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Components of Money Multiplier and their Relative Contributions

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Abstracts

The Money stock is the product of High Powered Money and Money Multiplier. However, money multiplier should not be regarded as a purely mechanical apparatus as is evident by the identity M = mH and argued by Majumdar (1976), Shetty et al (1976) and by the Second Working Group of the RBI (RBI Bulletin, 1977). Instead, it grows out of the interactions of banks, non-bank-public and decisions of monetary authorities. Essentially, it summarises the influences of all those factors other than changes in the high-powered money on the money stock process. Specifically, it reflects portfolio decisions of the non-bank-public when it decides on its currency and time deposit ratios; the behaviour of banks regarding the distribution of assets between excess reserves and earning assets and the behaviour of central bank when it sets reserve requirements on time and demand deposits and imposes additional reserves under the statutory provisions.

Keywords : Money Multiplier, High Powered Money, Required Reserves, Excess Reserves, M_2 Definition of Money and Liabilities

1.0 Introduction

It was explicitly noted by Fand (1970:12) that "The money stock at any moment in time is the result of portfolio decisions by the central bank, by the commercial banks, and by the public: the central bank determines the amount of high powered money or monetary base, that is, currency plus bank reserves, that it will supply, the commercial banks determine the volume of loans and other assets that they will acquire and the quantity of reserves they will hold as excess (and free) reserves; and the public determines how to allocate their holdings of monetary wealth among currency, demand, time and savings deposits, intermediary claims, and other financial assets. The money stock that emerges reflects all these decisions. In sum, money stock is clearly the function of three interacting components." Therefore, accurate estimation of money multiplier-components is very essential. This analysis is therefore; intend to dig more deeply into the components of money multiplier and their relative contributions in the changes of money multiplier.

1.1 Money Multiplier

To recapitulate, the money multiplier is given as

$$m = \frac{1 + c + b + t}{l(r_s + r_e)1 + t + c + b} \quad \ldots (1)$$

Thus money multiplier is taken to be a function of six ratios: *c, b, t, l,* r_s and r_e i.e.

$$m = f(c, b, t, l, r_s, r_e) \quad \ldots (2)$$

Taking total differential of these, we have

$$dm = \frac{dm}{dc}\cdot dc + \frac{dm}{db}\cdot db + \frac{dm}{dt}\cdot dt + \frac{dm}{dl}\cdot dl + \frac{dm}{dr_s}\cdot dr_s + \frac{dm}{dr_e}\cdot dr_e \quad \ldots (3)$$

As economic data are not available in continuous series, the discrete approximation of the above equation is:

$$\Delta m = \frac{dm}{dc}\cdot \Delta c + \frac{dm}{db}\cdot \Delta b + \frac{dm}{dt}\cdot \Delta t + \frac{dm}{dl}\cdot \Delta l + \frac{dm}{dr_s}\cdot \Delta r_s + \frac{dm}{dr_e}\cdot r_e + R \quad \ldots (4)$$

In the above equation R is the residual or the unexplained part, which necessarily occurs whenever differential of discrete variables are taken.

1.2 The relative contribution of each of the six ratios in the changes of money multiplier can be found dividing

throughout by m which yields:

$$1 = \frac{dm}{dc}\cdot\frac{\Delta c}{\Delta m} + \frac{dm}{db}\cdot\frac{\Delta b}{\Delta m} + \frac{dm}{dt}\cdot\frac{\Delta t}{\Delta m} + \frac{dm}{dl}\cdot\frac{\Delta l}{\Delta m}\cdot\frac{dm}{dr_s} + \frac{dm}{dr_e}\cdot\frac{\Delta r_e}{\Delta m} \quad \ldots(5)$$

The partial derivative of m with respects to these six ratios are given below:

$$\frac{dm}{dc} = \frac{(1+t)[l(r_s+r_e)-1]}{l(r_s+r_e)(1+t)+c+b]^2} \quad < 0 \quad \ldots(6)$$

$$\frac{dm}{db} = \frac{(1+t)[l(r_s+r_e)-1\ ]}{l(r_s+r_e)(1+t)+c+b]^2} \quad < 0 \quad \ldots(7)$$

$$\frac{dm}{dt} = \frac{c+b\ [1\ -\ l(r_s+r_e)\ ]}{[l(r_s+r_e)(1+t)+c+b]^2} \quad > 0 \quad \ldots(8)$$

$$\frac{dm}{dl} = \frac{-[(1+c+b+t)(r_s+r_e)1+t]}{[l(r_s+r_e)(1+t)+c+b]^2} \quad <0 \quad \ldots(9)$$

$$\frac{dm}{dr_s} = \frac{-[(1+c+b+t)(1+t).l]}{[l(r_s+r_e)(1+t)+c+b]^2} \quad <0 \quad \ldots(10)$$

$$\frac{dm}{dr_e} = \frac{-[(1+c+b+t)(1+t).l]}{[l(r_s+r_e)(1+t)+c+b]^2} \quad <0 \quad \ldots(11)$$

Since r_s and r_e are <1 and usually very small and *l* is >1 but very near to it, therefore, $l(r_s+r_e)-1$ can be expected to be negative in almost all cases. Hence, on the basis of the expressions for the different first order partial derivatives and likely values of six ratios it can be hypothesised that the partial derivative of m with respect to t will be positive and all other partial derivatives will be negative. Thus, money multiplier and, therefore, money stock varies negatively with currency ratio, other deposits ratio, liquidity ratio, statutory reserve ratio and excess reserve ratio.

1.3 A Brief Discussion of the Ratios

Since this study dealt with the ratios determining the multiplier, it is appropriate here to deal with their meaning briefly.

1.3.1 Currency Ratio: This ratio is taken as currency in the hands with non-bank public to demand deposits with banks. 'This ratio is concerned with the composition of money. It is inversely influenced by the terms of accepting deposits by the banking sector and is determined largely by the non-bank public'.

1.3.2 Time Deposit Ratio: This ratio is taken as time deposits with banks to demand deposits with banks. This ratio, like currency ratio is also affected mostly by non-bank public, but it is also influenced by the banking sectors too in so far as they take part in determining the relative yield on time deposits and extend facilities on demand deposits.

1.3.3 Other Deposits Ratio: This ratio is taken as other deposits with the Reserve Bank of India to demand deposits with banks. This is essentially a portfolio variable of some near banking institutions.

1.3.4 Liability Ratio: This ratio concerns with the total liabilities of banking sector to total deposits with the banks. Total deposits of banks include demand deposits and time deposits but exclude other deposits.

1.3.5 Excess Reserve Ratio: This ratio is taken as reserves over and above statutory to total liabilities of banking sector. This ratio is mainly influenced by banks. It also is affected by lending terms of a central bank. Easy lending policy of a central bank gives incentives for excess reserves while tight lending policy reduces this amount.

1.3.6 Required Reserve Ratio: Required reserve ratio is the amount of reserves to be maintained by banks against their total liabilities divided by total deposits of banks. Since the provision of statutory reserve is made by the Reserve Bank of India, this represents an exogenous monetary policy variable.

1.4 Relative Contributions

1.4.1 The result of the relative contributions of these six ratios is expressed in two ways. In the first instance their relative contribution is given in absolute terms. Table 1.1 explains the relative contribution on the quarterly basis. Table 1.1 (continued) explains the contribution of marginal money multiplier. Table 1.2 explains the contribution of values obtained by inserting the actual values of the ratios in the money multiplier formula. Table 1.3 gives percentage contribution of components of money multiplier. Table 1.4 gives contribution of components of money multiplier on annual basis. Table 1.5 gives contribution of components of money multiplier by inserting the actual values of the ratios in the money multiplier formula. Table 1.6 gives percentage contribution of components of money multiplier for annual data. The Tables are divided into two parts. The first part of the Table is concerned with the changes in actual values of contribution of six ratios in the changes of money multiplier (columns 1 to 7), the second part of contribution is obtained by inserting the actual values of the six ratios in the money multiplier formula.

1.4.2 The actual values of changes in money multiplier $\left(\frac{\Delta M}{\Delta H}\right)$ is given in column 7, while calculated values of money multiplier is given in column 14. The difference between these two is depicted in column 15 and is designated by R which stands for residuals.

The data given in these Tables show that all the ratios have varied over the period of 31 years i.e. none of the various determinants of money multiplier have remained invariant with respect to time and thus it can be hypothesized that the money multiplier has also varied over time. This in fact, is the actual pattern revealed by column 7 of each Table.

The value of money multiplier has varied between 2.95 to 4.97 over 31 years, (annual basis), which indicates that fluctuations has been within a very a narrow range. This value of money multiplier has been low even when compared to that in most advanced countries like USA, UK and Japan. This fluctuation of money multiplier within a narrow range in our country is rather unfortunate, as this has happened largely due to a relatively high currency ratio in the country.

1.5 Contribution of Different Ratios

1.5.1 Currency Ratio

As is well known, variations in the public's demand for currency are not regulated by policy actions, hence their analysis could conveniently be made in terms of changes in the currency ratio by which we mean currency in circulation with public as a proportion of demand deposits: C/DD or c. The value of money multiplier varies over time because of the fluctuations in the amount of currency and demand deposits that the public issues to hold. Whereas a rise in the currency ratio leads to decline in the money multiplier, a fall leads to an increase because it entails a redistribution of high powered money first, in favour of non-bank public and second against it.

The significance of currency ratio in affecting variations in the money stock has been recognised by Hawtrey (1913, 189-203 and 1919) who wrote more than five decades ago that by affecting the ability of the bank to extend credit, changes in currency ratio play a primary role in generating business cycles. For the underdeveloped countries, this relationship acquires special significance, in view of the generally heavy reliance on currency for financing transactions.

Although a lower currency ratio is a sign of progress of economic development, yet for developing economies the higher currency ratio is looked upon as a boon for the reason that a central bank of a developing economy may expand its monetary liabilities without running the risk of large multiple expansions in the money stock.

The analysis of data shows that 12.02 per cent value of money multiplier has been affected by currency ratio. (Table 1.2 and Table 1.3). It affected 54 quarters in the changes of money multiplier out of 124 quarters. It has remained significant during I quarters of all these years. During 1983-84, 1986-87 and 2009-10 currency ratio remained significant in three quarters, while during 1987-88, 1995-96 and in 1996-97, it has remained significant in all the quarters. It has not remained significant in all the quarters during the years 1992-94, and during the years 2002-2004. (Table 1.3). There have been times when it contributed negatively in affecting the value of money multiplier. These have been the quarters IV of 1982-83, I quarter of 1985-86 and 1986-87, II quarter of 1996-97 and 1999-00, II quarter of 2008-09, I quarter of 2009-10 and II quarter of 2011-12. The currency ratio has been 1.54694 during the II quarter of 1980-81 which almost continuously declined and came to 1.04763 during I quarter of 2007-08. Table 1.1 it started increasing further since 2008-09 which at the end of period II quarter of 2011-12, it again stood at 1.49227. (Table 1.1).

