# Of Monetary Policy Analysis and Output Shocks

*Lessons from a Cointegration Analysis of Nepalese and Indian Monetary Relations: 1964 – 1994*

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**Abstract**

*Nepal and India are contiguous countries having a pegged exchange rate arrangement existing for forty years with virtually no restrictions on labor or capital mobility. However, empirical analysis suggest the levels of the Nepalese and Indian monetary base do not share a long term relationship. Conditioning the monetary policy variables by output shocks (i.e. by their respective economic structures) now show them to be cointegrated. This implies that a long-term monetary analysis using unconditional variables may be misleading.*

## I. Introduction

Determining whether monetary policies between countries share a long-term relationship is important for policy markers. This paper gives additional empirical support suggesting that simply examining unconditional monetary variables gives misleading results.

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Interest in examining similarity of monetary policy has been driven by the debate on European Monetary Union (EMU). As criteria for entering a single currency in Europe the Maastricht Treaty set forth the guidelines of "monetary convergence". While the precise criteria for successful "convergence" are unclear, MacDonald and Taylor (1991) and Hafter and Kutan (1994) examine the tendency of monetary variables to move together over long periods of time. They use simple, or unconditional, monetary variables and estimate whether a sample of European economies have a long-term relationship, using the Johansen and Juselius (1990; J & J (1990) from now on) maximum likelihood technique of cointegration, although arriving at mixed results.[1] These ambiguous results have fueled the debate on whether European countries would meet the convergence criteria set forth in the Maastricht Treaty.

Recently, Westbrook (1998 : 138–139) observed that:

> "when inflation differential are very large, monetary and inflation convergence will largely coincide, but when inflation differentials are more moderate, inflation convergence may require that monetary growth rates diverge slightly depending upon differences in output growth, velocity, or shift in preferences for tradable goods."

Westbrook (1998) introduced factors which affect the real exchange rate, i.e. "institutional design and macroeconomic trends", into the analysis through a simple monetary model where inflation convergence had occured while unconditional monetary convergence had not. Applying this conditional convergence to Europe and contrasting with standard, unconditional, tests of earlier studies, Westbrook (1998) found that much of the gap between inflation and monetary convergence was explained.

This paper applied Westbrook's (1998) technique to Nepal's relationship with India. Given that Nepal is "India-locked",[2] and the 1950 Trade and Transit treaty "... provides for unrestricted labor and capital movements" (Thapa 1992 : 32), there would seen to be little scope for an independent Nepalese monetary policy.[3] Indeed, the pegged

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1 MacDonald and Taylor (1991) concluded that monetary convergence had not occured while Hafer and Kutan (1994) improved on this definition by concluding that partial – convergence had occured.

2 The mountainous topography of the Himalayan range to the north (which borders China) compared to a strip of plain land bordering India to the South, West and East has compelled Nepal to seek access to the sea and international markets via India only.

3 While there have been some recent attempt to regulate capital flow with India, they are not effective due to the contiguous and open border.

exchange rate with India has existed for forty years, being since 1993 (Quarterly Economic Bulletin), and is consistent with some optimum currency area criteria which point to Nepal being a suitable candidate for a fixed exchange rate with India (Maskay, 1998a).[4] Nevertheless, empirical results using unconditional monetary policy variables suggest that Nepal does not have a long run monetary relationship with India.

The structure of this paper is as follows. The second section discusses the data, the third section discusses the testing methodology and empirical results while the last section concludes and puts forward some reflections.

## II. Data

Monthly data were chosen, consistent with earlier studies (MacDonald and Taylor 1991; Hafer and Kutan 1994; Willett, Keil, Soydemir and Westbrook (1997; WKSW (1997) from now on); Westbrook 1998), from the *International Financial Statistics (IFS)* tapes of the International Monetary Fund (IMF) for the period 1964 to 1994; data for the real sector, for the same period, are available on an annual basis only. The levels of price, output and money supply are given by the natural log of the CPI base 1990, Gross Domestic Product (GDP) base 1990, and the monetary base (Hafer and Kutan 1994; Westbrook 1998) while their growths are represented by the log differences.[5] The monetary base was chosen, unlike some earlier studies (McDonald and Taylor 1991' WKSW 1997), since it is a good predictor of the money supply in Nepal (Khatiwada 1994)[6] and India (Rani and Ramachandran 1994) as well as being generally well behaved across countries (Lothain 1976).

