# NEPAL'S EXPERIENCE FOR CURRENCY UNIFICATION

## An examination of exchange rate performance for the Nepalese vis-à-vis Indian currency with special reference to the period of 1956 - 1960

**Nephil Matangi Maskay**

## Introduction

Nepal is a kingdom located in South Asia. It lies on the southern lap of the Himalayas occupying an area of approximately 147,181 square kilometers being roughly rectangular in shape with average width of 193 kilometers from north to south and about 885 kilometers from east to west. It is a country with diverse geography and climates. This diversity is also reflected in the veritable mosaic of ethnic groups that is a unique reflection of Nepal being at the crossroad of two great civilizations, i.e. the Indian and the Chinese civilization.

While Nepal geographically borders two countries, the harsh and foreboding Himalayan mountain range in the north contrasts with the rest of three sides including the open terrain to the south and has resulted in greater Indian, versus Chinese, influence. This influence has resulted in a close relationship with India that can be traced back thousands of years. The end result of this close relationship can be seen in the shared culture and heritage as well as the similarity in language between both nations.

Given close ties between the two nations, it is not surprising that there has also been a close economic relation. Since time immemorial there has been trading in the region. During the early part of the present Shah historical period which commenced in 1768, almost all trade occurred with India.[1,2] This resulted in common use of both the Nepalese Currency (NC) and Indian Currency (IC), especially along the border regions, and characterized a period of dual currency of partial IC-ization in Nepal. However, by 1966 this period

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of dual currency of partial IC-ization was "eliminated" with only the NC remaining in Nepal as the sole legal tender (NRB 1996).

This paper explores the critical period in Nepal's financial history of 1956-1960, through an examination of the NC-IC exchange rate performance, which significantly contributed to the goal of a unified currency in Nepal. This period commenced with the establishment of the Central Bank of Nepal, the Nepal Rastra Bank (NRB), in 1956 and includes a discussion of the policies of the Nepalese Government that led to stability in the NC-IC exchange rate in 1960. This stability in NC-IC exchange rate facilitated the expansion of the NC area and laid the crucial foundation for the elimination of the dual currency period of partial IC-ization in Nepal.

The paper proceeds as follows. The next section discusses selected characteristics of the Nepalese financial environment during the mid-twentieth century while the third section describes the Nepalese exchange rate performance vis-à-vis the IC with special reference to 1956 - 1960 period. The fourth section puts forward some observations while the last section summarizes and concludes.

## Characteristics of the Nepalese Financial Environment during the mid-twentieth century

The structure of the Nepalese financial system had not changed drastically over the course of the first half of the century and can arguably be described as having been unchanged over the last centuries. The Nepalese financial environment can be characterized as being underdeveloped. While the lack of national income data prevents the standard measure of examining the monetization of the economy, an alternative proxy, is taken from the perspective of number of financial institutions existing at that time.[3] The first modern financial institution in Nepal with a wide range of banking and financial activities, Nepal Bank Limited (NBL), was established only in 1937.[4] NBL had a number of bank branches in major cities of Nepal that was extended to 12 in 1956 and further up to 23 in 1960. Likewise in 1957 the Industrial Development Corporation came into existence, which was subsequently converted to Nepal Industrial Development Corporation (NIDC) in 1959. However, NIDC was simply a credit institution and thus did not play the role of financial intermediation by also mobilizing deposits. Some comparative ratios of Nepal, UK and India demonstrate the level of financial development at that time. Nepal had 400,000 persons per bank branch while it was 4,000 and 70,000 for UK and India respectively. Additionally, the per capita deposit at that time in Nepal was NRs. 8, or less than a dollar, compared to 367 dollars for UK and 9 dollars for India (NRB 1961). These facts therefore suggest that the Nepalese financial system was in the embryonic stage and thus the description of the Nepalese economy being "predominantly a cash-economy" is appropriate (NRB 1965).

