

Is Money Demand stable?

Liam Kilroe

Abstract

Demand for money is a key component in the ISLM model of the macroeconomy. Consequently, its stability is of great importance to monetary policy makers manipulating money supply to achieve change in the economy. A thorough understanding of money, reasons for its demand and most importantly factors influencing their stability, will provide an insight into whether money demand is stable. Drawing accurate conclusions also requires empirical evidence to be examined.

Money may be used and held in different ways therefore varying definitions of money exist. Definitions range from narrow money (M1) to broad money (M4) depending on liquidity; from physical cash to deposits held at banks. Keynes proposed three motives for holding money: transactional, precautionary and speculative. (Dornbusch 2008) Examining the factors which influence the stability of each of these constituents will provide greater understanding of the overall stability of money demand. It must also be stated that these are demands for real balances. People are assumed not to suffer from money illusion so real behaviour is unaffected by price change. (Dornbusch 2008)

Firstly, the transactions motive is the demand for money arising from its use as a medium of exchange. (Long, 2010) This is affected by the frequency of pay and the lack of synchronicity between payments and receipts. (Dornbusch, 2008) The more irregular the pattern of payment and receipts, the greater the instability in the money demand. In the developed, modern world this effect is likely to be lessened. Although individuals are often paid only once a month they can generally be said to have some knowledge of what and when transactions are likely to occur. Moreover, the invention of cash machines and electronic fund transfer systems reduce the need to hold transactionary balances.

Additionally, the work carried out by Baumol and Tobin relates interest rates to the transactions motive. (Dornbusch 2008) Intuitively, if interest rates rise the opportunity cost of holding money is greater therefore money demand falls. This creates a trade-off between the cost of the inconvenience of holding small money balances and the interest foregone by holding money. An inverse relationship between money demand and interest rates is predicted. Again, modern technology and systems minimise the

instability of this relationship as many transactions are executable instantly on demand.

The income elasticity of money demand is also significant as it reveals how money demand reacts to changes in national income. Economic growth, resulting in higher national output and higher incomes for individuals, increases expenditure and, in turn, demand for active balances. (Clovis 2010) Thus theory dictates that changes in national income will have a direct but destabilising effect on money demand. Empirical evidence suggests this relationship differs between economies. Bahmani found that in Bulgaria income elasticity of money demand was 3.98 while it was negligible in Hungary. (Bahmani 2009) Also, Ball calculates the income effect on money demand to be considerably larger in the long run but less than proportional in both cases. (Dornbusch 2008)

Secondly, the precautionary motive accounts for the balances held for unexpected circumstances. These are still considered active balances as they relate to consumption. (Sloman 2009) As a result many issues regarding their effects are the same as the transactions motive. However, they also address uncertainty raising the question – ‘How stable are attitudes to risk?’

The life-cycle-permanent-income hypothesis (LC-PIH) formulated by Modigliani and Friedman is relevant here. This combined theory predicts that, given perfect knowledge, rational individuals will spread income over their lives in order to maintain a constant optimum utility level. (Clovis 2010) (Dornbusch 2008) Interpreted in terms of money demand, this means that individuals will maintain a constant demand for money over their lives based on their expected average income. Deviations are purely due to unforeseen events. They can be said to have a constant relative risk aversion (CRRA) function. This fails to hold in the real world for a number of reasons. As individuals age their awareness of the risk of health problems increases so they decide to hold larger precautionary balances. Also, those who are yet to reach their maximum income level may be unable to secure sufficient liquidity to consume at their optimum utility level. Money demand will be less stable than theory predicts.

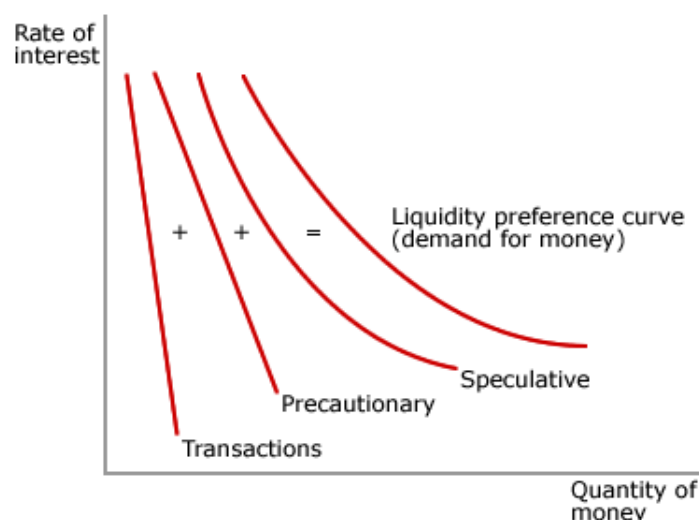
The Ricardian Equivalence theorem is also applicable. The theory states that “budget deficits do not matter” (Dornbusch 2008). This is because rational individuals will recognise that an increase in government spending funded by borrowing must be repaid in future with higher taxes prompting them to reduce current spending in preparation for tax rises. This works with the same premise, foundations and

assumptions as LC-PIH and in theory implies that money demand will be stable. Similarly, it often fails to hold in the real world due to individuals' inability to act rationally in the long run.

