Monetary Policy and Economic Development in India

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"• • • the sharp decline in economic activity in the first half of the 1930s was the result of mistakes in monetary policy made by the Federal Reserve."

Charles Kindleberger and Robert Aliber

ABSTRACT

This paper tries to examine the relationship between monetary policy and output growth in India and found that monetary policy is more successful in USA while more money is chasing few goods in India relative to USA. Since this work is not done by anybody else, comparison of results is not needed.

Keywords: Broad Money, Neo-Keynesian, GDP.

1. Literature review
2. Specification of theory, methodology and variables
3. Testing the theory with current data
4. Interpretation of the results
5. Conclusion
6. References

1. Literature Review

As per the existing literature composed of review and research by the economists like Nachane et al (1985) -

- The main positions regarding the impact of money on output are as follows: Monetarists regard money supply as a major short-term determinant of nominal income. The more orthodox monetarists deny any influence of money on real output in the short as well as long run. The less orthodox like Friedman admit that money may affect real output in the short run but in the long run the influence of money is assumed to be limited to prices only. Neo Keynesians on the other hand do not assign any short-term casual role to money supply in determination of nominal income fluctuations. However, according to them in the long run, money tends to affect real output as well as prices, the latter effect being crucially dependent on the way in which money supply change are introduced. Empirical testing of monetarist/Keynesian propositions begins with the monumental work

of Friedman and Schwartz (1963) and continues with Cagan (1965), Stein (1976), Tobin and Buiter (1976), Modigliani and Ando (1976) and many others. Sims (1972) gives a new turn to the exercise by introducing the newly enunciated concept of Granger causality into the testing procedure. Barth and Benette (1974), Williams, Goodhart and Gowland (1976), Feige and Pierce (1979), Hsaio (1981) and numerous others tested the money-income relation with various causality based methods for several different empirical contexts usually in the developed western economies.

In the Indian context the following four studies deserve attention:

• Bhattacharya (1972) tested using a linear regression model the relative performance of reduced form versions of the basic Keynesian model and the Quantity Theory model and came to somewhat unexpected conclusion that the former predicts the monetized income a bit better than the other.

- Brahmananda (1977) undertook a theoretical-cum-empirical investigation into the determinants of real national income and price level in India. The approach is neo classical in spirit. Using single equation econometric techniques a number of separate hypotheses were tested. He observed ample evidence to bear out the hypothesis of the 'Money Side' of the Quantity Theory and also of the 'Physical Supply Side' for long period purposes. It is found that the Keynesian theory does not explain real income while the New Classical theory does it and the Quantity Theory explains the price level.
- Ahmed (2003) with the help of block causality tests found interest rate and money as a block do not cause output and prices but output and price cause interest rate and money. Ahmed covered 1974:Q1-1996:Q4 for India.
- Brahmananda et al (2003) tried to test, using roll over multiple regression technique, the following hypotheses: (a) The quantity of money has a direct and proportionate effect

9

on the price level, (b) The volume of output has a negative and inversely proportionate effect on the price level, (c) The price expectational factor has a positive effect on the price level, and (d) The interest rate has a negative effect on the price level. They found that from a policy angle, the quantity theory is a useful and dependable foundation. By utilizing the interest rate, the authorities can hopefully strengthen the effect of M1 changes on the price level. Brahmanand et al (2003) covered 1966-67 to 1998-99.

2. Specification of theory, methodology and variables

It seems that none of the authors estimated the Quantity Equation MV = PY. In addition the period from 1999-00 to 2004-05 is not covered by any of the above studies. So it is worthwhile to estimate the Quantity Equation for the above period. Assuming income velocity of money to be constant the Quantity Equation reduces to a linear regression equation without constant PY =

VM. So the variables specified are nominal GDP and broad money M3.

3. Testing the theory with current data

Broad money M3 is considered and the above equation is estimated for a developed country like USA and a developing economy like India with the help of quarterly data from 1999-2000 to 2004-05 applying simple regression method as per Bhattacharya (1972).

This equation is estimated for USA and found to be

$PY = 1.3\ M3$

(83.6) $\bar{R} = 0.95$

This equation is estimated for India and found to be

$PY = 0.2\ M3$

(31.62) $\bar{R} = 0.93$

4. Interpretation of the results

The coefficient of M3 is the income velocity of money and measures the rate at which money is circulated in the economy. It is simply the number

of times a dollar/rupee enters someone's income in a given period of time. Higher the volume of money the less the number of times a dollar/rupee enters someone's income in a given period of time and vice versa. Alternatively, higher the velocity, the less the volume of money required to facilitate exchange of a given volume of real GDP. The lower the income velocity of money, higher would be the rate of inflation, the lesser would be success of monetary policy in boosting GDP and vice versa. The value of income velocity of money in USA is estimated to be six times that of India.

5. Conclusion

It seems that monetary policy is more successful in USA while more money is chasing few goods in India relative to USA. Since this work is not done by anybody else, comparison of results is not needed.

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