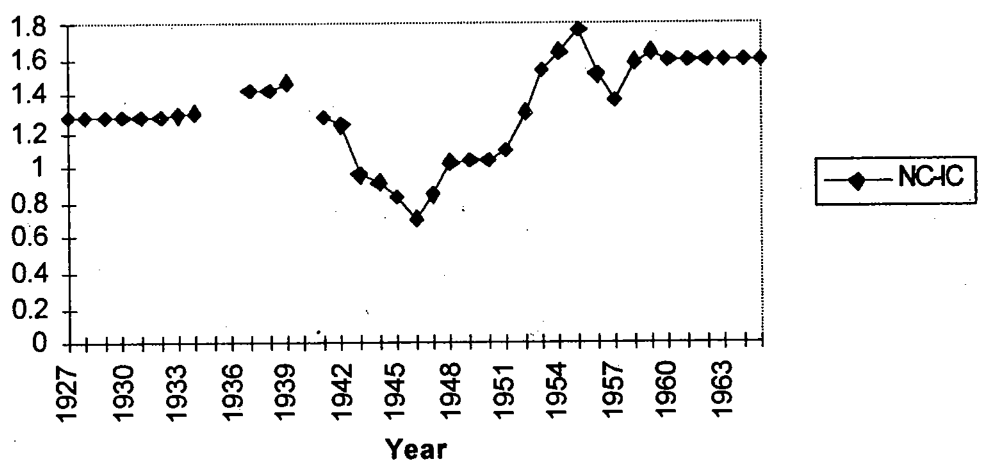
Due to the low level of Nepalese financial development resulting in a limited number of Nepalese financial institutions, access to NC for even the basic transaction purpose was difficult. The porous and open border with India coupled with the significant degree of trade interaction with that country, forced the acceptance of use of IC in Nepal.[5] The greater use of IC may also reflect the relatively greater level of commercialization, industrialization and financial development of the Indian economy vis-à-vis the Nepalese economy during that early time especially after the overthrow of British rule in India. Thus the dual currency period of partial IC-ization existed in Nepal for many years with this scenario being a manifestation of typical geographical constraints faced by the country. It is interesting to observe that the IC was not used equally throughout Nepal and may have even had separate currency areas: in Kathmandu, NC was prevalent while outside Kathmandu, IC was prevalent (Tuladhar 1955). Nonetheless, during the dual currency period of partial IC-ization in Nepal, both the NC and IC largely existed sided by side.

As both currencies largely existed side by side, the relative pricing between both currencies was essential for imparting confidence in both the NC and the IC. While the actual exchange rate experience will be described in the next section, some elaboration on the mechanics will be made by which the NC-IC exchange rate was arrived at. The NC-IC exchange rate was market determined which was free of government control. It was being operated by private individuals, popularly known in Nepal as *Tankadharias* or *Sarafis*, along with Marwaris (merchants of Indian origin) until 1960. In other words, up to 1960 a flexible, market determined NC-IC exchange rate existed which, in general, is assumed to accurately reflected the market exchange value (Shrestha 1966).

## Nepal's exchange rate performance vis-à-vis the IC with special reference to the period of 1956 - 1960

The prior section suggested that the NC-IC exchange rate was market determined. Because of this, the NC-IC exchange rate performance during that time is assumed to accurately capture the changes in expectations and confidence on the NC and IC. While the period 1956-1960 is given special focus, both the preceding and post-period are also viewed. The graphical presentation of NC-IC exchange rate for 1927 - 1965 is given below (five year prior and post the 1932 - 1960 period are arbitrarily chosen to indicate contrast in exchange rate volatility):

**NC-IC Exchange Rate Movement 1927-1965**




Note:

1. Data are Annual Averages obtained from Pant (1964) for 1927-1959. Published data on the NC-IC exchange rate began in 1926, the year the official government paper, *Gorkha Patra*, began publication.
2. Data for 1935, 1936 and 1940 of NC-IC exchange rate were not available.
3. Data on NC-IC exchange rate are obtained from Quarterly Economic Bulletin of NRB for 1960 - 1965.