1.5.2 Other Deposits

Includes the following items:

a) Deposits of foreign central banks and Governments, international agencies like International Monetary fund, International Bank for Reconstruction and Development, International Finance Corporation, International Development Association, Asian Developments Bank etc.

b) Deposits of quasi-government institutions like Industrial Finance Corporation of India, State Financial Corporations, Industrial Development Bank of India, Agricultural Refinance and Development Corporation, Unit Trust of India, Credit Guarantee Corporation of India, Deposit Insurance Corporation etc., (the latter two since merged with effect from July 15, 1978).

but excludes :

(a) Balances held in International Monetary' Fund (IMF) Account No. 1. (b) Balances in the account of Administrators of the RBI Employee's Provident, Gratuity, Superannuation and Guarantee Funds, and (c) Some extra-ordinary items such as the amounts collected under : (i) Additional Emoluments (Compulsory Deposit) Act, 1974, (ii) The Compulsory Deposit Scheme (Income Tax Payments Act) Act, 1974, (iii) State Governments Loans Accounts prior to the transfer of the amount to the accounts of the concerned State Government and (iv) The annual profit of the RBI prior to its transfer to the Central Government account. The balances in the above accounts are excluded since these are non-monetary liabilities of R.B.I.

There has been less role of "other deposits" in affecting the value of money multiplier. During 1992-93 its role has been more significant when other deposits affected money multiplier in quarters II, IV and I. In 1993-94 other deposits affected money multiplier in quarter IV and II and in 1995-96 in quarter I only (Table 1.3). This shows that out of 31 years, for 3 years it affected the value of money multiplier. Its average value has been 3.04 per cent on quarterly basis in affecting the money multiplier. (Table 1.3)

1.5.3 Time Deposit Ratio

In this study another important source of variation in money multiplier besides currency ratio, emerges the ratio between times to demand deposits – a measure of non-bank-public's preference between these two types of deposits. Since long, it had been the practice of keeping the time deposits outside the components of money stock. It is because of this prevalent practice that in the traditional analysis of money stock determination through the money multiplier approach, time deposits have been treated as a 'leakage' in the process of money creation or destruction. But developments in banking over the past three decades and research in the field of monetary economics over the last twenty years have heightened the importance of time deposits to be included in the measurement of money stock. Therefore, attune to the modern approach in this study time deposits are treated as a component of money stock. Hence the increase in time deposit ratio will increase the value of money-multiplier and a fall in this ratio will decrease it.

Time deposit ratio has been significant in affecting the money multiplier for 21 quarters out of 124 quarters. Out of 31 years, for 13 years, time deposit ratio has not affected the value of money multiplier (Table 1.3). Its contribution in affecting the value of money multiplier was highest 49.51 per cent (Table 1.2 and Table 1.3). In other words about 50 per cent value of money multiplier was affected by time deposit ratio.

1.5.4 Liability Ratio

The statutory reserve requirement provisions are not only on deposit liabilities but these are applicable for total liabilities which comprise the following : (i) Demand and time deposits from banks represent interbank deposits in current, savings and fixed deposits. (ii) Borrowings from banks represent the inter-bank borrowings and include interbank deposits at call and short notice not exceeding 14 days. The net liability of a bank towards the Banking System (Banking system in this content covers (a) State Bank of India, (b) 7 subsidiaries of State Bank of India, (c) 19 nationalised banks, (d) all other banking companies in private sector including foreign banks operating in India, (e) all the regional rural banks, (f) cooperative banks and (g) any other financial institution noticed by the Government of India) is treated as a liability with effect from the week ended January 30, 1976. Borrowings from the R.B.I. the Industrial Developments Bank of India and the Agricultural Refinance and Development Corporation of India are excluded for the purpose of statutory reserve requirements. (iii) Liabilities to others include : (a) aggregate deposits from the non bank public (b) borrowing from outside the "Banking system" and (c) other demand and time liabilities like Interest accrued on deposits, bills payable, unpaid dividends and suspense account balances.

Liability Ratio remained insignificant in affecting the value of money multiplier during the whole period of study

of 31 years, only in quarter III and IV of 2010-11; it affected the value of money multiplier. Its value remained only 0.49 per cent in affecting the value of money multiplier for the whole period. (Table 1.2 & Table 1.3)

1.5.6 Excess Reserves and Statutory Reserves

Reserves can be described as the amount of monetary assets held by banks in some proportion against their total deposits and or total liabilities because either of statutory provisions or customs. These 'reserves' generally consists of vault cash with banks and deposits with a central bank. Different countries have different provisions for reserves e.g. in Britain besides cash and balances at the Bank of England the reserve consists of Treasury bills, gilt-edged stocks (maturing within a year) and discount market call money (Fair, 1981:19). Historically, reserve requirements were imposed to assure that banks maintain a cash fund, to meet temporary drains caused by depositor withdrawals. In the United States one of the original purposes of requiring banks to hold specified minimums of reserves was to promote the liquidity of the banking system under the National Banking Act of 1863.

In fact reserve requirements have been amongst the three main traditional instruments of operations of monetary policy, the other two being the discount rate and open market operations. Whereas net borrowed reserves have been believed to be a condition of monetary tightness, high levels of free reserves have been considered a stimulus to banking system for expansion of credit. Even though reserves do not occupy their former unique position in conducting monetary policy, these still effect the amount of money stock in an important way as these forms an important component of high-powered money.

In the traditional mechanistic formulation of money multiplier, its value solely depended upon the reciprocal of percentages-reserves being kept against the loan sanctioned to business houses and/or bills discounted. Still in the contemporary more than one way-asset-allocation theory for money-multiplier, reserves are viewed as a device for controlling bank credit and money stock in an important way. These reserves form a fulcrum which determines the maximum expansion of money stock given the other assets-ratios. In fact, this is a blunt instrument for changes in the money stock as relatively small changes in reserve requirement tend to have a very larger potential effect on money stock. The provision of higher /lower reserve requirements reduces (increases) the multiple expansion of deposit and thus decreases (increases) the value of money-multiplier and money stock. Money stock then is inversely related to the required-reserve ratio. If the whole amount of high powered money is demanded by banks as reserves than there is no difference between high powered money and reserves of banks. But the other component of high powered money - cash is also demanded by non-bank public. Thus the total demand of high powered money consists of demand of banks for 'reserves' and demand of non-bank public for 'currency'.

The reserves of banks are a composite of statutory reserves (r_s) and excess reserves (r_e). Banks' demand for statutory reserves is a derived demand reflecting the demand of reserves against total liabilities. For this amount of reserves, there are statutory provisions and hence it is legally determined. Therefore, the portion of reserves which banks hold in order to meet legal requirements is termed as 'statutory reserves'.

But generally it is not practical for banks to hold exactly the prescribed amount of reserves, and there is 'always some variations in the required reserves. Reserves held beyond those legally needed are termed as 'excess reserves'" and this is behaviourally determined. However at the same time this does not indicate a supply of readily available funds. In fact, for practical purposes, these reserves are 'excess' in a legal sense only. As the excess reserves are non-earning assets each bank attempts to keep excess reserves at a practical minimum in view of all pertinent circumstances.

Apparently, the holdings of reserves in excess of the 'required' is regarded as a 'luxury' like education and recreation and, therefore, it also involves a cost either explicit or imputed. The cost of holdings excess reserves depends mainly on the returns which a bank can earn on available alternative uses. If a bank has excess reserves, it can expand loans, buy securities or reduce indebtedness. A commercial bank always weighs in between liquidity (because of excess reserves) on the one hand and profit considerations (returns available on excess reserves*)* on the other, whenever it keeps the reserves in excess of the required. Bank generally keep these excess reserves for earning more in period t+1 than what is available in period t and more particularly to avoid the knocking of discount-window whenever funds are needed beyond expectations.

Thus, excess reserves are an additional factor that affects the value of money multiplier in the same manner as the required reserve ratio. That is, a high or low excess reserve ratio produces a low and a high value of money multiplier. Holding reserves idle, rather than using them to expand loans and investments means that a given level of reserves is supporting a smaller quantity of deposits. Thus, an increase/decrease in the excess reserve ratio decreases/ increases the money multiplier.

1.5.7 What about the Money Multiplier?

The fact that banks continue to hold a large quantity of excess reserves conflicts with the traditional notion of the money multiplier. According to this notion, an increase in bank reserves should be "multiplied" into a much larger increase in the broad money supply as banks expand their deposits and lending activities. The expansion of deposits, in turn, should raise the level of required reserves until there are little or no excess reserves in the banking system.

Textbook accounts of the money multiplier assume that banks do not earn interest on their reserves. As noted earlier, a bank holding excess reserves in such an environment will seek to lend out those reserves at any positive interest rate, and this additional lending will lower the short-term interest rate. This lending also creates additional deposits in the banking system and thus leads to a small increase in reserve requirement. Because the increase in required reserves is small, however, the supply of excess reserves remains large. The process then repeats itself, with banks making more new loans and the short-term interest rate falling further.

The multiplier process could continue until excess reserves are eliminated—that is, until the increase in lending and deposits have raised required reserves all the way up to the level of total reserves. If this happens, the money multiplier will be fully operational. However, the process will stop earlier if the short-term interest rate reaches zero. When the market interest rate is zero, the opportunity cost associated with holding reserves disappears. At this point, banks no longer have an incentive to lend out their excess reserves, and the multiplier process halts. Textbook accounts of the money multiplier assume that banks do not earn interest on their reserves. If the central bank pays interest on reserves at its target interest rate, then banks never face an opportunity cost of holding reserves and the money multiplier does not come into play.

As noted earlier, however, most central banks now pay interest on reserves. When reserves earn interest, the multiplier process will not continue to the point where the market interest rate is zero. Rather, it will stop when the market rate reaches the rate paid by the central bank, since if these rates are the same; banks no longer face an opportunity cost of holding reserves. If the central bank pays interest on reserves at its *target* interest rate, then banks never face an opportunity cost of holding reserves and the money multiplier does not come into play.

Some observers have expressed concern that the large quantity of reserves will lead to an increase in the inflation rate unless the Central Bank acts to remove them quickly once the economy begins to recover. Meltzer (2009), for example, worries that "the enormous increase in bank reserves will surely bring on severe inflation if allowed to remain." Feldstein (2009) expresses a similar concern, noting that "when the economy begins to recover, these reserves can be converted into new loans and faster money growth" that will eventually prove inflationary. Under a traditional operating framework, in which the central bank influences interest rates and the level of economic activity by changing the quantity of reserves, these concerns would be justified.

Paying interest on reserves allows the central bank to follow a path for short-term interest rates that is independent of the level of reserves. By choosing this path appropriately, the central bank can guard against inflationary pressures even if financial conditions lead it to maintain a high level of excess reserves.

Paying interest on reserves breaks this link between the quantity of reserves and banks' willingness to lend. By raising the interest rate it pays on reserves, the central bank can increase market rates and slow the growth of bank lending and economic activity without changing the quantity of reserves. In other words, paying interest on reserves allows the central bank to follow a path for short-term interest rates that is independent of the level of reserves. By choosing this path appropriately, the central bank can guard against inflationary pressures even if financial conditions lead it to maintain a high level of excess reserves

As the required reserves are statutorily determined by the Reserve Bank of India, their movement is not influenced by the action of banks and therefore, its value cannot be predicted by fitting the regression equation.

Excess reserves ratio affected money multiplier by 14.70 per cent during the whole period of 124 quarters. Number of quarter wise it remained significant in 28 quarters. (Table 1.2 & Table 1.3)

Statutory reserves are reserves that are kept by banks with the Central Bank because of legal provision. The contribution of statutory reserves in affecting the money multiplier was 20.24 per cent for all the quarters. (Table 1.2 & Table 1.3)

1.5.8 Yearly Contributions of ratios

Time deposit ratio contributed highest 36.63 per cent in affecting the value of money multiplier on annual basis for 31 years period (Table 1.5 & Table 1.6). However, on quarterly basis the contribution of Time deposit ratio was 49.51 per cent. This shows that contribution of time deposit ratio in affecting the money multiplier quarterly was 35 per cent higher than contribution on yearly basis.