## III. Methodology & Empirical Results

Prior to estimation, some tests are run on the data. Initially the plots of the price and monetary base levels are "eye-balled" and suggest a close relationship[7] which is consistent with the statistics given below.

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4 Specially the optimum currency area criteria of labor mobility (Mundell l961), openness (McKinnon 1963), trade diversification (Kenen 1969), real exchange rate (Vaubel 1976) and currency substitution suggest that Nepal may be a suitable candidate for a fixed exchange rate with India.

5 The data (reserve money, CPI base 1990 and GDP) are labeled f14a, f64a and f99ba for by the *IFS* of the IMF respectively.

6 Studies on the money supply have shown that the NRB does not have great control over high powered money due to the component of net foreign assets and claims on government (Poudyal 1991).

7 "Eyeballing" the data plots suggest that the variables, in levels, have a trend with no structural breaks coinciding to the 1990 political regime shift; the later is verified by running standard Chow tests.

**Table 3.a : Some Statistics for Nepal and India**

| | Nepal-Price | India-Price | Nepal-MB | India-MB |
|---|---|---|---|---|
| Average | 48.64667 | 54.49355 | 42.59914 | 41.73071 |
| Standard Deviation | 37.82604 | 38.77373 | 57.3081 | 50.17997 |
| Coefficient of Correlation | x | 0.99640 | x | 0.993435 |

The correlation coefficient of price level and monetary base (MB) level for both countries are significant at the 1% level.[8] Likewise unit root tests are run on all variables (in different frequencies where applicable) whose levels fail to reject the null of a unit root at over the 25% level of confidence and rejects the null in their first difference at the 5% level.[9] Satisfied that the data are well behaved, the next stage of estimation is started.

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[8] The formula $Z = \frac{1}{2}\sqrt{N-3}\,\{ln\,[(1+r)(1-\rho)/(1-r)(1+\rho)]\}$ is utilized to test for the significance of correlation's (Romano 1977 : 156–160) with $H_o : \rho = 0$ versus $H_A : \rho \neq 0$ using $\alpha = 0.05, 0.01$ where the rejection region is $Z = |\frac{1}{2}\sqrt{N-3}\,\{ln\,(1+r)/(1-r)]\}| > 1.96, 2.58$.

[9] The first part entails, determining if the variable has a unit root. Consider the general relationship $\Delta y_t = (\alpha - 1)y_{t-1} + \varepsilon_t$; if $|\alpha| < 1$ then y is I (0), i.e. stationary, but if $\alpha = 1$ then y is I (1), i.e. non stationary and has a unit root. There are different tests for unit roots looking at the value of $\alpha$. The Dickey Fuller test, from Dickey and Fuller (1979), and the Weighted Symmetric test, from Pantula, Gonzales-Farias and Fuller (1994), is utilized against the null of a unit root (i.e. $H_0 : \alpha = 1$). Critical values are given in Davidson and Mackinnon (1993) and Pantula, Gonzales–Farias and Fuller (1994). The Weighted Symmetric test is chosen in preference to the Dickey Fuller test due to its higher power (i.e. the Weighted Symmetric test is more likely to reject the null hypothesis when it is in fact false) as shown in Pantula, Gonzales-Farias and Fuller (1994). The result of the unit root tests are:

| # | Variables | Country | p-value |
|---|---|---|---|
| 1 | Price Level | Nepal | 0.97576 |
| | | India | 0.27032 |
| 2 | Inflation | Nepal | 0.00013 |
| | India | | 0.00163 |
| 3 | Monetary Base | Nepal | 0.95577 |
| | India | | 0.99979 |
| 4 | Monetary base Growth | Nepal | 0.00010 |
| | India | | 0.02654 |

### III. a. Unconditional (standard) test for monetary convergence

Following earlier studies for monetary convergence, J & J (1990) maximum likelihood technique[10] is used for estimation. Monthly monetary data are used as well as lag specifications chosen by the modified AIC[11] while the trace statistics are given below where the software Time Series Program (TSP) is used for all computations:

**Table 3.1.a. : P-value of Trace Statistic Using Monthly Data**

| | log ($P_t$) | log ($MB_t$) |
|---|---|---|
| $H_0 : r <= 0$ | 0.012752 | 0.34824 |
| $H_0 : r <= 1$ | 0.009442 | 0.15238 |

On one hand, the equation for Indian and Nepalese monetary base level fails to reject both the null zero ($H_0 : r = 0$) and zero or less than or equal to one ($H_0$ M $r <= 1$) cointegrating vectors at the 85% level suggesting that there is no long run relationship between Nepal and India. On the other, the equation for the price levels reject both the null of zero and zero or less than one cointegrating vectors at the 95% and 99% levels of confidence, respectively, however, the results from the second null hypothesis of the price level is barely rejected with a p-value close to 0.01 suggesting that the result is a border line case. A likely reason may be the greater power[12] of the test given higher frequency data[13] and suggests that the larger number of data may have caused an increase in confidence levels. Thus,it is tentatively put forward that these results do not significantly

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10 That is, J & J (1990) extended bivariate cointegration to the multivariate tests of p dimensions shown, similar to Westbrook (1998, 18–19), below:

$\Delta X_t = \Gamma_1 \Delta X_{t-1} + ... + \Gamma_{k-1} \Delta X_{t-1-k} - \Pi X_{t-k} + e_t$

where Xt is a squence of random vectors, and

$\Gamma_i = -I + \Pi_I + ... + \Pi_i \ (i = 1, ... k-1)$

and $\Pi = I - \Pi_I - ... - \Pi_k$

The term of interest, $\Pi X_{t-k}$, indicates whether the variables are cointegrated. If $X_t$ is non-stationary, and elements of the vector are cointegrated, then there exists a long-run relationship among elements of the vector. The actual procedure examines the p x p $\Pi$ matrix for its rank. If the matrix is of full rank, p, then all elements of Xt are stationary in levels. If the matrix has zero rank, then all of the elements of $\Pi$, have unit roots, and there are no common stochastic trends. When the rank, r, of $\Pi$ is between zero and p, then there are r cointegrating relationship among the elements of $X_t$, and p–r common stochastic trends.

11 As suggested by Pantula, Gonzales–Farias and Fuller (1994) and consistent with WKSW (1997).

12 This has been discussed in numerous publications for example Lahiri and Mamingi (1995).

13 The data are not deseasonalized as WKSW (1997).

alter the interpretation of the results, that both countries have a strong price relationship, although caution may be called for.

Another perspective is to run J & J (1990) maximum likelihood estimation on annual data as a test for consistency and for ease of comparison in the next section. However, a problem develops in determining the optimal lag lengths. The modified AIC suggests at least seven lags, i.e. seven years, which seems unreasonably long; for this paper lags are arbitrarily set to a single year.[14] The results are:

**Table 3.1.b. : P-value of Trace Statistics Using Annual Data**

| | $\log (P_t)$ | $\log (MB_t)$ |
|---|---|---|
| $H_0 : r = 0$ | 0.009801 | 0.53769 |
| $H_0 : r <= 1$ | 0.025251 | 0.34889 |

The Nepalese and Indian price level variables reject the null of zero cointegrating vector at the 99% level and fails to reject the null of less than one or equal to one cointegrating vector at the 97.5% level. This result for annual data has some similarities with the results of high frequency data and suggest some long-term relationship in price levels between both countries.[15] The monetary base equation, on the other hand, once again shows to long-run relationship between Nepal and India at the 80% level. Thus, the results of the estimation seem to be robust to the frequency of the data.

Also, comparing the results from initial data anlaysis for the price and the monetary base levels suggests some mixed results. On one hand, the long-term relationship of price is consistent with the highly significant coefficient of correlation as well as with price arbitrage from the open and contiguous border of Nepal and India (Bohara and McNown 1989; Bajracharya and Maskay 1998; Maskay 1998a; as well as anecdotal evidence). On the other hand, the finding of no long-term relationship in the monetary base is surprising

[14] Determination of lag lengths is problematic. Unlike MacDonald and Taylor (1991) and Westbrook (1998) and WKSW (1998) who minimize AIC and AIC2 respectively to obtain optimal lag lengths and Hafer and Kutan (1994) who utilize a separate methodology, a single lag is used for annual data consistent with Maskay (1998 b). One perspective for the choice of lag length is to test the errors of the model for serial correlation. The residuals from running the model failed to reject the null of no serial correlation at the 5% level except for India price levels with a p value of 0.030 suggesting this to be a resonable lag length.