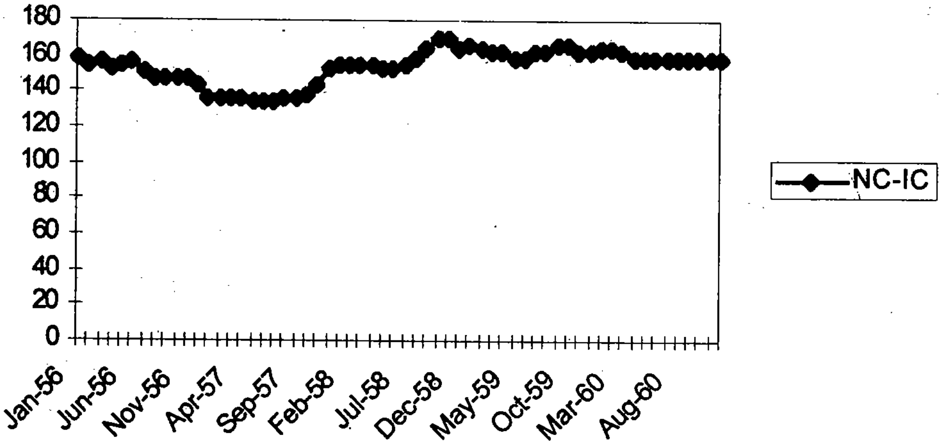
*Pre-1956*

Immediately preceding 1956, for the period up to 1932, there was volatility in the NC-IC exchange rate which appears to have commenced from the liberalized economic policy of Prime Minister Juddha S. J. B. Rana and seem to have accelerated after the great Kathmandu earthquake in 1933; prior to 1932 the NC-IC exchange rate had been fixed at 128 NC to 100 IC in 1877 by the Rana Prime Minister Ranoddip Singh (Hamal 1994).[6] From 1932, there appears to be four distinct trends in the NC-IC exchange rate as seen in the graph above[7]: a period of NC-IC depreciation (1932 - 1939) which was likely driven by the deficit in the trade balance resulting from liberalization of import of luxury goods such as motor cars, radio sets and alcohol; a period of NC-IC appreciation (1940 - 1946) with the occurrence of the Second World War and the precipitous decline in confidence of the IC; a period of NC-IC depreciation (1947 - 1950) from the increase in government expenditures and the decline in IC remittances of Nepalese soldiers[8]; and finally a period of sharp NC-IC depreciation (1951 - 1955) where there was an acceleration in the decline of the NC-IC exchange rate which resulted from increases in development expenditure of the Nepalese Government and reached a high of 185 NC for 100 IC in June 1955.

*1956-1960*

It was in 1956 when the Nepalese Government acknowledged the threat of an unstable exchange rate resulting from the dual currency period of partial IC-ization and therefore attempted to stabilize the NC-IC exchange rate and, through it, move towards the goal of a unified currency (NRB 1996). It may be because of this that the subsequent period of NC-IC exchange rate, while volatile, did not have a definite trend.[9] This can be seen visually in the chart below:

**NC-IC Exchange Rate for 1956:1 to 1960:12**




Note:

1. Data are obtained from Pant (1964) and Shrestha (1966).

The political resolve was matched by concrete action on the part of the Nepalese Government. A definitive example of this was the establishment of the NRB in April 1956 by Act of 1955 (hereafter simply called the NRB Act). In the start of the preamble to the NRB Act, it states:

> Whereas it is expedient to insure proper management for the issue of Nepalese currency notes, to make proper arrangement for the circulation of Nepalese currency throughout the Kingdom and to stabilize the exchange rates of the Nepalese currency in order to ensure the convenience and economic interests of the general public;..

The commencement in the preamble to the NRB Act gives emphasis to both increasing circulation and confidence of NC as well as maintaining exchange rate stability. Likewise in 1956 the Nepalese Government pursued additional actions to reach the stated goal such as announcing that it would pay half of the salaries of government employees living in the IC area in NC. Nonetheless, the situation of having IC predominant in Nepal still existed and can be seen in 1957 where "72.9 percent of total deposits and 81.1 percent of total credits in Nepal Bank Limited (the only commercial bank of the country at that time) were denominated in Indian currency" (Demetriades and Luitel, 1996, p. 357).

