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Optimum Growth of Money Supply in India

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Monetary policy is considered an important policy to affect desirable variable including growth, despite a controversial issue among economists. Demand for money and supply of money should be balanced in such a way that leads to growth of economy. Real GDP is an important factor to determine the demand for money and supply of money is jointly determined by government, banks and public as it has an indignity factor. Leaving scope for desirable inflation rate, what should be the optimum level of growth of money supply is the main problem of this paper. M_1 and M_3 are important measurers of money supply and compared with optimum growth of supply of money in second section of the paper.

Key Words – M_1, M_3, Growth rate real GDP, Optimum Supply of Money.

Analysis of money supply is incomplete without taking demand for money into account. To make desirable effects of the money supply on the economy, money supply should be regulated in accordance with demand for money.

An important area of concern to any monetary-authorities are the determination of the rate of growth of money supply in view of the inter-relationship between credit and output on the one hand and prices and money supply, on the other hand. Monetary authorities like Central Bank of different countries have the practice of fixing and announcing targets of the narrow money or broad money, say for a year ahead or for some year ahead. In India, in the early years, the RBI would specify at the beginning of the slack and the busy season, targets of desired growth rates in credit supply. In 1974, the Indian economists in a joint memorandum to the then Prime Minister put up the plea for a 5% annual growth rate of M_1. This, according to them would help to establish condition for price stability. Some years later, the Chakravarti-Rangrajan Committee Report[1] recommended that the RBI might fix the target growth rate of M_3, for the year ahead. Committee suggested that the economy should not have more than a four per cent increase in price level.

Though the Committee did not formalize its recommendation it had implicitly the following equation of the rate of increase in the price level.

$$P^* = M^* - (Y^* \times eyRM)$$

Here P* is the rate of increase in price level, M* is the rate of increase in money, Y* is rate of increase in real national income and ey RM is the optimum growth of money which equals that rate of money as would result in approximately a zero rate of inflation. Here RM is income elasticity of money.

$$M^*T = (Y^* \times ey\,RM) + P^*T$$

In this equation, M*T is intermediate target of growth of money and P*T is target of rate of inflation. Chakravarti -Rangrajan Committee[1] suggested income elasticity of money is 2 and 4% inflation should be allowed in India for economic growth and monetization of economy. P. R. Brahmananda and G.Nagaraju[2] defined optimum growth rate of money in any year as that growth rate which would keep the price level during the year generally constant over the price level in the previous year. They adopted the roll-over regression and find out the income elasticity of money for narrow as well as broad money. They calculated it different for each year. They found the mean value of elasticity of narrow money as 1.12 and broad money as 1.42. According to them the mean of the Optimum Growth rate of narrow money was 5.17% and that of broad money was 7.65. The mean of the deviation of actual growth rates from optimum growth rates for M_1 is 8.12% and that of 8.46% for M_3. It seems that M_1 is probably a better instrument for targeting money growth rate then **for M_3.**

As stated earlier, Chakravarti -Rangrajan Committee has suggested M_3 for targeting money growth rate. We can calculate optimum money supply for each year with given elasticity of demand for money and targeted inflation. Empirical studies show that real income is the predominant factor in forming demand for money.

In the table 1.1 we can see national income and money supply. As real GDP is required to neutralize the price effect and M1 and M3 are measures of money supply, widely used for policy making. We can see in table 1.1 and graph that all macro variable are increasing continuously and in 2008-09 broad money have surpassed the real national income. Increasing money supply is indeed required for growth of national income. But this growth in money supply is enough for growth or not is an important issue to be discussed here. Narrow money is still below the national income.

Table – 1.1 Magnitude of Real GDP, M_1 and M_3 (Billion)

Year	GDP at Constant Price	Narrow Money (M_1)	Broad Money (M_3)
2004-05	29714.64	6003.43	21214.59
2005-06	32530.73	7164.7	24589.25
2006-07	35643.64	8586.75	29501.86
2007-08	38966.36	9950.28	36034.44
2008-09	41586.76	11396.07	43436.64
2009-10	45160.71	13198.51	51778.82
2010-11	49185.33	15415.27	60151.65
2011-12	52475.3	16312.42	69688.05
2012-13	55322.8	17863.11	79089.42
2013-14	58804.15	19573.3	89822.14
2014-15	62967.14	21651.21	100517.6
2015-16	67496.39	24101.15	111296.5