Speculation is the final motive for holding money. Unlike the other two which focus on the active balances (M1), speculative balances are held for investment and are referred to as idle balances involving broad money (Sloman 2009). Tobin explains how investors aim to find a balance between risk and return (Dornbusch 2008). Accordingly, variations in these two factors determine speculative demand for money. A rise in the expected return of an asset makes it more attractive, increasing the opportunity cost of holding money and causing money demand to fall. In contrast, increased risk will make an asset less attractive, reducing the opportunity cost of holding money and causing money demand to rise. Investment portfolios consist of a range of assets balancing risk and return so the stability of speculative demand for money relies primarily on the stability of financial markets. Since the deregulation of financial markets in the 1970's the variety of financial instruments has increased dramatically. As a result, changes in speculative money demand predominantly affect M2, nevertheless instability persists as shown by the 2008 financial crisis.

Analysis of underlying theory has revealed which factors influence the stability of the three motives.

National income, interest rates and attitudes to risk are vitally important amongst other contributory factors. The graph below illustrates how the three motives for money demand are combined to form the overall demand for money. This example is only relative to interest rates. Changes in national income and attitudes to risk will also impact on the position and shape of curves but this illustrates how the stability of money demand is determined. In theory, therefore, it is plausible that money demand may be unstable.



(<http://www.bized.co.uk/virtual/bank/economics/money/theories3.htm>)

On the contrary, empirical evidence suggests that money demand is stable. Conclusions should be drawn from a range of data spanning different types of economy. Using statistical techniques including cointegration Rasche concludes that there is “strong evidence for the stability of long-run demand functions for M1 in five industrial countries” (US, Japan, Canada, UK and West Germany) (Hoffman, Rasche 1995). Additionally, Diu also finds that real money demand is stable in her study of Vietnam even while adapting to a market economy and stock market growth. Furthermore, Bahmani found money demand was stable across all seven of the developing eastern European economies tested. (Bahmani 2010)

In conclusion, while theory may at first seem to suggest that money demand is likely to be unstable, a wide range of empirical evidence actually shows that it is indeed stable. This may be because instabilities are negligible or that some factors act in opposing directions and cancel each other out. Another plausible explanation is that individuals are actually more rational than expected in the real world whether consciously or not. Moreover, improved technological systems and increased efficiency in financial markets aid the stability of money demand. The fact that money demand appears to be stable is significant. It allows for the accurate implementation of monetary policy to fine tune short term money supply growth and target inflation.

Bibliography

Anon, 'Theory 3 – Demand for Money – Why do we demand money?', Biz/Ed
Available at <http://www.bized.co.uk/virtual/bank/economics/money/theories3.htm>
[Accessed 28th October 2010]

Anon, [Chapter 21](#): The Demand for Money, Oswego State University of New York.
Available at <http://www.oswego.edu/~edunne/340chapter21.html>
[Accessed 28th October 2010]

Bahmani, Sahar & Kutan, Ali M, 2010, 'How stable is the demand for money in emerging economies?'
Applied Economics 42: 26. 3307-3318, First published on 26 February 2009.
Available at <http://pdfserve.informaworld.com>
[Accessed 28th October 2010]

Clovis, J, University of East Anglia, 2010, Income and Spending & Demand for Money, October 2010,
[Lecture Notes]

Diu, H & Pfau, W, 2010, 'The determinants and stability of real money demand in Vietnam, 1999-2009'
GRIPS Policy Research Center.
Available at <http://www3.grips.ac.jp/~pinc/data/10-14.pdf>
[Accessed 30th October 2010]

Dornbusch, R, Fischer, S & Startz R, 2008, Macroeconomics Tenth Edition, Chapters 13 & 15, McGraw-Hill Education, New York, United States.

Hoffman, D, Rasche, H & Tieslau, M, 1995, 'The stability of long-run money demand in five industrial countries' Journal of Monetary Economics 35, 317-339.
Available at <http://www.sciencedirect.com/science>
[Accessed 30th October 2010]

Long, S, University of East Anglia, 2010, ISLM Model and Monetary Policy ,February 2010, [Lecture Notes]

Sloman, J & Wride, A, 2009, Economics. 7th ed. Chapters 13-15, 19&20. Pearson Education Limited, Harlow, UK.