However, during the process of managing the exchange rate, the Nepalese Government deliberately attempted to place the value of NC-IC far below the market-determined exchange rate. This dual exchange rate policy for NC-IC was aimed to facilitate the procurement of "approved goods" such as essential commodities, books, medicines and airline tickets (NRB 1961).[10] But, the NC-IC exchange rate was utilized in both ways. For example, the Ministry of Finance announced that NC would henceforth be accepted at all government treasuries in the Tarai districts for payments of government revenue. In this way, the Nepalese Government decided to accept taxes for fiscal year 1956/57 and 1957/58 from Tarai at the rate of 128 NC for 100 IC; this was considerably below the market rate of NC 142 and NC 147 respectively for 100 IC. While the official rate for tax payments from Tarai was subsequently revised to 150 NC for 100 IC, it again lagged the market rate, which was then 164 NC for 100 IC.

These policies were inconsistent with the economic environment prevailing at that time. This was because the rate set by the Nepalese Government was substantially different from the market rate, which proved the opportunity for currency arbitrage. This can be seen from the above example of government directive to collect land revenue at the official rate. However collection of revenue was done indirectly through representatives called *Zamindars*. These *Zamindars* collected the revenue in IC at the official rate and sold it in Kathmandu at the market rate pocketing the difference as windfall profit (Pant 1964).[11] This policy of having a dual exchange rate was subsequently canceled with massive losses of IC reserves at NRB (NRB 1961).

It was in August 1959 that both the necessity for a single currency and the need for greater confidence in NC were realized. Thus an Exchange Management Committee was formed by Ministry of Finance with the purpose of proposing to the Nepalese Government measures to achieve exchange rate stability and a unified currency. This resolve had in part a political genesis where the NC government publicly committed to a unified Nepalese currency that can most visibly be seen in the Finance Minister's Budget Speech for 1959/60 (as reported by Pant (1964)). This climaxed in 1960 by enunciation of policies as (NRB 1961):

> HMG declared NC fully convertible into IC at the rate of IRs. 100 for NRs. 160 .. At the same time, IC accounts maintained by HMG with the Bank were converted into NC accounts. All internal dues, except those under contracts and royalties, payable to HMG, were collected in NC only and all internal disbursement of HMG were also made in NC only all over the country with the exception of five districts where the facility did not exist at that time. An Act passed in 1957 with a view to extending circulation of NC was enforced .. it made non-acceptance of NC in any kind of transaction illegal."

The measures bolstered the confidence in NC. These were also matched by policies of the Nepalese Government to put forth both a more conservative monetary policy and a fiscal policy that aimed at raising government revenue faster than the projected increase in expenditures (Pant 1964). Further, the Nepalese Government put forth legal measures for active enforcement of the Act passed in 1957 to increase the circulation of Nepalese currency, which was further addressed in 1960 by the promulgation of the Act to control foreign exchange transaction.[12] The later act is elaborated since transaction of foreign exchange was now regulated through authorized dealers "who must act under the general or special rules or orders laid down by the Nepal Rastra

Bank" with foreign exchange transactions, other than with authorized dealers, being "prohibited" (NRB 1961). Also, to facilitate exchange of NC to IC and vice versa, NRB opened its branches in different part of the country that, by July 1960, included 3 branches, 5 sub-branches, 9 exchange depots and 1 exchange counter along with a number of *Ghumti* (moving) counters (NRB 1961 and 1996). These measures increased the circulation of, and the confidence in, the NC ultimately resulting in limitation of the volatility of NC-IC exchange rate movement. While no explicit data are available, the double-digit growth of NC money supply during the period accompanied by insignificant inflation suggests that a large part of the money supply growth was absorbed by substitution of IC for NC (NRB 1961).[13] Importantly, these measures set the foundation for the attainment of the target for a unified currency in Nepal.

