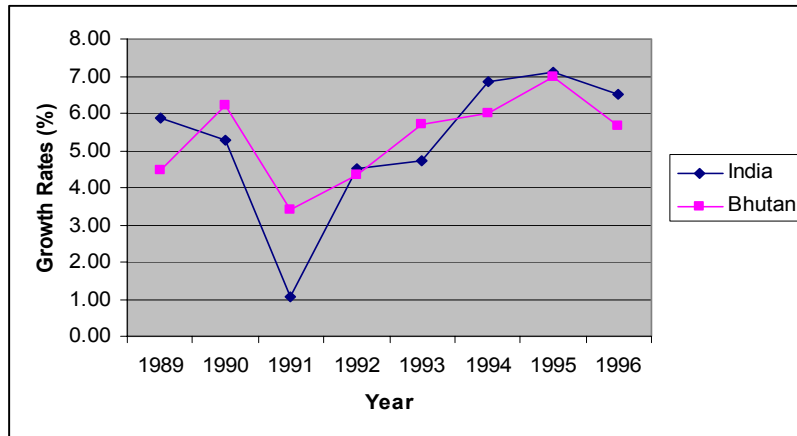
Source*: International Finance Statistics, IMF, 2001*

The Size and Openness of the Country

Following Mundell's article, Mckinnon (1963) proposed the size of a country and its openness as one of the main factors that facilitate formation of an optimum currency area. A small country is supposed to derive more utility from its currency if it is linked to some other major currency through a fixed exchange rate system. He also put forward the view that the more open a country, the more likely a candidate the country

is for an optimum currency area. He defines openness as a ratio of tradable goods to non-tradable goods. An economy with a higher ratio of tradable to non-tradable goods is considered more open. Economies that are highly open prefer fixed exchange rates. For them, a change in exchange rates will not be accompanied by any significant changes in the real competitiveness of the economy. Such small economies have very little or no influence at all in international trade. Exchange rate changes will not be accompanied by changes in the prices of its tradable goods. Therefore, manipulation of exchange rates will only cause fluctuations in domestic prices and will have no impact on the international competitiveness of the economy. Improvement in the trade balance for small economies can only be achieved by lowering domestic expenditures while maintaining the same level of outputs.

According to this criterion, Bhutan's decision to peg its currency to the rupee is valid. An economy is normally considered small when its influence in international trade is very insignificant. Bhutan's influence in international trade is obviously small or nonexistent. I have validated this idea of "small and open economy" by comparing Bhutan with its main trading partner, India. I have used Stanoeva's idea of smallness.[6] She measures the relative size of country i (Bhutan in my case) to country j (India) as their GDP ratio at constant price. But I have used the subscripts b and i, for Bhutan and India, respectively. I have used the GDP at factor cost in place of GDP at constant price[7]. I have chosen 1995 as the year of comparison as during this year both the economies grew at a rate of over 7% and experienced an inflation of around 10%. The ratio is very small, as seen below[8].

$SIZE_{bi} = GDP^t_b / GDP^t_i$

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[6] http://sceco.univ-aix.fr/cefi/colloques/stanoeva.pdf

[7] The GDP figures at constant prices were not readily available. GDP figures cited above are from *International Financial Statistics, IMF, 2001.*

[8] The GDP figures are in millions of rupees.

$SIZE_{ij} = 9610.60/10732700 = 0.00089 (0.09\%)$

For openness, I have chosen the ratio of Bhutan's total trade values (i.e. exports plus imports) to its GDP for the period 1990-99. The ratio is significantly large throughout the period confirming that Bhutan is a highly open economy. This further validates the optimality of the decision that Bhutan has taken to peg its currency.

Figure 1: Trade-GDP Ratio
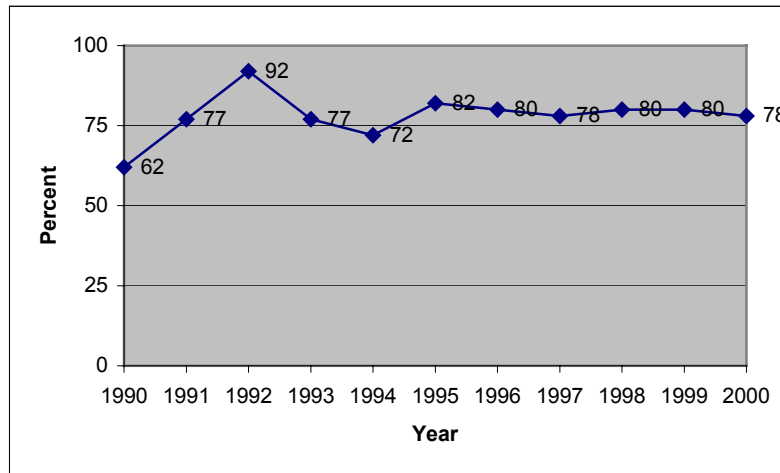
Source*: Compiled from IMF Financial Statistics, 2001*