The second highest contribution has been made by statutory reserve ratio on annual basis. Its contribution in affecting money multiplier has been 29.98 per cent on annual basis while on quarterly basis its contribution was 20.24 per cent. On annual basis the contribution of statutory reserve ratio was thus higher by about 50 per cent. (Table 1.5 & Table 1.6)

Excess reserve ratio contributed 13.26 per cent in fluctuation of money multiplier on yearly basis, while almost same (14.70%) was the contribution on quarterly basis. Liability ratio contributed minimum in fluctuation of money multiplier. It was 3.55 per cent and this was also on negative side. On quarterly basis its contribution was 0.49 per cent only.

Hence, we conclude that on annual basis the fluctuation in money multiplier have been because of time deposit ratio (49.51) statutory reserve ratio (20.24%) excess reserve ratio (14.70%) and currency ratio (12.02%). (Table 1.5 & Table 1.6)

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Table 1.1
Contribution of Components of Money Multiplier
(Quarterly Data)

Period	Values obtained on the basis of actual data						
	c	b	t	r_s	r_e	l	m_2
0	1	2	3	4	5	6	7
1980-81							
II	1.54694	0.03329	3.56295	0.06001	0.05818	1.02408	2.88073
III	1.49968	0.03210	3.76685	0.06000	0.05534	1.01323	3.01531
IV	1.48048	0.02476	3.65845	0.05999	0.06258	1.01730	2.95469
I	1.44588	0.02480	3.53538	0.05999	0.06008	1.01813	2.96576
1981-82							
II	1.45010	0.01892	3.50447	0.05999	0.05858	1.01708	2.96854
III	1.40143	0.01885	3.66933	0.06750	0.05747	1.01795	3.02319
IV	1.36808	0.01594	3.63815	0.07375	0.04506	1.01703	3.09709
I	1.39599	0.01493	3.68768	0.07250	0.04719	1.01890	3.07604
1982-83							
II	1.46105	0.01289	3.68518	0.07001	0.04790	1.01845	3.02424
III	1.42653	0.01247	3.91911	0.07000	0.04408	1.00406	3.17513
IV	1.37917	0.01472	3.81800	0.07001	0.04956	1.01325	3.14117
I	1.44260	0.01357	3.98795	0.07000	0.03444	1.01752	3.24436
1983-84							
II	1.51699	0.01075	3.95297	0.07500	0.02672	1.01210	3.18050
III	1.43344	0.01449	4.09591	0.08250	0.02407	1.01470	3.27355
IV	1.42211	0.01232	4.07296	0.08260	0.03317	1.00567	3.21348
I	1.48726	0.01829	4.16688	0.08285	0.03263	1.01192	3.16326
1984-85							
II	1.53388	0.02322	4.05100	0.08334	0.03230	1.01833	3.07083
III	1.48390	0.02350	4.20634	0.08362	0.02747	1.01737	3.20341
IV	1.46538	0.02176	4.13017	0.08391	0.02577	1.01534	3.21465
I	1.45552	0.02305	4.08539	0.08417	0.04258	1.01674	3.07597
1985-86							
II	1.53512	0.01785	4.12206	0.08442	0.01455	1.03474	3.21304
III	1.39855	0.01288	4.18685	0.08465	0.03457	1.02034	3.23063
IV	1.44921	0.01427	4.34351	0.08487	0.02737	1.02776	3.27279
I	1.36518	0.01671	4.19740	0.08504	0.03754	1.00765	3.25081
1986-87							
II	1.48504	0.01275	4.29812	0.08526	0.03415	1.02224	3.16903
III	1.34850	0.01298	4.26495	0.08542	0.03901	1.00737	3.27810
IV	1.36031	0.01271	4.33853	0.08567	0.04047	1.02047	3.25769
I	1.27261	0.01314	4.11630	0.08806	0.05221	1.00057	3.19495
1987-88							
II	1.45796	0.01469	4.36695	0.08836	0.05425	1.01585	3.03963
III	1.36774	0.01030	4.50774	0.08975	0.05854	1.00299	3.13386
IV	1.43446	0.01664	4.59163	0.09135	0.05924	1.01623	3.05304

Period	Values obtained on the basis of actual data						
	c	b	t	r_s	r_e	l	m_2
0	1	2	3	4	5	6	7
I	1.38387	0.01537	4.44381	0.09160	0.05908	1.00151	3.08141
1988-89							
II	1.49696	0.01942	4.57870	0.09328	0.05865	1.02050	2.97942
III	1.35237	0.01297	4.59237	0.09802	0.05460	1.00834	3.12567
IV	1.33172	0.01251	4.52713	0.09867	0.05726	1.01847	3.09247
I	1.37144	0.01726	4.60379	0.09896	0.05118	1.01110	3.12250
1989-90							
II	1.43762	0.01405	4.59739	0.09953	0.04871	1.02083	3.06655
III	1.32263	0.01556	4.49714	0.12555	0.02356	1.02696	3.13552
IV	1.29794	0.01788	4.32310	0.12656	0.02836	1.01980	3.07811
I	1.35579	0.01586	4.41733	0.12724	0.02878	1.01265	3.04771
1990-91							
II	1.40341	0.02032	4.35999	0.12826	0.02246	1.01979	3.01822
III	1.35004	0.01604	4.53749	0.12914	0.01250	1.03048	3.17506
IV	1.34302	0.03815	4.45824	0.12964	0.01523	1.01987	3.12645
I	1.37053	0.03661	4.46532	0.13247	0.01244	1.00586	3.11853
1991-92							
II	1.41190	0.03249	4.42897	0.13096	0.01662	1.00965	3.05030
III	1.28914	0.02371	4.39410	0.13181	0.01734	1.01706	3.14719
IV	1.20440	0.03429	4.00727	0.13264	0.01613	1.00704	3.14046
I	1.18841	0.02808	3.89872	0.13344	0.02017	1.01058	3.09322
1992-93							
II	1.19652	0.08440	3.87827	0.13424	0.01356	1.01731	3.05757
III	1.24514	0.13060	4.38521	0.13514	-0.00336	1.04705	3.19099
IV	1.26926	0.07246	4.59248	0.13532	0.00270	1.01228	3.26612
I	1.28922	0.02644	4.55272	0.13595	0.00204	1.02853	3.26483
1993-94							
II	1.35734	0.08054	4.54616	0.14250	-0.01224	1.01745	3.21413
III	1.38099	0.08483	4.88339	0.14000	-0.00031	1.03157	3.17653
IV	1.36936	0.04268	4.77270	0.14000	-0.00097	1.02683	3.21299
I	1.26836	0.03023	4.33681	0.14000	0.00681	1.03009	3.15119
1994-95							
II	1.31204	0.03925	4.24703	0.14000	0.00232	1.02201	3.12056
III	1.25659	0.06653	4.36126	0.14750	0.00162	1.02384	3.12112
IV	1.21522	0.05177	4.15519	0.15000	-0.00357	1.02057	3.15215
I	1.25662	0.04012	4.11578	0.15000	-0.00152	1.01967	3.09592
1995-96							
II	1.37779	0.08169	4.20986	0.15000	-0.00621	1.01665	3.00272
III	1.35980	0.08125	4.36782	0.15000	-0.00749	1.01825	3.06711
IV	1.42762	0.07977	4.56418	0.14250	-0.01528	1.01124	3.18077
I	1.41845	0.05351	4.52545	0.14000	-0.00727	1.01627	3.15584

Period	Values obtained on the basis of actual data						
	c	b	t	r_s	r_e	l	m_2
0	1	2	3	4	5	6	7
1996-97							
II	1.48921	0.06807	4.63091	0.13250	-0.00919	1.01903	3.17382
III	1.37897	0.06329	4.67025	0.12000	-0.00579	1.01049	3.39229
IV	1.45504	0.06948	4.87738	0.11250	-0.00402	1.01764	3.40575
I	1.33558	0.03830	4.59018	0.10250	-0.00280	1.00995	3.59572
1997-98							
II	1.43804	0.04065	4.75348	0.10000	0.00274	1.01716	3.47710
III	1.39938	0.04613	4.95707	0.10000	0.00097	1.01638	3.59899
IV	1.41497	0.04262	5.07003	0.09750	-0.00106	1.03131	3.65183
I	1.31764	0.02946	4.91765	0.10375	0.00277	1.01085	3.66117
1998-99							
II	1.39211	0.02747	5.05991	0.10000	-0.00840	1.01708	3.76965
III	1.30359	0.03662	5.29027	0.11000	-0.01528	1.00790	3.93180
IV	1.39274	0.03222	5.56682	0.11000	-0.01157	1.01394	3.84150
I	1.33762	0.02668	5.29180	0.10500	-0.00406	1.00885	3.81843
1999-00							
II	1.45613	0.02933	5.48507	0.10000	-0.01180	1.01751	3.85527
III	1.37813	0.03503	5.65876	0.10000	-0.01429	1.00505	4.06280
IV	1.43088	0.02423	5.70163	0.09250	-0.01136	1.01830	4.06050
I	1.32247	0.02047	5.36920	0.09000	-0.00810	1.01683	4.11668
2000-01							
II	1.33995	0.02275	5.40166	0.08000	-0.00825	1.08600	4.17485
III	1.34815	0.02770	5.78798	0.08250	-0.01466	1.08672	4.35190
IV	1.32931	0.01961	5.75144	0.08500	-0.01404	1.08877	4.33755
I	1.30864	0.01793	5.80041	0.08500	-0.01247	1.08580	4.36306
2001-02							
II	1.33323	0.02006	5.77448	0.08000	-0.01206	1.08633	4.38398
III	1.33212	0.02275	6.12732	0.07500	-0.00968	1.08339	4.56052
IV	1.36163	0.01760	6.23011	0.05750	0.00643	1.08621	4.57076
I	1.40121	0.01466	6.28605	0.05500	0.00812	1.08532	4.54486
2002-03							
II	1.41101	0.01451	6.36317	0.05000	0.00542	1.07983	4.71198
III	1.41543	0.02022	6.74276	0.05000	0.00584	1.08156	4.81902
IV	1.39822	0.01579	6.62080	0.05000	0.00165	1.08306	4.91109
I	1.40485	0.01593	6.51414	0.05000	0.00369	1.08256	4.80685
2003-04							
II	1.38933	0.01562	6.25945	0.05000	0.00847	1.08364	4.65020
III	1.40331	0.02257	6.58720	0.05000	0.00169	1.08189	4.87283
IV	1.36162	0.01939	6.22396	0.05000	0.00731	0.97889	4.82433
I	1.32470	0.01708	6.00728	0.05000	0.01320	0.95545	4.73391