*Post-1960*

From 1960 till the present there has been stability in the NC-IC exchange rate. This stability reflected confidence in the relative value of NC and IC and facilitated expansion of the NC area. Further, the first NC-IC exchange rate change, an appreciation from 160 NC to 101 NC for 100 IC, took place on 6 June 1966. This was a critical blow to IC holdings and resulted in a sharp loss of confidence in IC. This therefore accelerated the use of NC and led to a unified currency in Nepal in 1966 (NRB 1996).[14] It should be noted that while Nepal's exchange rate policy has gone through different phases, the NC-IC exchange rate has essentially remained pegged (Maskay, 2000). That is, there have been only seven adjustments in the exchange rate - roughly one every five and a half years (NRB, 2000) - with the last one having occurred on 1 February 1993. The stability in the exchange rate had been a crucial element in maintaining confidence in NC.

## Some Observations

The preceding experience of the NC-IC exchange rate indicate that the objective of attaining stability in the NC-IC exchange rate, and thereby moving closer to the goal of a unified currency, had been achieved. This resulted in the delivery of confidence in the NC and thus the "elimination" of the dual currency period of partial IC-ization in Nepal (NRB 1996). This is a crucial achievement in the development of Nepalese financial history and warrants some observations.

A first observation is that the NC-IC exchange rate during the 1927 to 1965 period in general appears to have been driven by the demand and supply for those currencies. That is, with greater demand for NC, or alternatively the greater supply of IC, this resulted in an appreciation of NC-IC exchange rate and vice versa.[15] It seems also that during the dual currency period of partial IC-ization, there occurred forms of both asset and currency substitution. That is, asset substitution (i.e. using the IC as a store of value) occurred throughout the period especially with no easy availability of NC outside the Kathmandu Valley (Hamal 1994). Currency substitution occurred with both the expansion of NC area, which accelerated after the establishment of NRB in 1956, and high and variable inflation in both Nepal and India.[16]

A curious aspect during the 1956 - 1960 period was the volatility, or the lack thereof, of the NC-IC exchange rate. Given the unstable situation in Nepal during the multi-party period of the 1950's which commenced in 1951 with a political regime shift from the autocratic Rana rule to the democratic rule guided by His late Majesty King Tribhuvan Bir Bikram Shah, the present King's grandfather, it was expected that an unstable currency demand would result in massive volatility and depreciation of the NC-IC exchange rate (Pilbeam 1998). However, this was not the case as demonstrated by the relatively stable NC-IC exchange rate during the above-mentioned period. There are a number of possible explanations as to why this exchange rate experience occurred such as the underdeveloped financial (and thus currency) markets in Nepal that were unable to incorporate new and changing information. However, a more likely explanation is that both countries were simultaneously experiencing political upheaval and thus sending out similar information. In India great political upheaval was reflected in independence from the United Kingdom in 1947 and the developments thereafter. Because of this, it seems that the limited NC-IC exchange rate volatility resulted from the relative political stability between Nepal and India, although each having absolute political instability.

It is also interesting to examine the role of currency speculators. Currency speculation in Nepal has a long history, which can be seen by the actions of Kaji Narayan Bhakta in 1946 who often withheld supplies of IC in an attempt to influence the exchange rate in his own favor (Pant 1964). During the period of 1956 - 1960 currency speculation also played a part in accelerating the episode of NC-IC exchange rate crisis by money changers who arbitraged between the official and market exchange rates resulting in massive depletion of IC currency in Nepal. However, the currency speculation can be labeled as stabilizing. This is because the speculation, which occurred during the 1956 - 1960 period, put pressure for the official exchange rate to move closer to the market exchange rate.

A final observation concerns the NC-IC pegged exchange rate policy implemented by the Nepalese Government that continues up to today. The fixidity of the exchange rate policy was appropriate given the dual currency situation of partial IC-ization, to stabilize expectations (this is consistent with many literature in this field such as that of Calvo and Vegh (1992)). This was all the more effective since it was supported by credible policies and actions of the Nepalese Government, as mentioned above. Further, the continuing stability of the NC-IC exchange rate gives evidences for the appropriate choice of the exchange rate, given the characteristic of limited controls on labor and capital mobility between both countries, which is partially reflected by the 1950 Treaty of Peace and Friendship, and significant Indian share of Nepalese trade (Maskay, 2000). In other words, the choice of the pegged Nepalese exchange rate vis-à-vis the IC was appropriate, both at that time and up to the present.