Degree of Product Diversification

Highly diversified economies make better candidates for currency areas than less diversified economies. Diversification provides some insulation against a variety of shocks, thereby not necessitating frequent changes in exchange rates to stabilize the swings in economy arising out of different macroeconomic shocks (pp. 49, Kenen, 1969). Bhutan is not a diversified economy. Agriculture continues to be the dominant sector at over 38%[9] of its gross domestic product.

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[9] World Development Report, 2000

Over 80% of the population depends on agriculture for employment. However, the export market is dominated by the energy sector. In 1999, electricity constituted over 41% of Bhutan's total exports (Bhutan Trade Statistics, 2000). Given these facts, one can conclude that Bhutan is not a diversified economy. Therefore, Bhutan's decision to peg its currency to the Indian rupee is not valid according to this particular criterion.

Fiscal Integration

A higher level of fiscal integration between countries enables them to weather shocks through endogenous fiscal transfers from a low unemployment to a high unemployment region (Kenen, 1969). Such fiscal integration reduces the cost of fixed exchange rates. This criterion needs some qualification in the case of Bhutan. The country's fiscal policy is linked to that of India's only in the sense that many development activities in Bhutan are executed with assistance from India. When that assistance is not available on time, Bhutan faces some fiscal problems and undertakes some prudent deficit financing. Apart from this, Bhutanese and Indian fiscal policies are totally disconnected from each other. For instance, neither India nor Bhutan makes any fiscal transfers for unemployment problems prevailing in the other. Thus, fiscal integration as a criterion for the pegging of the Ngultrum to the rupee is not valid for Bhutan.

Most, but not all of the economic characteristics discussed in the theory of optimum currency areas appear to apply to the Bhutan-India case. Others require qualification. It can be concluded that the Bhutanese government's decision to peg its currency to the Indian rupee and to allow the rupee to circulate in Bhutan is an optimal policy. However, a qualification to this conclusion needs to be made to drive home the point. It could be argued that the present analysis has been done after Bhutan and India are already in a currency union and that the economic characteristics discussed above are bound to prevail as a result of that

union. These characteristics might not necessarily have existed before 1974 when the peg was introduced. I would argue, however, that the fact that India exclusively financed Bhutan's first two five-year plans and that Bhutan did not have much economic relationship with any other country at that time implies that the economic characteristics supporting a fixed exchange rate would have been in play much before 1974.

Despite apparent advantages, there are also some costs associated with such an exchange rate regime. Bhutan does not have an independent monetary policy, suffers some seignorage losses[10] and its political pride is undermined[11]. These costs may not necessarily be bad. The costs that Bhutan may have to bear if it were to have a free-floating exchange rate could be much more profound.

A Floating Exchange Rate: Are there any Advantages for Bhutan?

In addition to predominant economic concerns political considerations also play a role in the currency regimes in which countries adopt. Despite the theory of optimum currency areas, most countries seem to own their own currencies (Mussa, 1997, pp. 217). Political factors play an important role even in common currency areas. I will assume, for the sake of argument that the Bhutanese government is going to end the present exchange rate regime and disallow the circulation of Indian currency. It is going to have a free-floating exchange rate of its own. This assumption will allow

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[10] It would require the government to print more Ngultrums if there were no free circulation of rupees within Bhutan. The income, in the form of these new notes, would far exceed the cost of printing them. This income is known as Seignorage. So the free circulation of rupees causes some seignorage losses to the government.

[11] I have not discussed these costs at length, as they tend to be more or less same across geographical regions and a vast literature on this issue already exists.

us to discuss the potential negative impact of de-pegging the Ngutrum and the Rupee.

In this case, Bhutan would have an independent exchange rate and negative effects of a pegged rate discussed above would disappear. Bhutan's political pride would increase and it would be able to make its own monetary policies. It would be able to earn some revenue in terms of seignorage through the printing of more currency to replace the Indian notes that would stop circulating. While these would be positive consequences of a policy change, the new exchange regime could introduce a host of new costs and complications into the economy.