Period	Values obtained on the basis of actual data						
	c	b	t	r_s	r_e	l	m_2
0	1	2	3	4	5	6	7
2004-05							
II	1.34315	0.01527	6.04599	0.04500	0.00640	1.08358	4.80072
III	1.31331	0.01806	6.11238	0.04750	0.00240	1.08351	4.91879
IV	1.27007	0.01955	5.74652	0.04750	0.00745	1.09031	4.79113
I	1.29114	0.02005	5.84258	0.04750	0.00932	1.09720	4.69377
2005-06							
II	1.26681	0.01497	5.62221	0.05000	0.00542	1.07620	4.71063
III	1.16250	0.01571	5.39966	0.04734	0.00982	1.07921	4.81075
IV	1.18128	0.01414	5.39150	0.05000	0.00540	1.08774	4.80013
I	1.11152	0.01476	4.95899	0.05000	0.00696	1.08415	4.74174
2006-07							
II	1.13390	0.01591	5.06868	0.05000	0.00921	1.08123	4.69317
III	1.13004	0.01492	5.33410	0.05250	0.00473	1.08142	4.86618
IV	1.14073	0.01381	5.30011	0.05250	0.00346	1.08494	4.84996
I	1.09370	0.01349	5.13303	0.05250	0.01204	1.08510	4.71131
2007-08							
II	1.18833	0.01534	5.68304	0.06500	0.00584	1.08059	4.59801
III	1.07175	0.01676	5.59353	0.07000	0.01073	1.08011	4.61814
IV	1.09837	0.01011	5.61106	0.07500	0.00245	1.08378	4.64088
I	1.04763	0.01184	5.29573	0.07500	0.01028	1.08989	4.47226
2008-09							
II	1.18330	0.01143	5.86898	0.07500	0.00563	1.08167	4.48047
III	1.12983	0.01006	5.91435	0.08500	0.00569	1.08040	4.43537
IV	1.23735	0.01498	6.53984	0.05500	0.00646	1.07913	5.01726
I	1.27785	0.01189	6.80603	0.05000	0.01049	1.08351	5.08408
2009-10							
II	1.23940	0.01438	6.60479	0.05000	0.00654	1.07229	5.16599
III	1.14056	0.00766	6.33534	0.05000	0.00455	1.07253	5.37831
IV	1.23274	0.00779	6.63528	0.05000	0.00565	1.07011	5.23570
I	1.14273	0.00598	6.13914	0.05750	0.00792	1.07019	5.02745
2010-11							
II	1.25869	0.00541	6.48371	0.05750	0.00630	1.06521	4.93477
III	1.20116	0.00611	6.36658	0.05750	0.00083	1.18544	4.99737
IV	1.19500	0.00515	6.31674	0.06000	0.00265	1.06557	5.04369
I	1.31345	0.01003	6.95233	0.06000	0.00759	1.06086	4.89837
2011-12							
II	1.49227	0.00480	7.89530	0.06000	0.00524	1.06332	4.91560

Table 1.1 (Continued)

Contribution of Components of Marginal Money Multiplier (Quarterly Data)

Period	Δc	Δb	Δt	Δr_s	Δr_e	Δl	Δm_2	r
	1	2	3	4	5	6	7	8
1980-81								
II	–	–	–	–	–	–	–	–
III	-0.04726	-0.00119	0.20390	0.00000	-0.00284	-0.01086	0.13458	2.88073
IV	-0.01920	-0.00734	-0.10840	-0.00001	0.00723	0.00407	-0.06062	3.01531
I	-0.03460	0.00004	-0.12307	0.00000	-0.00249	0.00083	0.01107	2.95469
1981-82								
II	0.00423	-0.00588	-0.03091	0.00000	-0.00150	-0.00105	0.00278	2.96576
III	-0.04867	-0.00006	0.16486	0.00751	-0.00111	0.00087	0.05465	2.96854
IV	-0.03335	-0.00292	-0.03117	0.00625	-0.01241	-0.00092	0.07390	3.02319
I	0.02791	-0.00101	0.04953	-0.00125	0.00213	0.00186	-0.02105	3.09709
1982-83								
II	0.06506	-0.00204	-0.00251	-0.00249	0.00071	-0.00045	-0.05180	3.07604
III	-0.03452	-0.00042	0.23393	-0.00001	-0.00382	-0.01438	0.15088	3.02424
IV	-0.04737	0.00225	-0.10111	0.00001	0.00547	0.00919	-0.03396	3.17513
I	0.06343	-0.00115	0.16995	0.00000	-0.01512	0.00427	0.10319	3.14117
1983-84								
II	0.07439	-0.00281	-0.03498	0.00500	-0.00772	-0.00542	-0.06386	3.24436
III	-0.08355	0.00373	0.14294	0.00750	-0.00264	0.00261	0.09306	3.18050
IV	-0.01133	-0.00217	-0.02296	0.00010	0.00910	-0.00904	-0.06008	3.27355
I	0.06515	0.00597	0.09392	0.00025	-0.00053	0.00625	-0.05021	3.21348
1984-85								
II	0.04662	0.00493	-0.11588	0.00049	-0.00033	0.00641	-0.09244	3.16326
III	-0.04998	0.00028	0.15534	0.00029	-0.00484	-0.00096	0.13259	3.07083
IV	-0.01852	-0.00174	-0.07617	0.00029	-0.00169	-0.00203	0.01124	3.20341
I	-0.00986	0.00129	-0.04477	0.00025	0.01681	0.00140	-0.13868	3.21465
1985-86								
II	0.07960	-0.00520	0.03667	0.00025	-0.02804	0.01800	0.13707	3.07597
III	-0.13657	-0.00496	0.06479	0.00024	0.02002	-0.01440	0.01759	3.21304
IV	0.05065	0.00139	0.15666	0.00021	-0.00720	0.00742	0.04215	3.23063
I	-0.08403	0.00244	-0.14611	0.00018	0.01017	-0.02011	-0.02198	3.27279
1986-87								
II	0.11987	-0.00396	0.10072	0.00022	-0.00340	0.01459	-0.08178	3.25081
III	-0.13654	0.00023	-0.03318	0.00017	0.00486	-0.01487	0.10907	3.16903
IV	0.01181	-0.00027	0.07359	0.00025	0.00146	0.01311	-0.02041	3.27810
I	-0.08771	0.00043	-0.22224	0.00239	0.01174	-0.01990	-0.06274	3.25769
1987-88								
II	0.18536	0.00155	0.25065	0.00030	0.00204	0.01528	-0.15532	3.19495
III	-0.09022	-0.00439	0.14080	0.00139	0.00429	-0.01286	0.09423	3.03963
IV	0.06671	0.00634	0.08389	0.00160	0.00070	0.01324	-0.08081	3.13386
I	-0.05059	-0.00127	-0.14783	0.00025	-0.00015	-0.01472	0.02837	3.05304
1988-89								
II	0.11309	0.00405	0.13489	0.00168	-0.00043	0.01899	-0.10199	3.08141
III	-0.14459	-0.00645	0.01367	0.00473	-0.00405	-0.01216	0.14626	2.97942
IV	-0.02066	-0.00046	-0.06524	0.00065	0.00265	0.01013	-0.03321	3.12567
I	0.03972	0.00475	0.07666	0.00029	-0.00607	-0.00737	0.03003	3.09247
1989-90								
II	0.06618	-0.00321	-0.00640	0.00057	-0.00247	0.00973	-0.05595	3.12250
III	-0.11499	0.00151	-0.10025	0.02603	-0.02515	0.00613	0.06897	3.06655
IV	-0.02469	0.00232	-0.17403	0.00101	0.00481	-0.00716	-0.05740	3.13552

Period	Δc	Δb	Δt	Δr_s	Δr_e	Δl	Δm_2	r
	1	2	3	4	5	6	7	8
I	0.05785	-0.00202	0.09423	0.00068	0.00042	-0.00715	-0.03040	3.07811
1990-91								
II	0.04763	0.00446	-0.05734	0.00102	-0.00632	0.00713	-0.02949	3.04771
III	-0.05338	-0.00428	0.17749	0.00088	-0.00996	0.01069	0.15684	3.01822
IV	-0.00701	0.02211	-0.07924	0.00050	0.00273	-0.01061	-0.04861	3.17506
I	0.02750	-0.00154	0.00707	0.00283	-0.00279	-0.01401	-0.00792	3.12645
1991-92								
II	0.04137	-0.00412	-0.03634	-0.00151	0.00419	0.00379	-0.06822	3.11853
III	-0.12275	-0.00877	-0.03488	0.00085	0.00072	0.00741	0.09688	3.05030
IV	-0.08474	0.01058	-0.38683	0.00083	-0.00121	-0.01002	-0.00673	3.14719
I	-0.01599	-0.00622	-0.10855	0.00080	0.00404	0.00354	-0.04724	3.14046
1992-93								
II	0.00811	0.05633	-0.02044	0.00079	-0.00661	0.00673	-0.03565	3.09322
III	0.04862	0.04619	0.50693	0.00090	-0.01692	0.02974	0.13342	3.05757
IV	0.02412	-0.05814	0.20727	0.00018	0.00606	-0.03477	0.07513	3.19099
I	0.01996	-0.04602	-0.03977	0.00063	-0.00066	0.01625	-0.00129	3.26612
1993-94								
II	0.06813	0.05409	-0.00655	0.00655	-0.01428	-0.01108	-0.05070	3.26483
III	0.02364	0.00429	0.33723	-0.00250	0.01193	0.01412	-0.03760	3.21413
IV	-0.01163	-0.04215	-0.11069	0.00000	-0.00066	-0.00474	0.03646	3.17653
I	-0.10100	-0.01244	-0.43590	0.00000	0.00778	0.00326	-0.06180	3.21299
1994-95								
II	0.04368	0.00901	-0.08977	0.00000	-0.00450	-0.00808	-0.03063	3.15119
III	-0.05545	0.02728	0.11423	0.00750	-0.00069	0.00183	0.00056	3.12056
IV	-0.04137	-0.01476	-0.20607	0.00250	-0.00519	-0.00327	0.03103	3.12112
I	0.04141	-0.01165	-0.03942	0.00000	0.00205	-0.00091	-0.05622	3.15215
1995-96								
II	0.12116	0.04157	0.09408	0.00000	-0.00469	-0.00302	-0.09320	3.09592
III	-0.01798	-0.00044	0.15796	0.00000	-0.00128	0.00160	0.06438	3.00272
IV	0.06782	-0.00147	0.19636	-0.00750	-0.00779	-0.00701	0.11366	3.06711
I	-0.00917	-0.02626	-0.03873	-0.00250	0.00801	0.00503	-0.02493	3.18077
1996-97								
II	0.07076	0.01456	0.10547	-0.00750	-0.00192	0.00276	0.01798	3.15584
III	-0.11024	-0.00478	0.03933	-0.01250	0.00340	-0.00853	0.21847	3.17382
IV	0.07607	0.00619	0.20713	-0.00750	0.00177	0.00715	0.01346	3.39229
I	-0.11946	-0.03118	-0.28720	-0.01000	0.00122	-0.00769	0.18997	3.40575
1997-98								
II	0.10246	0.00235	0.16331	-0.00250	0.00554	0.00721	-0.11862	3.59572
III	-0.03866	0.00549	0.20358	0.00000	-0.00177	-0.00078	0.12189	3.47710
IV	0.01560	-0.00351	0.11296	-0.00250	-0.00203	0.01494	0.05283	3.59899
I	-0.09734	-0.01317	-0.15238	0.00625	0.00383	-0.02046	0.00934	3.65183
1998-99								
II	0.07447	-0.00199	0.14227	-0.00375	-0.01117	0.00624	0.10848	3.66117
III	-0.08851	0.00915	0.23036	0.01000	-0.00688	-0.00918	0.16216	3.76965
IV	0.08915	-0.00440	0.27655	0.00000	0.00372	0.00604	-0.09030	3.93180
I	-0.05513	-0.00553	-0.27502	-0.00500	0.00751	-0.00509	-0.02307	3.84150
1999-00								
II	0.11852	0.00265	0.19327	-0.00500	-0.00775	0.00866	0.03683	3.81843
III	-0.07800	0.00570	0.17369	0.00000	-0.00248	-0.01246	0.20753	3.85527
IV	0.05275	-0.01080	0.04287	-0.00750	0.00292	0.01325	-0.00231	4.06280
I	-0.10841	-0.00376	-0.33243	-0.00250	0.00327	-0.00147	0.05618	4.06050
2000-01								