## Summary and Conclusion

Nepal's experience for currency unification during the period of 1956 - 1960 is a significant episode in the country's financial history that significantly contributed to the goal for eliminating the dual currency period of partial Indian Currency (IC)-ization. This event was successful in part due to action by the Nepalese authorities, which simultaneously imparted confidence to the Nepalese Currency (NC) and increased circulation of the national currency. Both these results were supported by the appropriate choice of the pegged NC-IC exchange rate regime, which stabilized NC-IC exchange rate fluctuations and can be evidenced by its existence even up to today.

However, presently in Nepal there have been some disturbing trends. One disturbing trend is the increase in the amount of IC in Nepal (i.e. possibly a return to period of partial IC-ization); for example Sharma (1998) has estimated the presence of IC to be 40.72% of the overall business transactions in Nepal.[17] While the reasons for this trend are not elaborated in great detail, they may be due to the larger volatility in the exchange rate of NC vis-à-vis other hard currencies.[18] This volatility of the NC is imported from the volatility of IC vis-à-vis those hard currencies through the rigid exchange rate of NC-IC. This volatility of NC vis-à-vis other hard currencies has introduced uncertainties for the future value of those hard currencies and may have been detrimental to Nepal's foreign trade (other than with India); this is all the more likely as Nepal does not presently have a well developed currency future's market. Because of this, there have been discussions to reassess the present exchange rate regime in favor of a flexible exchange rate regime (many examples such as IPRAD (2000)). The rationale for having a flexible NC-IC exchange rate is that with greater diversification in Nepal's trade pattern, a flexible exchange rate policy will allow the NC to adjust and accurately reflect its value with other currencies. However, the growing level of partial IC-ization suggests that a flexible NC-IC exchange rate may be unstable, via instability in currency demand, leading to a loss on confidence in NC and thus its implementation may be a repeat (i.e. *deja vu*) with the past NC-IC exchange rate instability. Because of this, moving in the direction for assessing Nepal's exchange rate policy vis-à-vis the IC necessitates an in-depth and comprehensive study.

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## Notes

1 This reality for Nepal did not change but in the last quarter century where the trade with India has diminished from approximately 100% to provisionally 40% of *Nepalese* foreign trade in the 1999/2000 fiscal year (*Economic Survey* of His Majesty's Government Ministry of Finance, 2000/2001).

2 At this stage, mention should be made that trade with Tibet did occur however, due either to inherent barter system and perhaps data problems in the later period, this is not accurately reflected in the available trade statistics.

3 The earliest data on GDP at current prices are available only from 1961/62 that was then Rs. 3,682 million. With narrow money in July 1962 (July 1961) being 244 million (205 million) the ratio of financial development

at that time was 6.6% (5.6%). This figure, however, may underestimate the level of financial development since it does not include IC. Nonetheless, it can be concluded that the Nepalese economy was financially underdeveloped (NRB 1965).

4 While the first legal financial institution in Nepal was the establishment of the *Tejarath Adda* in 1877, it faced problems catering to the general needs of the population as it had the sole objective of providing credit only, with deposits not being mobilized (NRB 1996). Because of this, it can be argued that the first actual financial institution that played the important role of financial intermediation was Nepal Bank Limited, which was established in 1937.

5 While this situation suggests why the dual currency situation persisted for so long, a contrary explanation is given by Pant (1964, p.36) who states that "because of their (Rana's) investment and bank deposits in India, the Ranas found the dual currency period extremely convenient and made no effort to unify the Nepalese currency." In other words, this dual currency period may have facilitated the capital flight of the Ranas from Nepal to India.

6 Evidence suggests that there had been some fluctuations in NC-IC exchange rate however the relationship had been stable with practically no divergence between the official and market rates (Shrestha 1966).

7 This is also shown by simple statistical analysis given in Appendix 1.

8 Prior to 1932 the value had been maintained by the metallic value of the currency however the increasing use of paper money eliminated this anchor. For IC, paper currency was brought into circulation in the early 1860's in accordance with the Paper Currency Act of 1861. However, the issue of NC notes by *Sadar Mulukikhana Adda* in 1945 (NRB 1996) may have exacerbated the NC-IC exchange rate fluctuations as there was now no explicit value anchor for the NC as well as IC currency.