[15] The rejection, or near rejection, of the null of one or less than one cointegrating vectors, is paradoxical given that we are looking at two countries only. This suggests either that a third factor may have to be taken into consideration or some sort of "super" long-term relation has to be further examined.

given both the high coefficient of corelation as well as the geographical characteristics put forward in the introduction. This result of the monetary base is considered in greater detail in the next sub-section.

**III.b. Conditional test for monetary convergence**

The results that the Nepalese and Indian monetary base do not share a long-term relationship[16] may be due to the poor quality of the underlying data. Summers and Heston (1991) provides as assessment of data quality across a wide range of countries and rate the data from South Asia as unreliable.[17] While this may be true for the real sector, it seems less true for the monetary sector, however, since a consistent standard for the monetary sector maintained by the Nepal Rastra Bank, Nepal's Central Bank, versus a number of different standards over time for the real sector in addition to the difficulty of collecting data in developing countries, suggests some reliability on the monetary sector figures which is generalized to India.

A plausible explanation to why Nepalese and Indian monetary base do not share a long-term relationship may be that the Nepalese monetary authorities play a short-term stabilizing role to address non-symmetric patterns of shocks vis-a-vis India (Maskay 1999). These non-symmetric patterns of shocks between both countries are most likely due to the agricultural nature of both economies being held hostage to the vicissitudes of the weather (explicitly explored in Bajracharya and Maskay – 1998) generalizable to India).[18] This explanation is consistent with the policy of the Nepal Rastra Bank (Maskay 1998 b) where the monetary authority, in stabilizing the economy in the short-term in an environment of low capital mobility, is responding to an imbalance in the balance of payments (BOP) vis-a-vis India.[19] For example, Nepal faces a temporary negative output shocks (say a drought) vis-a-vis India which pushes the BOP into surplus as imports decrease vis-a-vis exports; to bring the BOP back into equilibrium while maintaining the pegged exchange rate regime, the monetary authority must, in the short-term, pursue an expansionary monetary policy. In order words, the short-term

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[16] Or more specially that Nepal has some measure of monetary independence from India.

[17] For example Summers and Heston (1990) give a quality rating for the data ranging from A (best) to D– (worst) with Nepal having D+ and India enjoying a C quality rating.

[18] For Nepal and India roughly 40% and 30% of GDP is contributed by the agricultural sector respectively.

[19] Short term stabilization necessitates low mobility which does not appear consistent with the open and contiguous border as well as the relative size of both economies. This was explicitly explored via estimation of Nepal's offset and sterilization coefficient in Khatiwada (1994) and Maskay (1998 a) who find the presence of low capital mobility between both countries up to 1994.

stabilization policy may explain why an analysis simple unconditional monetary variables is unable to capture a long-term relationship between Nepal and India.[20]

This suggests that the agricultural nature of both Nepal and India (i.e. their economic structures) is important to understand their respective monetary policies. The information on economic structures is introduced in Westbrook's (1998) through a simple monetary model with countries pegging their exchange rate. However, unlike Westbrook (1998), a stronger assumption, that price level has already converged for Nepal and India, is used. This is reasonable given the long-term (cointegrated relationship of prices shown in the last sub-section, the highly significant coefficient of correlation from initial data analysis, price arbitrage from the open and contiguous border (Bohara and McNown 1989) as well as the prevalence of the Indian currency in Nepal (Bajracharya and Maskay 1998). Thus, the equations of Westbrook (1998) are expressed in *log levels*, rather than *log differences*, where the equation for monetary convergence conditional on output shocks is:[21]

$$m - y = m^* - y^* \qquad \text{(III.2.1)}$$

where **m** and **y** represent log level of the money supply (in this case monetary base) and output respectively.[22] Tests are run for monetary convergence conditional on output shocks, after finding that the conditional variable whose levels fail to reject the null of a unit root at over the 25% level of confidence and rejects the null in their first difference at the 5% level,[23] where the p-values for running J & J (1990) are:

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[20] Of course, in the long-term, this stabilization policy in Nepal is not possible as Nepalese monetary policy must necessary follow that of Indian monetary policy.