Period	Δc	Δb	Δt	Δr_s	Δr_e	Δl	Δm_2	r
	1	2	3	4	5	6	7	8
II	0.01748	0.00228	0.03246	-0.01000	-0.00016	0.06917	0.05817	4.11668
III	0.00820	0.00496	0.38632	0.00250	-0.00640	0.00072	0.17705	4.17485
IV	-0.01884	-0.00810	-0.03654	0.00250	0.00062	0.00205	-0.01435	4.35190
I	-0.02067	-0.00167	0.04897	0.00000	0.00157	-0.00297	0.02552	4.33755
2001-02								
II	0.02459	0.00212	-0.02593	-0.00500	0.00041	0.00053	0.02092	4.36306
III	-0.00111	0.00270	0.35284	-0.00500	0.00238	-0.00294	0.17654	4.38398
IV	0.02951	-0.00516	0.10279	-0.01750	0.01611	0.00282	0.01024	4.56052
I	0.03958	-0.00294	0.05594	-0.00250	0.00170	-0.00089	-0.02590	4.57076
2002-03								
II	0.00980	-0.00015	0.07713	-0.00500	-0.00270	-0.00549	0.16712	4.54486
III	0.00442	0.00571	0.37959	0.00000	0.00042	0.00173	0.10703	4.71198
IV	-0.01721	-0.00443	-0.12196	0.00000	-0.00419	0.00150	0.09207	4.81902
I	0.00663	0.00014	-0.10666	0.00000	0.00204	-0.00050	-0.10424	4.91109
2003-04								
II	-0.01553	-0.00032	-0.25469	0.00000	0.00478	0.00108	-0.15665	4.80685
III	0.01399	0.00695	0.32775	0.00000	-0.00678	-0.00175	0.22262	4.65020
IV	-0.04169	-0.00318	-0.36324	0.00000	0.00562	-0.10300	-0.04850	4.87283
I	-0.03692	-0.00232	-0.21668	0.00000	0.00589	-0.02344	-0.09042	4.82433
2004-05								
II	0.01845	-0.00180	0.03871	-0.00500	-0.00680	0.12813	0.06681	4.73391
III	-0.02984	0.00278	0.06638	0.00250	-0.00400	-0.00007	0.11807	4.80072
IV	-0.04324	0.00150	-0.36586	0.00000	0.00504	0.00680	-0.12766	4.91879
I	0.02107	0.00050	0.09606	0.00000	0.00187	0.00689	-0.09736	4.79113
2005-06								
II	-0.02433	-0.00508	-0.22037	0.00250	-0.00389	-0.02100	0.01686	4.69377
III	-0.10431	0.00074	-0.22255	-0.00266	0.00440	0.00301	0.10012	4.71063
IV	0.01878	-0.00157	-0.00816	0.00266	-0.00443	0.00853	-0.01062	4.81075
I	-0.06977	0.00062	-0.43251	0.00000	0.00156	-0.00359	-0.05840	4.80013
2006-07								
II	0.02238	0.00115	0.10969	0.00000	0.00226	-0.00291	-0.04857	4.74174
III	-0.00386	-0.00099	0.26542	0.00250	-0.00449	0.00019	0.17301	4.69317
IV	0.01069	-0.00112	-0.03400	0.00000	-0.00126	0.00352	-0.01622	4.86618
I	-0.04703	-0.00032	-0.16708	0.00000	0.00858	0.00016	-0.13864	4.84996
2007-08								
II	0.09463	0.00185	0.55002	0.01250	-0.00621	-0.00451	-0.11330	4.71131
III	-0.11657	0.00143	-0.08951	0.00500	0.00489	-0.00048	0.02013	4.59801
IV	0.02661	-0.00666	0.01753	0.00500	-0.00828	0.00367	0.02274	4.61814
I	-0.05074	0.00173	-0.31532	0.00000	0.00783	0.00611	-0.16862	4.64088
2008-09								
II	0.13567	-0.00042	0.57324	0.00000	-0.00465	-0.00822	0.00821	4.47226
III	-0.05347	-0.00136	0.04538	0.01000	0.00006	-0.00127	-0.04510	4.48047
IV	0.10753	0.00492	0.62548	-0.03000	0.00077	-0.00127	0.58188	4.43537
I	0.04049	-0.00310	0.26619	-0.00500	0.00403	0.00438	0.06682	5.01726
2009-10								
II	-0.03845	0.00250	-0.20124	0.00000	-0.00395	-0.01122	0.08191	5.08408
III	-0.09884	-0.00672	-0.26945	0.00000	-0.00199	0.00024	0.21232	5.16599
IV	0.09218	0.00012	0.29994	0.00000	0.00110	-0.00241	-0.14260	5.37831
I	-0.09001	-0.00180	-0.49614	0.00750	0.00227	0.00007	-0.20825	5.23570
2010-11								
II	0.11596	-0.00058	0.34456	0.00000	-0.00162	-0.00498	-0.09268	5.02745

Period	Δc	Δb	Δt	Δr_s	Δr_e	Δl	Δm_2	r
	1	2	3	4	5	6	7	8
III	-0.05753	0.00070	-0.11713	0.00000	-0.00547	0.12023	0.06260	4.93477
IV	-0.00616	-0.00096	-0.04984	0.00250	0.00182	-0.11987	0.04632	4.99737
I	0.11844	0.00489	0.63559	0.00000	0.00493	-0.00471	-0.14532	5.04369
2011-12								
II	0.17882	-0.00524	0.94296	0.00000	-0.00234	0.00246	0.01722	4.89837

Table 1.2
Contribution of Components of Marginal Money Multiplier
(Quarterly Data)

Period	Values obtained by inserting the actual values of the ratios in the money multiplier formula							
	c^	b^	t^	l^	r_s^	r_e^	m^	R
0	8	9	10	11	12	13	14	15
1980-81								
II	-	-	-	-	-	-	-	-
III	0.04560	0.00114	0.06321	0.00862	0.00002	0.01981	0.13840	-0.00382
IV	0.01799	0.00688	-0.03282	-0.00329	0.00010	-0.04855	-0.05969	-0.00092
I	0.03358	-0.00004	-0.03874	-0.00066	-0.00001	0.01684	0.01098	0.00009
1981-82								
II	-0.00413	0.00575	-0.00986	0.00083	-0.00002	0.01014	0.00271	0.00007
III	0.04889	0.00006	0.05037	-0.00076	-0.05356	0.00793	0.05292	0.00173
IV	0.03596	0.00314	-0.01003	0.00080	-0.04696	0.09327	0.07619	-0.00230
I	-0.02923	0.00106	0.01561	-0.00162	0.00923	-0.01580	-0.02075	-0.00031
1982-83								
II	-0.06466	0.00203	-0.00078	0.00037	0.01767	-0.00506	-0.05044	-0.00136
III	0.03749	0.00046	0.07433	0.01280	0.00008	0.02992	0.15508	-0.00420
IV	0.05128	-0.00244	-0.03167	-0.00840	-0.00004	-0.04244	-0.03371	-0.00025
I	-0.07168	0.00130	0.05606	-0.00364	0.00001	0.12534	0.10740	-0.00420
1983-84								
II	-0.07960	0.00301	-0.01155	0.00427	-0.03912	0.06044	-0.06255	-0.00131
III	0.09502	-0.00424	0.04619	-0.00232	-0.06351	0.02239	0.09353	-0.00048
IV	0.01238	0.00237	-0.00709	0.00842	-0.00078	-0.07363	-0.05833	-0.00174
I	-0.06682	-0.00613	0.02807	-0.00560	-0.00195	0.00418	-0.04825	-0.00196
1984-85								
II	-0.04486	-0.00475	-0.03438	-0.00534	-0.00357	0.00243	-0.09047	-0.00197
III	0.05254	-0.00029	0.04728	0.00085	-0.00231	0.03915	0.13723	-0.00464
IV	0.01992	0.00187	-0.02376	0.00179	-0.00238	0.01378	0.01122	0.00002
I	0.00959	-0.00125	-0.01266	-0.00130	-0.00190	-0.12530	-0.13282	-0.00586
1985-86								
II	-0.08479	0.00554	0.01184	-0.01411	-0.00205	0.22983	0.14626	-0.00919
III	0.14915	0.00542	0.01925	0.01409	-0.00198	-0.16763	0.01831	-0.00072
IV	-0.05535	-0.00152	0.04689	-0.00700	-0.00185	0.06222	0.04338	-0.00123
I	0.09345	-0.00271	-0.04320	0.02058	-0.00148	-0.08557	-0.01893	-0.00305
1986-87								
II	-0.12124	0.00401	0.02880	-0.01364	-0.00172	0.02719	-0.07660	-0.00518
III	0.15388	-0.00026	-0.00967	0.01580	-0.00142	-0.04180	0.11653	-0.00746
IV	-0.01294	0.00029	0.02074	-0.01396	-0.00214	-0.01260	-0.02061	0.00020
I	0.09607	-0.00047	-0.06118	0.02277	-0.01950	-0.09579	-0.05809	-0.00464
1987-88								
II	-0.16802	-0.00140	0.06234	-0.01579	-0.00218	-0.01506	-0.14011	-0.01521
III	0.08762	0.00427	0.03421	0.01498	-0.01098	-0.03381	0.09629	-0.00207
IV	-0.05937	-0.00565	0.01938	-0.01476	-0.01206	-0.00523	-0.07770	-0.00312
I	0.04741	0.00119	-0.03561	0.01676	-0.00187	0.00117	0.02904	-0.00067
1988-89								
II	-0.09400	-0.00336	0.03048	-0.02014	-0.01199	0.00306	-0.09596	-0.00603
III	0.13807	0.00616	0.00319	0.01458	-0.03749	0.03205	0.15655	-0.01030
IV	0.01945	0.00044	-0.01494	-0.01215	-0.00510	-0.02078	-0.03308	-0.00013
I	-0.03765	-0.00450	0.01801	0.00864	-0.00227	0.04798	0.03021	-0.00018
1989-90								
II	-0.05950	0.00289	-0.00149	-0.01077	-0.00434	0.01884	-0.05437	-0.00158
III	0.11264	-0.00148	-0.02391	-0.00723	-0.21134	0.20425	0.07294	-0.00397