9 This can also be seen with all NC-IC exchange rate fluctuations over the period of January 1956 to December 1960 being in a relatively tight band of ± 6.67% only.

10 This period is also described as the Exchange Subsidy Program of 1957 - 1957 by numerous authors such as Pant (1964) etc.

11 A simple numerical example will clarify this where the numbers were chosen arbitrarily for simplicity. If land tax was 128 NC, *Zamindars* would collect it, however in IC, at the official NC-IC exchange rate, which was 128 NC for 100 IC. Going to Kathmandu with 100 IC,

*Zamindars* would convert the 100 IC at the market rate for 142 NC. *Zamindars* would then pay the Nepalese Government 128 NC and pocket the difference of 14 NC as windfall profit.

12 This was later supplemented in 1962 with the Foreign Exchange (Regulation) Act.

13 The other source of non-inflationary monetary growth may be the monetization of the economy.

14 At this point, it is interesting to note that the appreciation of the NC-IC exchange rate to 101 NC for 100 IC appears to have been inconsistent with the economic fundamentals at that time. It resulted in a sharp decline in IC reserves with the balance of payments situation, in respect to India, becoming vulnerable and weak. This eventually resulted in a devaluation of the NC-IC exchange rate to 135 NC for 100 IC on December 6, 1967 (NRB 1996). However, the Nepalese government maintained this misaligned exchange rate for eighteen months by "administrative subtlety" (i.e. various fiscal, monetary, licensing and exchange rate measures) that mitigated the adverse effect of the appreciation. The developing level of the country's financial sector may have further facilitated this. Nonetheless, the excessive appreciation of the NC-IC exchange rate in 1966 may have reflected a preoccupation with pursuing the goal of a unified currency in Nepal (Maskay, 2000).

15 An example will clarify this. Given, *ceteris paribus*, a greater demand for IC to, say, finance educational expenditures, this shall lead to an increase in demand, and thus the price, of IC vis-à-vis NC and therefore a depreciation of the NC-IC exchange rate (Pilbeam 1998).

16 The concept of currency substitution is elaborated in many papers such as Calvo and Vegh (1992).

17 The significant presence of IC is also consistent with a preliminary report by NRB in this regard.

18 Another plausible reason may be partly due to the current political scenario resulting in bank branch closures especially in the rural areas of the country. This situation may have led to the more common use of the IC. This is also true due to the growing number of Nepali seasonal workers in India who return to Nepal with IC and need the facility to exchange IC to NC. Thus, this may be another plausible reason for the increasing prevalence of IC in Nepal.

## References


Calvo, Guilliermo A. and C. A. Vegh. 1992. "Currency Substitution in Developing Countries: An Introduction." *IMF Working Paper.* WP/92/40.

Demetriades, Panicos O. and Kul B. Luintel. 1996. "Banking Sector Policies and Financial Development in Nepal." *Oxford Bulletin of Economics and Statistics.* 58:2, 355-372.

Hamal, Lakshman B. 1994. *Economic History of Nepal: From Antiquity to 1990.* India : Ganga Kaveri Publishing House.

His Majesty's Government of Nepal. 1955. *Nepal Rastra Bank Act.*

His Majesty's Government of Nepal, Ministry of Finance. 2000/2001. *Economic Survey.*

Institute for Policy Research and Development. "Implementation of Full Convertibility of the Nepalese Rupee in the Capital Account." March 2000. *Economic Review (Nepal Rastra [Central] Bank).* Occasional Paper Number 12, 44 - 98.

Maskay, Nephil Matangi. 2000. *The Exchange Rate Policy of Nepal vis-à-vis the Indian Currency.* Nepal: Nepal Foundation for Advanced Studies.