Source: Handbook of Statics on Indian Economy, RBI Publication

In the table 1.2, first column contains growth rate of real GDP, second column contains optimum growth rate of money supply calculated by the values of RM (2) and P*(4%) given by the Chakravarti-Rangrajan Committee, column third contains the actual growth of M_1, column
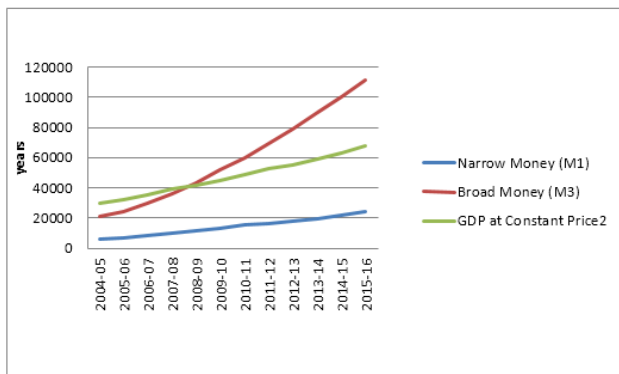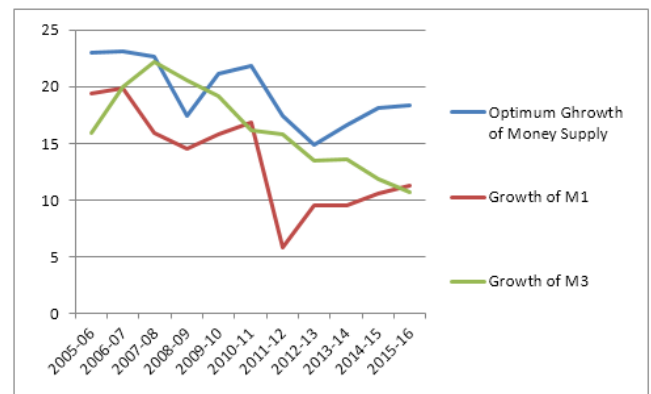

Magnitude of Real GDP, M_1 and M_3

fourth contains the actual growth of M_3, column fifth and sixth contain the deviation of narrow money and broad money, from optimum growth rate of money supply. we can see the trends of actual and optimum money supply. In table 1.2 optimum growth of money supply is compared of broad money and narrow money. During these eleven years of time period actual growth of money supply has been more than that of optimum money supply. Mean of deviation from M_3 is 3.19 and that of M_1 is 5.96, so broad money is more related to the optimum growth of money supply.

Table: 1.2 Various Growth Rates and Deviations

Years	Growth Rate Of Gdp	Optimum Growth Of Money Supply	Growth Of M_1	Growth Of M_3	Deviation Of M_1	Deviation Of M3
2005-06	9.477113	22.95423	19.34344	15.90726	3.610784	7.046966
2006-07	9.569127	23.13827	19.848	19.97869	3.290268	3.159583
2007-08	9.322056	22.64411	15.87947	22.14294	6.764646	0.501169
2008-09	6.724775	17.44955	14.53014	20.54201	2.919406	-3.09246
2009-10	8.593961	21.18792	15.81633	19.2054	5.371593	1.982523
2010-11	8.911773	21.82355	16.79553	16.17038	5.028014	5.65317
2011-12	6.688925	17.37785	5.819879	15.85393	11.55797	1.523921
2012-13	5.426362	14.85272	9.506192	13.49065	5.346533	1.362076
2013-14	6.292794	16.58559	9.573865	13.57036	7.011724	3.015227
2014-15	7.079415	18.15883	10.61604	11.90733	7.542787	6.251499
2015-16	7.193038	18.38608	11.31549	10.72344	7.070587	7.662635

Source: Calculated on the basis of Table 1.1

Various Growth Rates and Deviations

We can see the trends in graph also. Except 2008-09 actual growth of money supply had been less than the optimum growth rate of money supply. Here two things are important, first neither M_1 nor M_3 was targeted second money supply is jointly determined by government, banks and public. All these factors are important to ensure money supply according to its demand.

Debasish Chakraborty and Kishor G. Kulkurni[3] found that the amount of deposits is determined by the demand for loans by the public. Their study showed that there is in fact evidence that about 40% of the money supply change is made as a result of initial increase in demand for money. Yet it is desirable to set target of money supply in accordance with requirement of economy or demand for money. The major explanatory variables included in the demand function for money are real income, interest rate on fixed deposits, yield on ordinary share, yield on long term government bonds, the expected rate of inflation and degree of monetization. Present study opens an important area for further study to compliment the appropriate

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