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Financial reforms and money demand: Evidence from 20 developing countries

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ABSTRACT

The effects of financial reforms on money demand (*M1*) are analysed with estimates for two sets of sub-samples and two break dates for twenty developing Asian and African countries. In all cases, the magnitude of income elasticity does not change significantly when compared with sub-samples and whole sample periods. Using *CUSUM* and *CUSUMSQ* tests, we find that the demand for money functions in our selected countries are temporally stable and therefore the respective monetary authorities may target money supply as the conduct of monetary policy.

1. Introduction

A stable demand for money function is a necessary condition for the money supply to be an instrument of monetary policy. Due to the financial deregulation and reforms since the 1980s, it is vital to examine the stability of the demand for money function. In a classic paper, Poole (1970) detailed the optimal choice of monetary policy instruments within a standard *ISLM* model. He assumed that the monetary authority can control one of the two instruments (tools) of monetary policy exactly, that is, either money supply or interest rate. If the aim is to minimize the squared deviation of real output from its target value, Poole showed that the choice of the optimal instrument depends on the variance of the error term in the *LM* function, the covariance of the two error terms, and the size of the parameters. Explicitly, he argued that the rate of interest should be targeted if the *LM* curve is unstable and money supply if the *IS* curve is unstable. Since the instability in the demand for money is a major factor causing instability in the *LM*, it is therefore vital to test the stability of the

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money demand function. Based on Poole's analysis, it is interesting to examine whether the use of the rate of interest as a monetary policy instrument by the developing countries can be justified.

A financial system's input to the economy depends upon the quantity and quality of its services and the efficiency with which it presents them. Financial reforms have been the major priority since the 1980s in developed and developing countries. Many studies have argued that financial reforms have made the demand for money functions unstable in both developed and developing countries; see, for example, Nell (1999), Wesso (2002), Bahmani-Oskooee and Rehman (2005), James (2005) and Narayan (2007). We argue that such conclusions are only viable if appropriate stability tests show instability in the demand for money functions and these financial reforms had significant effects.[1] If reforms are not strong enough and weakly implemented, they may not have any significant effects or they may take a long time to be effective. The inherent efficiencies which are expected of a financial sector may not yet manifest in a developing country for these reasons. Few studies in the money demand literature show that the financial reforms did have significant effects on money demand in advanced countries; see, for example, McPhail (1991), Haug (1999), Caporale and Gil-Alana (2005) and Maki and Kitasaka (2006). However, this still needs to be investigated for the developing countries.

If the financial reforms were effective, there would be a structural break in the cointegrating equation. If financial reforms have significant effects on money demand, then the income elasticity should show a decline and the rate of interest elasticity in its absolute value will increase. Also, if financial innovations are observed in the economy, this will have similar effects as above. We argue that if the long-run demand for money has become unstable due to financial reforms, estimates of the cointegrating parameters after the structural break may yield implausible estimates or there may simply be no cointegration between the variables. For this purpose it is necessary to estimate the demand for money for the sub-samples with observations before and after the reforms. However, it is difficult to select a date for the structural break.[2] We have selected the break dates as 1989 and 1995. This is because financial reforms were introduced by most developing countries in the late 1980s and some during the 1990s.

To examine the effects of financial reforms on the demand for money, this study employs annual data to estimate demand for narrow money (*M1*) for sub-samples ((1975–1988), (1989–2005) (1975–1994) and (1995–2005)) and whole sample (1975–2005) periods for twenty developing Asian and African countries, viz., South Africa, Cameroon, Jamaica, Rwanda, Kenya, Ethiopia, Egypt, Nigeria, India, Indonesia, Thailand, China, Philippines, South Korea, Taiwan, Bangladesh, Sri Lanka, Nepal, Malaysia and Singapore.[3] Our results show that there is a well-defined and stable demand for money in all these countries. This implies that the respective central banks may consider money supply instead of the rate of interest as an appropriate instrument of monetary policy. Our estimates based on the time series approach of London School of Economics-Hendry's General to Specific (GETS) show that the income elasticity ranges between 0.9 and 1.4 and the semi-interest rate elasticity ranges between −0.01 and −0.13.

Our paper is organised as follows: in Section 2, we briefly survey some recent works on the demand for money. Section 3 provides the specification and methodology. Section 4 details our empirical results and policy implications. Section 5 concludes.

2. Overview of empirical studies

There is a vast amount of literature on the demand for money in developing countries.[4] However, we only review some key studies related to the developing Asian and African countries. For convenience, we tabulated the major findings of some of these studies in Table 1. James (2005)

[1] A similar view was taken by Bahmani-Oskooee and Bohl (2000) and Rao and Kumar (2009b).

[2] A referee has pointed out that Perron's (1997) structural break tests could be utilised for this purpose. However, it is well known that the Perron tests determine breaks in the context of unit roots. What may be preferred is the Gregory and Hansen (1996) type test. The latter technique is useful; however, a long sample is required to attain better results. Therefore, if the sub-samples based on arbitrary selected break dates give meaningful results, there is no point in applying structural break tests.

[3] Our sample comprises these 20 countries for which data is available from 1975 to 2005 in the International Financial Statistics (2005).

[4] For good literature reviews on the demand for money, see, for instance, Hafer and Kutan (1994), Ericsson (1998), Lütkepohl et al. (1999), Bahmani-Oskooee and Tanku (2006), Bahmani (2008), Hamori and Hamori (2008), Baharumshah et al. (2009), Bahmani and Kutan (2010) and Korhonen and Mehrotra (2010).