Period	Values obtained by inserting the actual values of the ratios in the money multiplier formula							
	c^	b^	t^	l^	r_s^	r_e^	m^	R
0	8	9	10	11	12	13	14	15
IV	0.02379	-0.00223	-0.04145	0.00843	-0.00781	-0.03723	-0.05650	-0.00091
I	-0.05318	0.00186	0.02193	0.00826	-0.00512	-0.00313	-0.02937	-0.00102
1990-91								
II	-0.04277	-0.00401	-0.01368	-0.00774	-0.00747	0.04637	-0.02929	-0.00020
III	0.05340	0.00428	0.04380	-0.01225	-0.00734	0.08303	0.16492	-0.00808
IV	0.00682	-0.02149	-0.01949	0.01199	-0.00397	-0.02170	-0.04785	-0.00076
I	-0.02644	0.00148	0.00175	0.01570	-0.02202	0.02169	-0.00784	-0.00008
1991-92								
II	-0.03764	0.00375	-0.00880	-0.00411	0.01123	-0.03106	-0.06664	-0.00159
III	0.12368	0.00884	-0.00855	-0.00880	-0.00685	-0.00583	0.10249	-0.00560
IV	0.09120	-0.01138	-0.10299	0.01178	-0.00663	0.00964	-0.00838	0.00166
I	0.01693	0.00658	-0.02854	-0.00416	-0.00623	-0.03131	-0.04673	-0.00051
1992-93								
II	-0.00829	-0.05753	-0.00548	-0.00736	-0.00598	0.04980	-0.03485	-0.00080
III	-0.05028	-0.04777	0.13392	-0.03179	-0.00765	0.14372	0.14016	-0.00675
IV	-0.02575	0.06205	0.05308	0.04129	-0.00159	-0.05279	0.07629	-0.00116
I	-0.02148	0.04954	-0.01014	-0.01933	-0.00562	0.00588	-0.00116	-0.00013
1993-94								
II	-0.06942	-0.05512	-0.00173	0.01185	-0.05464	0.11917	-0.04988	-0.00082
III	-0.02224	-0.00404	0.07904	-0.01594	0.02083	-0.09940	-0.04174	0.00414
IV	0.01151	0.04171	-0.02679	0.00547	0.00001	0.00559	0.03749	-0.00102
I	0.10319	0.01271	-0.10836	-0.00382	-0.00002	-0.06401	-0.06031	-0.00149
1994-95								
II	-0.04381	-0.00904	-0.02319	0.00890	0.00000	0.03558	-0.03155	0.00092
III	0.05491	-0.02702	0.02792	-0.00213	-0.05998	0.00555	-0.00075	0.00131
IV	0.04370	0.01559	-0.05350	0.00381	-0.02035	0.04227	0.03152	-0.00049
I	-0.04190	0.01179	-0.01011	0.00103	0.00000	-0.01599	-0.05518	-0.00105
1995-96								
II	-0.10925	-0.03749	0.02376	0.00306	-0.00001	0.03358	-0.08634	-0.00686
III	0.01675	0.00041	0.03949	-0.00169	0.00000	0.00970	0.06466	-0.00028
IV	-0.06652	0.00145	0.05218	0.00710	0.06037	0.06269	0.11727	-0.00360
I	0.00892	0.02553	-0.01003	-0.00525	0.01998	-0.06403	-0.02487	-0.00006
1996-97								
II	-0.06792	-0.01397	0.02800	-0.00268	0.06032	0.01544	0.01917	-0.00119
III	0.12579	0.00545	0.01142	0.00894	0.11588	-0.03154	0.23593	-0.01746
IV	-0.08420	-0.00685	0.05947	-0.00714	0.07028	-0.01656	0.01499	-0.00153
I	0.16011	0.04179	-0.09460	0.00796	0.10482	-0.01278	0.20730	-0.01733
1997-98								
II	-0.12202	-0.00280	0.04998	-0.00712	0.02447	-0.05421	-0.11170	-0.00691
III	0.04885	-0.00693	0.06242	0.00082	-0.00001	0.01876	0.12392	-0.00202
IV	-0.02007	0.00452	0.03490	-0.01549	0.02772	0.02250	0.05408	-0.00125
I	0.13054	0.01766	-0.04652	0.02380	-0.06898	-0.04223	0.01426	-0.00492
1998-99								
II	-0.10395	0.00278	0.04652	-0.00658	0.04391	0.13081	0.11348	-0.00500
III	0.13372	-0.01382	0.07414	0.01109	-0.12844	0.08839	0.16508	-0.00292
IV	-0.12177	0.00601	0.08196	-0.00721	-0.00001	-0.04572	-0.08673	-0.00357
I	0.07749	0.00778	-0.08383	0.00616	0.06046	-0.09078	-0.02272	-0.00035
1999-00								
II	-0.16368	-0.00365	0.06114	-0.00924	0.06152	0.09533	0.04142	-0.00458
III	0.12024	-0.00879	0.05683	0.01455	-0.00001	0.03400	0.21681	-0.00928

Period	Values obtained by inserting the actual values of the ratios in the money multiplier formula							
	c^	b^	t^	l^	r_s^	r_e^	m^	R
0	8	9	10	11	12	13	14	15
IV	-0.08037	0.01646	0.01418	-0.01456	0.10346	-0.04032	-0.00115	-0.00115
I	0.18036	0.00626	-0.11661	0.00168	0.03558	-0.04652	0.06074	-0.00456
2000-01								
II	-0.02977	-0.00388	0.01177	-0.07118	0.15578	0.00247	0.06518	-0.00701
III	-0.01465	-0.00885	0.13985	-0.00077	-0.04276	0.10956	0.18238	-0.00533
IV	0.03355	0.01442	-0.01300	-0.00227	-0.04255	-0.01051	-0.02037	0.00602
I	0.03735	0.00302	0.01726	0.00343	0.00000	-0.02714	0.03392	-0.00841
2001-02								
II	-0.04492	-0.00388	-0.00946	-0.00057	0.08708	-0.00710	0.02113	-0.00021
III	0.00213	-0.00516	0.12851	0.00335	0.09475	-0.04511	0.17846	-0.00192
IV	-0.05610	0.00980	0.03728	-0.00317	0.33432	-0.30780	0.01433	-0.00409
I	-0.07325	0.00544	0.02012	0.00097	0.04690	-0.03182	-0.03164	0.00575
2002-03								
II	-0.01948	0.00030	0.02968	0.00565	0.10032	0.05423	0.17071	-0.00359
III	-0.00889	-0.01147	0.14135	-0.00190	0.00000	-0.00895	0.11014	-0.00311
IV	0.03656	0.00941	-0.04807	-0.00157	0.00000	0.09223	0.08856	0.00352
I	-0.01361	-0.00029	-0.04137	0.00052	0.00001	-0.04287	-0.09760	-0.00664
2003-04								
II	0.03035	0.00062	-0.09637	-0.00114	0.00000	-0.09370	-0.16024	0.00359
III	-0.02927	-0.01455	0.12888	0.00181	0.00000	0.14649	0.23337	-0.01075
IV	0.08910	0.00679	-0.14839	0.11499	0.00000	-0.10713	-0.04464	-0.00386
I	0.07803	0.00490	-0.08770	0.02782	-0.00001	-0.10569	-0.08264	-0.00777
2004-05								
II	-0.04004	0.00391	0.01620	-0.12722	0.10466	0.14235	0.09986	-0.03305
III	0.06818	-0.00636	0.02839	0.00007	-0.05525	0.08829	0.12333	-0.00526
IV	0.09559	-0.00331	-0.15461	-0.00706	0.00003	-0.10390	-0.17326	0.04559
I	-0.04476	-0.00106	0.03911	-0.00724	-0.00003	-0.03790	-0.05187	-0.04549
2005-06								
II	0.05388	0.01126	-0.09447	0.02167	-0.05009	0.07799	0.02025	-0.00338
III	0.25314	-0.00180	-0.09943	-0.00337	0.05625	-0.09304	0.11174	-0.01162
IV	-0.04515	0.00377	-0.00367	-0.00918	-0.05615	0.09343	-0.01694	0.00633
I	0.17470	-0.00155	-0.20470	0.00387	0.00001	-0.03193	-0.05960	0.00121
2006-07								
II	-0.05372	-0.00276	0.04988	0.00320	0.00000	-0.04520	-0.04860	0.00003
III	0.00971	0.00248	0.12069	-0.00022	-0.05422	0.09733	0.17577	-0.00276
IV	-0.02678	0.00279	-0.01560	-0.00391	0.00001	0.02724	-0.01626	0.00004
I	0.11358	0.00076	-0.07285	-0.00020	-0.00001	-0.17510	-0.13381	-0.00483
2007-08								
II	-0.19849	-0.00388	0.20780	0.00573	-0.24198	0.12012	-0.11070	-0.00260
III	0.25356	-0.00310	-0.03214	0.00071	-0.09886	-0.09664	0.02353	-0.00341
IV	-0.05825	0.01457	0.00643	-0.00525	-0.09996	0.16554	0.02309	-0.00035
I	0.10712	-0.00366	-0.11203	-0.00891	0.00000	-0.14618	-0.16367	-0.00495
2008-09								
II	-0.26436	0.00081	0.19428	0.01141	0.00000	0.08657	0.02870	-0.02049
III	0.10097	0.00258	0.01413	0.00195	-0.18217	-0.00101	-0.06357	0.01847
IV	-0.24650	-0.01128	0.23817	0.00168	0.69888	-0.01791	0.66303	-0.08115
I	-0.09103	0.00696	0.09887	-0.00579	0.11854	-0.09565	0.03190	0.03492
2009-10								
II	0.09339	-0.00607	-0.08060	0.01453	0.00000	0.09704	0.11829	-0.03638
III	0.27435	0.01866	-0.11707	-0.00032	0.00000	0.05347	0.22908	-0.01676
IV	-0.23032	-0.00031	0.12177	0.00316	0.00000	-0.02785	-0.13355	-0.00906

Period	Values obtained by inserting the actual values of the ratios in the money multiplier formula							
	c^	b^	t^	l^	r_s^	r_e^	m^	R
0	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
I	0.21990	0.00440	-0.19503	-0.00010	-0.17475	-0.05282	-0.19840	-0.00985
2010-11								
II	-0.25739	0.00128	0.12919	0.00662	0.00000	0.03591	-0.08439	-0.00829
III	0.13386	-0.00163	-0.04467	-0.15031	0.00000	0.13896	0.07621	-0.01361
IV	0.01476	0.00230	-0.01958	0.16413	-0.05822	-0.04240	0.06099	-0.01466
I	-0.24384	-0.01006	0.21776	0.00655	0.00000	-0.10767	-0.13726	-0.00806
2011-12								
II	-0.33120	0.00970	0.29393	-0.00332	0.00000	0.05154	0.02065	-0.00342
	0.00246	**0.00062**	**0.01014**	**0.00010**	**0.00414**	**0.00301**	**0.02047**	**-0.00406**

Table 1.3
Percentage Contribution of Components of Marginal Money Multiplier
(Values Obtained by inserting the actual values of the ratios in the Money Multiplier Formulas)