[21] Derivation is with Westbrook (1998).

[22] The result of unit root tests, using the Weighted Symmetric test, are:

| # | Variables | Country | p-value |
|---|---|---|---|
| 1 | Monetary base Conditional | Nepal | 0.00025 |
| | On Velocity Shocks | India | 0.41744 |
| 2 | Change in Monetary Base | Nepal | 0.00013 |
| | Cond. on Velocity Shocks | India | 0.00163 |

This result may be explained by the stationarity of Nepalese velocity, in levels, and is consistent with the degree of financial development in Nepal. Since the level of the monetary base conditional on velocity shocks does not have a unit root they are <u>not</u> considered in the later analysis.

[23] The result of unit root tests, using the Weighted Symmetric test, are:

| # | Variables | Country | p-value |
|---|---|---|---|
| 1 | Monetary base Conditional | Nepal | 0.97338 |
| | On Output Shocks | India | 0.99728 |
| 2 | Change in Monetary Base | Nepal | 0.00001 |
| | Cond. on Output Shocks | India | 0.00675 |

**Table 3.1.b. : P-value of Trace Statistics Using Annual Data**

| | MB cond. On Y |
|---|---|
| $H_0 : r = 0$ | 0.076939 |
| $H_0 : r <= 1$ | 0.068272 |

Using levels of the monetary base conditional on output shocks rejects the null of no cointegrating vectors at the 90% level and fails to reject the null of a cointegrating vector at the 95% level. This finding, albeit at a weak confidence level, suggests that eliminating one source of noise helps explain Nepal and India's monetary relations consistent with the policy of the Nepalese monetary authority and the geographical setting. Thus, the economic structures introduces important information for Nepal-India monetary policy analysis.

## IV. Conclusion

The results indicate that the monetary base levels of Nepal and India conditional on output shocks are cointegrated when lag lengths are limited to a single year for annual data. Taken together with the open and contiguous border, the close relation of prices and the temporary divergence of the monetary base level (which can plausibly be reflected in stabilizing monetary policy (Maskay 1998 b) for Nepal), these suggest that Nepalese monetary policy may be endogenous to output shocks (Maskay 1998b). This has allowed a pegged exchange rate to exist for a forty year period without serious financial crisis.

The robustness of this methodology of conditional monetary analysis also needs elaboration. While the empirical results suggest Westbrook's (1998) method for conditional convergence applied to Europe seems applicable to Nepal and India, the type of shocks experienced by both regions differed. That is, velocity shocks seem to be important to Europe while output shocks are important for Nepal and Indian analysis. Although both countries faced different shocks, the application of Westbrook (1998) helps in explaining the monetary policies of the respective regions. In other words, this methodology of conditioning monetary variables for long-term analysis appears robust to application in different geographical regions.

The empirical results of this paper further suggest two closely related points. First, that in the short run the Nepalese monetary authority may have some control over the

monetary supply,[24] this is consistent with the hypothesis that in the short run the money supply plays some role in maintaining Nepal's present exchange rate policy. This suggests that giving up the monetary policy, at least in the short run, for Nepal is not insignificant. Secondly, and more generally, these results suggest that the appropriate concept of monetary convergence for Nepal and India may not be the behavior of the *unconditional* monetary base but rather the *conditional* monetary base which responds endogenously to disturbances in ways that promote long run BOP equilibrium (as with WKSW 1997; Westbrook 1998).[25] This suggests that the comparison of monetary policy using simple monetary variables may give misleading results.

## V. References

Bajracharya, Bhuban Vajra and Nephil Matangi Maskay (1998). The Aggregate Supply Response for Nepalese Agriculture for the period 1967/68 – 1994/95 *the Journal of Development and Administrative Studies*, Vol. 15, No. 1 (January–June 1998), pp. 3–17.

Bohara, Alok K. and Robert F. McNown (1989). Monetary and Inflationary Linkages between India and Nepal : A Vector Autoregession Analysis. *The Indian Economic Journal.* Vol 37, No. 1, pp. 40–55.