Nepal Rastra Bank. 1961. *Report of the Board of Directors to His Majesty's Government for the Fiscal Years: 1957-58, 1958-59, 1959-60 and 1960-61.*

Nepal Rastra Bank. 1965. *Report of the Board of Directors to His Majesty's Government for the Fiscal Years: 1961-62, 1962-63, 1963-64 and 1964-65.*

Nepal Rastra Bank. 1996. *40 Years of Nepal Rastra Bank.* Kathmandu, Nepal.

Nepal Rastra Bank. 2000. Quarterly Economic Bulletin.

Pant, Pushkar Nath. 1964. "The Dual Currency System in Nepal." Unpublished Ph.D. Dissertation. Vanderbilt University.

Pilbeam, Keith. 1998. *International Finance 2nd edition.* Hong Kong: Macmillan Press Ltd.

Sharma, Yadav Prasad. 1998. "Demand for Money in Nepal: 1965-1994." Unpublished Ph.D. Dissertation. Banaras Hindu University.

Shrestha, B. P. 1966. *An Introduction to Nepalese Economy*. Kathmandu: Ratna Pustak Bhandar.

Tuladhar, Sugat Das. 1955. *The Problem of Currency, Exchange and Banking in Nepal.* Kathmandu: Nepal Press.

## Appendix 1

These summary statistics are given below:

| | 1932 - 1960; Full Period | 1932 - 1939; Sub-Period: Depreciation | 1939 - 1946; Sub-Period: Appreciation | 1946 - 1955; Sub-Period: Depreciation | 1955 - 1960; Sub-Period: Mixed |
|---|---|---|---|---|---|
| Average | 1.276827 | 1.373333 | 1.058571 | 1.201 | 1.582917 |
| Median | 1.3 | 1.375 | 0.96 | 1.065 | 1.59375 |
| Standard deviation | 0.289824 | 0.089368 | 0.278414 | 0.350886 | 0.129349 |
| Volatility | 0.226987 | 0.065074 | 0.263009 | 0.292162 | 0.081715 |

Note: 1. Volatility is calculated as the ratio of standard deviation to average.

The prior chart captures volatility in NC-IC exchange rates. However, it does not give a measure of direction of exchange rate changes. This is captured below :

| | 1932-1960; Full Period | | 1932-1939; Depreciation | | 1939-1946; Appreciation | | 1946-1955; Depreciation | | 1955-1960; Mixed | |
|---|---|---|---|---|---|---|---|---|---|---|
| # Depreciation | 14 | 56% | 4 | 80% | 0 | 0% | 8 | 89% | 2 | 40% |
| # Appreciation | 9 | 36% | 0 | 0% | 6 | 100% | 0 | 0% | 3 | 60% |
| # Constant | 2 | 8% | 1 | 20% | 0 | 0% | 1 | 11% | 0 | 0% |
| Total | 25 | 100% | 5 | 100% | 6 | 100% | 9 | 100% | 5 | 100% |

Note:

1. Data are obtained from Pant (1964) for 1926 - 1959. 2. Data for years of 1935, 1936 and 1940 are not available.
3. Data are obtained from *Quarterly Economic Bulletin* of NRB for 1960-1965.

The figures suggest consistency with the description given for those periods.

## Appendix 2

**NC-IC Exchange Rate for 1956:1 to 1960:12**

| Month/Year | 1956 | 1957 | 1958 | 1959 | 1960 |
|---|---|---|---|---|---|
| January | 160 | 136 | 155 | 167 | 165 |
| February | 156 | 136 | 155 | 165 | 165 |
| March | 157 | 136 | 155 | 164 | 164 |
| April | 153 | 136 | 155 | 163 | 160 |
| May | 156 | 135 | 153 | 160 | 160 |
| June | 158 | 135 | 153 | 160 | 160 |
| July | 151 | 135 | 156 | 164 | 160 |
| August | 149 | 136 | 160 | 164 | 160 |
| September | 149 | 136 | 165 | 166 | 160 |
| October | 149 | 138 | 170 | 167 | 160 |
| November | 149 | 145 | 171 | 164 | 160 |
| December | 145 | 153 | 165 | 164 | 160 |

*Source: Data are obtained from Pant (1964) and Shrestha (1966).*