Period	Percentage Contribution					
	c^	b^	t^	l^	r_s^	r_e^
0	1	2	3	4	5	6
1980-81						
II						
III	32.95	0.83	45.67	6.23	0.01	14.31
IV	-30.14	-11.52	54.98	5.52	-0.17	81.33
I	305.77	-0.35	-352.69	-6.03	-0.07	153.36
1981-82						
II	-152.62	212.43	-364.06	30.65	-0.59	374.19
III	92.38	0.12	95.17	-1.44	-101.20	14.98
IV	47.20	4.13	-13.17	1.05	-61.63	122.41
I	140.87	-5.10	-75.24	7.82	-44.49	76.13
1982-83						
II	128.21	-4.02	1.55	-0.73	-35.03	10.02
III	24.18	0.30	47.93	8.25	0.05	19.29
IV	-152.12	7.23	93.95	24.93	0.13	125.89
I	-66.74	1.21	52.20	-3.39	0.01	116.70
1983-84						
II	127.26	-4.82	18.46	-6.82	62.54	-96.62
III	101.59	-4.54	49.39	-2.48	-67.90	23.93
IV	-21.23	-4.06	12.16	-14.44	1.34	126.23
I	138.47	12.69	-58.16	11.60	4.05	-8.65
1984-85						
II	49.59	5.25	38.00	5.91	3.95	-2.69
III	38.29	-0.21	34.46	0.62	-1.68	28.53
IV	177.51	16.64	-211.69	15.92	-21.19	122.81
I	-7.22	0.94	9.53	0.98	1.43	94.33
1985-86						
II	-57.97	3.79	8.10	-9.65	-1.40	157.13
III	814.38	29.60	105.13	76.93	-10.78	-915.26
IV	-127.59	-3.50	108.08	-16.14	-4.26	143.41
I	-493.57	14.33	228.17	-108.67	7.80	451.94
1986-87						
II	158.28	-5.23	-37.60	17.80	2.25	-35.50
III	132.05	-0.22	-8.30	13.56	-1.22	-35.87
IV	62.80	-1.42	-100.63	67.72	10.37	61.15
I	-165.38	0.81	105.31	-39.20	33.57	164.89
1987-88						
II	119.92	1.00	-44.50	11.27	1.55	10.75
III	90.99	4.43	35.53	15.56	-11.40	-35.11
IV	76.42	7.27	-24.94	18.99	15.52	6.73
I	163.27	4.08	-122.63	57.70	-6.45	4.03
1988-89						
II	97.96	3.50	-31.76	20.99	12.49	-3.19
III	88.19	3.93	2.04	9.31	-23.95	20.48
IV	-58.81	-1.32	45.17	36.74	15.42	62.81
I	-124.62	-14.91	59.60	28.61	-7.50	158.82
1989-90						
II	109.43	-5.31	2.75	19.80	7.98	-34.65
III	154.43	-2.03	-32.77	-9.91	-289.73	280.02

Period	Percentage Contribution					
	c^	b^	t^	l^	r_s^	r_e^
0	1	2	3	4	5	6
IV	-42.11	3.95	73.37	-14.92	13.82	65.89
I	181.03	-6.33	-74.66	-28.13	17.44	10.66
1990-91						
II	146.01	13.69	46.70	26.42	25.52	-158.33
III	32.38	2.60	26.56	-7.43	-4.45	50.34
IV	-14.25	44.91	40.74	-25.06	8.30	45.36
I	337.16	-18.87	-22.32	-200.17	280.80	-276.60
1991-92						
II	56.49	-5.62	13.20	6.17	-16.85	46.61
III	120.68	8.63	-8.35	-8.59	-6.68	-5.69
IV	-1088.01	135.81	1228.57	-140.54	79.15	-114.99
I	-36.24	-14.08	61.08	8.91	13.33	67.00
1992-93						
II	23.78	165.10	15.73	21.13	17.16	-142.90
III	-35.87	-34.08	95.54	-22.68	-5.46	102.54
IV	-33.75	81.34	69.58	54.12	-2.09	-69.20
I	1855.07	-4277.50	875.89	1668.77	485.13	-507.35
1993-94						
II	139.16	110.49	3.47	-23.75	109.53	-238.90
III	53.29	9.67	-189.35	38.18	-49.91	238.13
IV	30.69	111.27	-71.48	14.59	0.02	14.91
I	-171.10	-21.08	179.67	6.34	0.03	106.13
1994-95						
II	138.85	28.65	73.49	-28.22	-0.01	-112.77
III	-7298.98	3590.93	-3710.94	283.38	7972.85	-737.24
IV	138.64	49.45	-169.72	12.10	-64.57	134.09
I	75.94	-21.37	18.32	-1.86	0.00	28.98
1995-96						
II	126.53	43.41	-27.52	-3.54	0.01	-38.89
III	25.90	0.64	61.07	-2.61	0.00	15.00
IV	-56.73	1.23	44.50	6.05	51.48	53.46
I	-35.86	-102.66	40.33	21.11	-80.35	257.42
1996-97						
II	-354.23	-72.87	146.01	-14.00	314.57	80.51
III	53.32	2.31	4.84	3.79	49.11	-13.37
IV	-561.66	-45.72	396.69	-47.66	468.82	-110.47
I	77.23	20.16	-45.63	3.84	50.57	-6.17
1997-98						
II	109.24	2.50	-44.75	6.38	-21.91	48.53
III	39.42	-5.59	50.37	0.67	-0.01	15.14
IV	-37.11	8.36	64.53	-28.64	51.26	41.60
I	915.27	123.79	-326.17	166.85	-483.65	-296.09
1998-99						
II	-91.60	2.45	40.99	-5.79	38.69	115.27
III	81.00	-8.37	44.92	6.72	-77.80	53.54
IV	140.40	-6.93	-94.50	8.31	0.01	52.72
I	-341.03	-34.23	368.92	-27.10	-266.08	399.53
1999-00						
II	-395.19	-8.82	147.62	-22.31	148.54	230.17
III	55.46	-4.05	26.21	6.71	-0.01	15.68

Period	Percentage Contribution					
	c^	b^	t^	l^	r_s^	r_e^
0	1	2	3	4	5	6
IV	6971.96	-1427.75	-1230.29	1263.33	-8974.82	3497.58
I	296.92	10.30	-191.97	2.77	58.57	-76.59
2000-01						
II	-45.68	-5.96	18.06	-109.21	239.00	3.79
III	-8.03	-4.85	76.68	-0.42	-23.44	60.07
IV	-164.75	-70.80	63.83	11.16	208.95	51.61
I	110.10	8.90	50.88	10.11	0.01	-80.01
2001-02						
II	-212.62	-18.37	-44.79	-2.71	412.11	-33.62
III	1.19	-2.89	72.01	1.88	53.09	-25.28
IV	-391.60	68.43	260.19	-22.10	2333.58	-2148.50
I	231.48	-17.18	-63.57	-3.06	-148.22	100.54
2002-03						
II	-11.41	0.18	17.39	3.31	58.77	31.77
III	-8.07	-10.42	128.34	-1.72	0.00	-8.13
IV	41.29	10.62	-54.28	-1.78	0.00	104.15
I	13.94	0.30	42.38	-0.54	-0.01	43.92
2003-04						
II	-18.94	-0.39	60.14	0.71	0.00	58.48
III	-12.54	-6.23	55.23	0.78	0.00	62.77
IV	-199.58	-15.20	332.40	-257.59	0.00	239.97
I	-94.42	-5.93	106.12	-33.67	0.01	127.89
2004-05						
II	-40.09	3.92	16.22	-127.40	104.81	142.55
III	55.28	-5.16	23.02	0.06	-44.80	71.59
IV	-55.17	1.91	89.24	4.07	-0.02	59.97
I	86.29	2.04	-75.39	13.95	0.06	73.06
2005-06						
II	266.14	55.62	-466.64	107.05	-247.39	385.23
III	226.55	-1.61	-88.99	-3.02	50.34	-83.27
IV	266.46	-22.25	21.64	54.15	331.40	-551.40
I	-293.10	2.60	343.44	-6.49	-0.01	53.58
2006-07						
II	110.54	5.67	-102.64	-6.57	0.00	93.00
III	5.53	1.41	68.66	-0.13	-30.85	55.37
IV	164.70	-17.18	95.96	24.05	-0.03	-167.49
I	-84.88	-0.57	54.44	0.15	0.00	130.86
2007-08						
II	179.31	3.50	-187.71	-5.17	218.59	-108.51
III	1077.49	-13.18	-136.59	3.03	-420.09	-410.66
IV	-252.31	63.12	27.86	-22.73	-432.96	717.02
I	-65.45	2.24	68.45	5.45	0.00	89.32
2008-09						
II	-921.01	2.82	676.85	39.74	0.00	301.59
III	-158.85	-4.05	-22.22	-3.06	286.59	1.60
IV	-37.18	-1.70	35.92	0.25	105.41	-2.70
I	-285.39	21.83	309.96	-18.16	371.65	-299.88
2009-10						
II	78.95	-5.13	-68.13	12.28	0.00	82.03
III	119.76	8.15	-51.11	-0.14	0.00	23.34
IV	172.46	0.23	-91.18	-2.37	0.00	20.85

Period	Percentage Contribution					
	c^	b^	t^	l^	r_s^	r_e^
0	**1**	**2**	**3**	**4**	**5**	**6**
I	-110.84	-2.22	98.30	0.05	88.08	26.62
2010-11						
II	305.00	-1.51	-153.08	-7.84	0.00	-42.56
III	175.64	-2.14	-58.61	-197.22	0.00	182.33
IV	24.20	3.78	-32.10	269.13	-95.46	-69.53
I	177.64	7.33	-158.65	-4.77	0.00	78.44
2011-12						
II	-1604.00	46.96	1423.50	-16.09	0.01	249.62
Total Contribution	**12.02**	**3.04**	**49.51**	**0.49**	**20.24**	**14.70**

Table 1.4
Contribution of Components of Money Multiplier (Annual Data)

Period	Values obtained on the basis of actual data						
	c	b	t	r_s	r_e	l	m_2
0	1	2	3	4	5	6	7
1980-81	1.49132	0.02853	3.62768	0.06000	0.05913	1.01812	2.95399
1981-82	1.40335	0.01711	3.62600	0.06863	0.05188	1.01776	3.04177
1982-83	1.42676	0.01344	3.85393	0.07000	0.04383	1.01335	3.14688
1983-84	1.46442	0.01403	4.07441	0.08087	0.02929	1.01103	3.20651
1984-85	1.48337	0.02287	4.11768	0.08377	0.03220	1.01691	3.13964
1985-86	1.43437	0.01543	4.21324	0.08476	0.02882	1.02216	3.24236
1986-87	1.36181	0.01290	4.24983	0.08615	0.04176	1.01232	3.22438
1987-88	1.41019	0.01428	4.47797	0.09032	0.05785	1.00897	3.07674
1988-89	1.38529	0.01547	4.57529	0.09734	0.05532	1.01448	3.08101
1989-90	1.35118	0.01591	4.45289	0.12017	0.03205	1.01989	3.08090
1990-91	1.36655	0.02808	4.45546	0.12992	0.01555	1.01877	3.10923
1991-92	1.26553	0.02969	4.15978	0.13226	0.01762	1.01102	3.10769
1992-93	1.24957	0.07800	4.34665	0.13519	0.00357	1.02624	3.19508
1993-94	1.34079	0.05805	4.62159	0.14059	-0.00137	1.02663	3.18775
1994-95	1.25879	0.04921	4.21492	0.14704	-0.00037	1.02147	3.12209
1995-96	1.39615	0.07381	4.41802	0.14547	-0.00909	1.01557	3.10220
1996-97	1.41191	0.05913	4.68960	0.11640	-0.00535	1.01416	3.39076
1997-98	1.39067	0.03946	4.92513	0.12873	0.00134	1.01886	3.59833
1998-99	1.35591	0.03068	5.30298	0.11240	-0.00974	1.01183	3.83972
1999-00	1.39467	0.02704	5.54957	0.10407	-0.01132	1.01446	4.02459
2000-01	1.33101	0.02187	5.68687	0.08322	-0.01241	1.08683	4.30775
2001-02	1.35730	0.01874	6.10478	0.06654	-0.00152	1.08531	4.51532
2002-03	1.40725	0.01658	6.55907	0.05000	0.00412	1.08179	4.81241
2003-04	1.36797	0.01860	6.25857	0.05000	0.00760	1.02307	4.76906
2004-05	1.30342	0.01831	5.93109	0.04690	0.00645	1.08879	4.79817
2005-06	1.17645	0.01488	5.32415	0.04935	0.00690	1.08197	4.76566
2006-07	1.12371	0.01449	5.20744	0.05192	0.00743	1.08326	4.77859
2007-08	1.09783	0.01338	5.53425	0.07149	0.00738	1.08381	4.57878
2008-09	1.20641	0.01206	6.27903	0.06566	0.00716	1.08120	4.74876
2009-10	1.18661	0.00879	6.41723	0.05198	0.00619	1.07124	5.19586
2010-11	1.24134	0.00667	6.52812	0.05876	0.00428	1.09349	4.96750
	1.33684	**0.02605**	**4.96075**	**0.08967**	**0.01537**	**1.03854**	**3.77772**