Davidson, Russell and James G. Mackinnon, Estimation and Inference in Econometricx, New York, Oxford Unversity Press, 1993.

Dickey, D. A., and W. A. Fuller, "Distribution of the estimators for autoregresive time series with a unit root." *Journal of the American Statistical Association.* 74 (1979), pp. 427–31.

Granger, C. W. J. (1969). Investigating Causal Relations by Econometric Models and Cross-Spectral Methods. *Econometrica.* Vol. 37, No. 3, pp, 424–438

Hafter, R. W. and Kutan, A. M. (1994). A Long-run View of German Dominance and the Policy of Convergence in the EMS. *Economic Inquiry.* Vol. XXXII. pp. 684–695.

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[24] See the first endnote.

[25] The conditional and unconditional variables were tested for Nepal and India's influence on the other's monetary policy variables. While tests on unconditional variables gave mixed results, tests on conditional variables suggest that India Granger causes Nepalese monetary policy and not vice versa which is consistent with the geographical situation as well as the size of the Indian economy. These results are robust to taking the monetary base in levels (MacDonald and Taylor 1990) and to log changes (Granger 1969).

Johansen, Soren and Katarinna Juselius (1990). Maximum Likelihood estimation and Inference on Cointegration – with Applications to the Demand of Money. *Oxford Bulletin of Economics and Statistics.* 52, 2, pp. 169–209.

Khatiwada, Yaba Raj (1994). Some Aspects of Monetary Policy in Nepal. New Delhi : South Asian Publishers.

Lahiri, Kajal and Nlandu Mamingi (1995). Testing for Cointegration : Power Versus Frequency of Observation – Another View. *Economic Letters* 49, pp. 121–124

Lothian, James R. (1976). The Demand for High-powered Money. *American Economic Review,* Vol. 66, No. 1, pp. 56–68.

MacDonald, Ronald and Mark P. Taylor (1990). Exchange Rates, Policy Convergence and the European Monetary System. *The Review of Economics and Statistics.* pp. 553–558.

Maskay, Nephil Matangi (1998a). "Monetary and Exchange Rate Policy for Small Developing Nations : A Case Study of Nepal", Unpublished dissertation at Claremont Graduate University.

Maskay, Nephil Matangi (1998b). The Impact of the Indian Monetary Policy and the Official Exchange Rate on Nepalese Monetary Policy. *Economic Review, Nepal Rastra Bank,* Occasional Paper, Number 10, pp 44–63.

Maskay, Nephil Matangi (1999). "A Cautionary Note in Using Patterns of Shocks to Determine Optimal Exchange Rate Policy; An Exploration of Nepalese and Indian Exchange Rate Relations of 1964–1994". Forthcoming in *Applied Economics.*

Pantula, Sasty G., Graciela Gonzalez-Farias and Wayne A. Fuller (1994). A Comparison of Unit-root Test Criteria. *Journal of Business & Economic Statistics.* Vol. 12, No. 4, pp 449–459

Poudyal Sri Ram (1991). The Determination of Control of Money Supply in Nepal. *Indian Economic Journal.* Vol. 39, No,. 1, pp 74–86

Rani, P. Geetha and M. Ramachandran (1994). Predictability and Controllability of Money Stocks: A Money Multiplier Approach for India. *Indian Economic Journal.* Vol. 40, No. 1, pp 124–133.

Romano, Albert (1970). *Applied Statistics for Science and Industry.* Boston : Allyn and Bacon Inc.

Summers, Robert, and Alan Heston (1993). The Penn World Tables (Marks 5) : An Expanded Set of International Comparisons, 1950–88. Quarterly Journal of Economics. 106. pp 329–48.

Westbrook, Jileen R. (1998). Monetary Integration, Inflation Convergence and Output Shocks in the European Monetary System. *Economic Inquiry.* Vol. XXXVI, No. 1. pp 138–144.

Willett, Thomas D., Mafred Keil, Gokce Soydemir and Jilleen Westbrook (1997). Cointegration and Monetary Convergence. Mimeo.

## VI. Data Sources

International Monetary Fund. *International Financial Statistics,* Washington, D. C.. Magnetic Tape along with Various Issues.

Nepal Rastra Bank. *Quarterly Economic Bulletin,* Kathmandu, Nepal : Various issues.

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