India would continue to be Bhutan's primary trading partner into the indefinite future. Since the rupee would no longer circulate freely in Bhutan, Bhutanese shoppers would be required to change currency every time they shopped in India. The transaction costs that would emerge could be very high. To the extent that it would be costly to use, a free-floating Bhutanese currency would fail to serve as a convenient medium of exchange. Hundreds of Bhutanese customers shopping in India would no longer be able shop using their own currency. Even if they were able to use the Ngultrum, the Indian shopkeepers would take uncertainties associated with the exchange rate into account and would always try to cover themselves by increasing prices to Bhutanese customers. The latter could suffer substantial welfare loss due to increased transaction costs or due to increased prices.

If the liquidity value of a currency declines, domestic nationals attempt to accumulate foreign bank balances. This happens even if the marginal efficiency of investment within domestic boundaries is greater than outside (Mckinnon, 1963, pp. 722). If the Bhutanese people face increasing transaction costs and other uncertainties from a free floating exchange rate, they would obviously find the liquidity value of the Ngultrum very low and might start opening accounts in

India. This could cause a flight of capital from the country, which in turn would lead to a decline in investments.

Exchange rate uncertainties could also cause a decline in the flow of investments from abroad. This has not been a concern to the Bhutanese economy so far. Foreign direct investments did not exist at all. But now that the government has put in place a Foreign Direct Investment Act and we are trying to open the economy to foreign investors, exchange rate uncertainty should be one of the concerns of Bhutanese policy makers. Economic literature so far has focused on two issues: the impact of exchange rates on investment, and the impact of volatility or uncertainty in exchange rates on the flow of investments. There has been no consensus on either of these issues among economists. Some argue that depreciation of the host country currency increases foreign direct investment and others argue that appreciation of the host currency does the same[12]. Similarly, there is no consensus on the impact of volatility of exchange rates on the flow of investment. Cushman (1985) developed a model in which he demonstrated that increased volatility of foreign exchange rates caused an increase in the flow of foreign direct investment. He argued that during periods of exchange rate uncertainty, FDI is preferred to exports as the means of serving the foreign market. In other words, business organizations prefer FDI to export-related activities when the exchange rate is very volatile. But Campa (1993) pointed out that investors are concerned with future expected profits and they postpone their decision to enter or exit as the exchange rate becomes more volatile. He provided empirical proof of

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[12] Exchange Rates and Foreign Direct Investment: An Imperfect Capital Markets Approach by Kenneth A. Froot and Jeremy C. Stein (in Quarterly Journal of Economics, Vol. 106, Issue 4, Nov. 1991); Real Exchange Rate Risk, Expectations, and the Level of Direct Investment by David O. Cushman (in The Review of Economics and Statistics, Vol. 67, Issue 2, May, 1985); and Entry by Foreign Firms in the United States Under Exchange Rate Uncertainty by Jose Manuel Campa (in The Review of Economics and Statistics, Vol. 75, Issue 4, Nov., 1993)

this argument by showing decline in the flow of investment to the US in wholesale industries, particularly in those where sunk costs of entry were high. Thus, risk neutral firms are deterred from entering foreign markets in the presence of high levels of exchange uncertainty. This view suggests that if a free floating Bhutanese exchange rate turns out to be very volatile, potential foreign investors would be deterred from investing in Bhutan. In that event, our policy of inviting foreign investment into Bhutan would fail and the overall economic development of the country could suffer.

Kenen and Rodrik find that one of the effects of short-term volatility in real exchange rates is the depression of the volume of international trade. If Bhutan's independent exchange rate were unstable, it would have an adverse impact on its international trade. There could also be other effects, perhaps more profound that might arise out of abolishing the currency union. Frankel and Rose conducted an empirical study of the effects of currency unions on trade and output. They found that a currency union increases trade by more than three times and does not cause any diversion of trade away from non-members (Frankel & Rose, 2000). They concluded that every unit of increased trade increases income per capita by more than 1/3 of a percent over a 20-year period and by a more significant amount over the longer run. They conclude that these two effects in turn have a major effect on output. In light of these arguments, it could be argued that Bhutan's withdrawal from the present regime, which is, in effect, a currency union, will result in a decrease in trade, income and output, i.e., we would forego the best economic options available to us.

Conclusion

Bhutan's economic characteristics seem to support the theory of optimum currency area. The current exchange rate regime is, therefore, an ideal policy for Bhutan. Any attempt to deviate from this policy could lead to economic complications. If an independent exchange rate is unstable, a series of

macroeconomic problems would arise, deterring investment and trade; ultimately this would slow the growth of the economy. Unless the Indian rupee becomes unstable, causing economic and political uncertainty in Bhutan, the country should continue to peg its currency to the rupee. Even in such a situation, given the high integration of trade with India, depegging would hardly immunize Bhutan from the effects of fluctuations in the Indian currency. The current exchange rate regime appears to serve Bhutan's interests well.

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