Table 1.4 (Continued)

Contribution of Components of Marginal Money Multiplier (Annual Data)

Period	c	b	t	r_s	r_e	l	m_2	R
	1	2	3	4	5	6	7	8
1980-81	-	-	-	-	-	-	-	
1981-82	-0.08796	-0.01141	-0.00168	0.00863	-0.00725	-0.00037	0.08777	2.95399
1982-83	0.02341	-0.00368	0.22794	0.00138	-0.00805	-0.00441	0.10512	3.04177
1983-84	0.03766	0.00059	0.22048	0.01087	-0.01454	-0.00231	0.05963	3.14688
1984-85	0.01895	0.00884	0.04327	0.00290	0.00291	0.00587	-0.06688	3.20651
1985-86	-0.04900	-0.00744	0.09556	0.00098	-0.00338	0.00525	0.10273	3.13964
1986-87	-0.07256	-0.00252	0.03659	0.00140	0.01295	-0.00984	-0.01799	3.24236
1987-88	0.04838	0.00138	0.22814	0.00417	0.01609	-0.00335	-0.14764	3.22438
1988-89	-0.02489	0.00119	0.09732	0.00702	-0.00253	0.00552	0.00427	3.07674
1989-90	-0.03411	0.00043	-0.12240	0.02283	-0.02327	0.00541	-0.00011	3.08101
1990-91	0.01537	0.01218	0.00257	0.00975	-0.01650	-0.00112	0.02834	3.08090
1991-92	-0.10103	0.00161	-0.29568	0.00234	0.00208	-0.00775	-0.00154	3.10923
1992-93	-0.01595	0.04831	0.18687	0.00293	-0.01406	0.01521	0.08739	3.10769
1993-94	0.09122	-0.01995	0.27494	0.00540	-0.00494	0.00040	-0.00733	3.19508
1994-95	-0.08200	-0.00884	-0.40667	0.00646	0.00099	-0.00516	-0.06566	3.18775
1995-96	0.13736	0.02459	0.20310	-0.00158	-0.00872	-0.00590	-0.01989	3.12209
1996-97	0.01575	-0.01467	0.27158	-0.02907	0.00374	-0.00141	0.28857	3.10220
1997-98	-0.02124	-0.01967	0.23553	0.01233	0.00669	0.00471	0.20756	3.39076
1998-99	-0.03475	-0.00878	0.37784	-0.01633	-0.01109	-0.00704	0.24139	3.59833
1999-00	0.03876	-0.00364	0.24659	-0.00833	-0.00157	0.00263	0.18487	3.83972
2000-01	-0.06366	-0.00516	0.13731	-0.02085	-0.00109	0.07237	0.28316	4.02459
2001-02	0.02629	-0.00314	0.41790	-0.01668	0.01089	-0.00152	0.20758	4.30775
2002-03	0.04995	-0.00215	0.45430	-0.01654	0.00564	-0.00352	0.29709	4.51532
2003-04	-0.03928	0.00202	-0.30051	0.00000	0.00348	-0.05872	-0.04335	4.81241
2004-05	-0.06455	-0.00030	-0.32748	-0.00310	-0.00115	0.06572	0.02910	4.76906
2005-06	-0.12697	-0.00342	-0.60693	0.00245	0.00045	-0.00683	-0.03250	4.79817
2006-07	-0.05274	-0.00039	-0.11672	0.00257	0.00053	0.00129	0.01292	4.76566
2007-08	-0.02587	-0.00111	0.32681	0.01958	-0.00005	0.00055	-0.19980	4.77859
2008-09	0.10858	-0.00132	0.74478	-0.00583	-0.00022	-0.00260	0.16998	4.57878
2009-10	-0.01980	-0.00327	0.13820	-0.01368	-0.00097	-0.00996	0.44710	4.74876
2010-11	0.05473	-0.00212	0.11089	0.00678	-0.00191	0.02225	-0.22835	5.19586
	-0.00833	**-0.00073**	**0.09668**	**-0.00004**	**-0.00183**	**0.00251**	**0.06712**	**3.71061**

Table 1.5

Contribution of Components of Money Multiplier (Annual Data)

Period	Values obtained by inserting the actual values of the ratios in the money multiplier formula							
	c^	b^	t^	r_s^	r_e^	l^	m^	R
0	1	2	3	4	5	6	7	8
1980-81	-	-	-	-	-	-	-	-
1981-82	0.09035	0.01172	-0.00053	-0.06219	0.05223	0.00031	0.09190	-0.00413
1982-83	-0.02513	0.00395	0.07259	-0.01065	0.06227	0.00383	0.10686	-0.00174
1983-84	-0.04066	-0.00064	0.06936	-0.08749	0.11708	0.00203	0.05967	-0.00004
1984-85	-0.01922	-0.00897	0.01292	-0.02247	-0.02254	-0.00519	-0.06546	-0.00142
1985-86	0.05347	0.00812	0.02900	-0.00825	0.02842	-0.00491	0.10585	-0.00312
1986-87	0.07856	0.00273	0.01037	-0.01164	-0.10800	0.01037	-0.01760	-0.00039
1987-88	-0.04478	-0.00128	0.05492	-0.03160	-0.12195	0.00373	-0.14096	-0.00667
1988-89	0.02288	-0.00109	0.02247	-0.05403	0.01950	-0.00639	0.00334	0.00093
1989-90	0.03207	-0.00041	-0.02885	-0.17672	0.18012	-0.00625	-0.00003	-0.00008
1990-91	-0.01472	-0.01166	0.00063	-0.07648	0.12941	0.00125	0.02844	-0.00010
1991-92	0.10251	-0.00163	-0.07532	-0.01824	-0.01620	0.00897	0.00010	-0.00164
1992-93	0.01676	-0.05077	0.04876	-0.02457	0.11797	-0.01726	0.09090	-0.00350
1993-94	-0.09062	0.01982	0.06796	-0.04510	0.04123	-0.00045	-0.00716	-0.00016
1994-95	0.08329	0.00898	-0.10360	-0.05139	-0.00791	0.00590	-0.06473	-0.00093
1995-96	-0.13005	-0.02329	0.05217	0.01211	0.06700	0.00609	-0.01596	-0.00393
1996-97	-0.01784	0.01661	0.07949	0.26931	-0.03466	0.00144	0.31435	-0.02579
1997-98	0.02224	0.02060	0.05954	-0.11155	-0.06055	-0.00544	-0.07516	0.28272
1998-99	0.04711	0.01191	0.11268	0.19221	0.13050	0.00840	0.50280	-0.26141
1999-00	-0.05537	0.00520	0.07647	0.10622	0.02005	-0.00307	0.14950	0.03537
2000-01	0.11267	0.00914	0.04917	0.34933	0.01832	-0.07899	0.45963	-0.17648
2001-02	-0.04926	0.00588	0.15164	0.30940	-0.20203	0.00169	0.21732	-0.00974
2002-03	-0.10204	0.00440	0.17482	0.34879	-0.11892	0.00372	0.31077	-0.01368
2003-04	0.08151	-0.00419	-0.11913	0.00001	-0.06783	0.06447	-0.04516	0.00180
2004-05	0.14175	0.00065	-0.13713	0.06499	0.02408	-0.06745	0.02689	0.00222
2005-06	0.30354	0.00818	-0.27332	-0.05074	-0.00940	0.00735	-0.01438	-0.01812
2006-07	0.12963	0.00097	-0.05260	-0.05370	-0.01102	-0.00148	0.01180	0.00112
2007-08	0.05546	0.00237	0.11912	-0.38016	0.00101	-0.00077	-0.20298	0.00318
2008-09	-0.22685	0.00276	0.26047	0.12148	0.00456	0.00365	0.16607	0.00391
2009-10	0.05013	0.00829	0.05638	0.34074	0.02411	0.01347	0.49312	-0.04602
2010-11	-0.12287	0.00475	0.04127	-0.15695	0.04430	-0.02968	-0.21919	-0.00917
-	**0.01615**	**0.00177**	**0.02772**	**0.02269**	**0.01004**	**-0.00269**	**0.07568**	**-0.00857**
%	**21.34**	**2.34**	**36.63**	**29.98**	**13.25**	**-3.55**	**100**	

Table 1.6
Percentage Contribution of Components of Marginal Money Multiplier (Annual Data)
(Values obtained by inserting the actual values)

Period	Percentage Contribution					
	c^	b^	t^	r_s^	r_e^	l^
1980-81	-	-	-	-	-	-
1981-82	98.32	12.75	-0.58	-67.68	56.84	0.34
1982-83	-23.51	3.70	67.93	-9.97	58.27	3.59
1983-84	-68.15	-1.07	116.24	-146.63	196.21	3.40
1984-85	29.36	13.70	-19.73	34.32	34.43	7.92
1985-86	50.51	7.67	27.40	-7.79	26.85	-4.64
1986-87	-446.49	-15.53	-58.95	66.17	613.77	-58.96
1987-88	31.77	0.90	-38.96	22.42	86.51	-2.65
1988-89	684.78	-32.71	672.61	-1616.94	583.50	-191.24
1989-90	-96686.98	1231.06	86974.96	532840.54	-543095.80	18836.22
1990-91	-51.76	-40.99	2.21	-268.93	455.06	4.40
1991-92	102503.15	-1628.96	-75307.63	-18235.84	-16197.34	8966.63
1992-93	18.44	-55.85	53.64	-27.03	129.79	-18.99
1993-94	1265.43	-276.71	-949.07	629.81	-575.70	6.25
1994-95	-128.67	-13.87	160.06	79.39	12.22	-9.12
1995-96	814.64	145.86	-326.80	-75.86	-419.71	-38.13
1996-97	-5.67	5.28	25.29	85.67	-11.03	0.46
1997-98	-29.59	-27.41	-79.22	148.42	80.57	7.23
1998-99	9.37	2.37	22.41	38.23	25.95	1.67
1999-00	-37.04	3.48	51.15	71.05	13.41	-2.05
2000-01	24.51	1.99	10.70	76.00	3.99	-17.19
2001-02	-22.67	2.71	69.78	142.38	-92.97	0.78
2002-03	-32.83	1.42	56.25	112.23	-38.26	1.20
2003-04	-180.51	9.28	263.81	-0.01	150.21	-142.77
2004-05	527.19	2.42	-510.01	241.71	89.56	-250.87
2005-06	-2110.54	-56.90	1900.41	352.78	65.35	-51.09
2006-07	1098.46	8.18	-445.74	-455.00	-93.38	-12.53
2007-08	-27.32	-1.17	-58.68	187.29	-0.50	0.38
2008-09	-136.60	1.66	156.85	73.15	2.74	2.20
2009-10	10.17	1.68	11.43	69.10	4.89	2.73
2010-11	56.06	-2.17	-18.83	71.61	-20.21	13.54
Percentage Contribution	**21.34**	**2.34**	**36.63**	**29.98**	**13.26**	**-3.55**

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