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FINANCIAL DEREGULATION, THE DEMAND FOR MONEY AND MONETARY POLICY IN AUSTRALIA

BY

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The paper covers an important subject matter that is of relevance to the Nigerian economy in view of our recent experiences, with deregulation in general and in particular of the financial sector. The experience of the Australian financial system in the era of regulation was quite similar to the Nigerian experience. The sprouting and blossoming of finance houses in the face of strict regulation prior to policy reforms is a case in point. Thus, useful lessons can be drawn for our benefit through a thorough review of this paper.

The paper examines the factors which informed the process of financial deregulation and the adoption of financial innovations in Australia, and investigates the implications of such reforms for the demand for money and monetary policy.

The task is undertaken in five main parts in addition to the introductory section. The outstanding quality of the paper reflects painstaking research efforts by the authors, as all aspects of the subject seem to have been well covered. Perhaps the only demerit is the rather disproportionate space devoted to the description of the Australian financial system and the regulatory measures.

In Part 1, the paper provides a brief description of the Australian financial system. It points out that the system centred on a small number of trading banks which operated the clearing system, had the sole right to issue checking accounts, and are the only institutions eligible to deal in foreign exchange. The trading banks in Australia as elsewhere were closely regulated. Other financial institutions include the savings banks, essentially limited to housing finance, finance companies and merchant banks, dealing mainly in the field of consumer credit and trade finance respectively. Thrift and credit institutions, such as building societies and credit unions, provide finance in the areas of mortgage and consumer credit. Finally, there are money market dealers that specialize in short-term government securities and life assurance companies. The paper also identifies several elements of the regulation of the financial sector. The most important include regulation of interest rates, observance of reserve ratios, and restrictions on entry to the banking sector. During the period of strict regulations the main tools of monetary management relied extensively on the use of reserve ratio, quantitative credit controls and interest rate regulation of the banking systems, lending operations to foster monetary stability. The control measures were undertaken in order to, among other reasons, protect investors and to build the confidence of all and sundry in the financial system, especially the financial markets and institutions, promote priority sectors and in some cases protect particular social groups, and finally manage public debts. However, a number of factors emerged during the 1970s which prompted the deregulation of the financial sys-

tem. Prominent among such factors were the high inflationary pressures which led to negative real interest rates; rapid monetary expansion fueled by large fiscal deficits and credit expansion; increasing difficulties in policing controls due to the explosion in the activities of both banking and non-bank financial institutions, and above all, failure of the regulatory environment to exploit fully the rapid advances in communications and data-processing technology, especially with the emergence of stronger links between domestic and international markets. One major consequence of the development described above was that the operations of regulated financial institutions became relatively unviable when compared to those of unregulated financial institutions in addition to fostering national financial distress. Meanwhile, the growth of non-bank financial intermediaries operating beyond the direct influence of the Reserve Bank, the development of new financial techniques by banks, and the increasing integration of domestic and overseas market contributed to a steady erosion in the ability of the monetary authorities to control monetary conditions.

In the face of these developments the authors maintain that it became imperative to introduce a number of reform measures, from 1979 – 1988.

Among these were:

(a) introduction of tender system for selling treasury bills;

(b) removal of ceilings on interest rates on some deposits payable by trading and savings banks;

(c) abolition of exchange control and floating of the Australian dollar; and

(d) removal of interest rate ceiling on bank loans under $ A 100,000 (other than those for owner-occupied housing).

Part II of the paper gives a theoretical expose of Monetary Policy and Money Demand in the deregulated financial system. The authors observe, in line with the literature on financial deregulation, that there were changes in both the manner in which monetary policy is transmitted to the real sector and the stability and interest elasticity of the demand for money. In particular, they point out that the introduction of a tender system of selling government securities and the move to a floating exchange rate regime increased the monetary authorities' potential control over injections of liquidity into the domestic monetary system. Again, deregulation weakened non-price credit rationing but strengthened the role of market forces in determining financial and credit flows. As a consequence, monetary actions were transmitted through open market operations to the real economy through interest rates. This however, had the effect

of lengthening monetary policy lag; the magnitude of which the paper does not provide.

Noting the importance of a stable and predictable relationship between targeted monetary aggregate and economic action the authors contend that the financial changes occasioned by deregulation contributed to money demand instability. Thus, if interest rates are used to effect changes in the money supply, larger changes in market rates are now required to attain given changes in the money supply than was the case in the regulated financial system. They further argue that the impact of monetary policy through the external account will be greater in the short–run, the less inelastic is the demand for money. In addition, deregulatory measures, such as entry of new banks and decontrol of interest rates, have contributed to the shift in the demand for money.

Models

The models were developed in response to specific questions raised in the light of financial deregulation in Australia. The questions included:

(a) How has financial deregulation altered the relationship between the demand for money and its determinants?

(b) Which of the monetary aggregates has exhibited less structural change in the new environment?

In answering these questions, the authors use three models, namely, the Partial Adjustment Model, Price Expectations and the Buffer Stock Models.

Estimated Equations

The equations estimated are as follows:

(i) **Partial Adjustment Model**

$$M_t^d = a_0 + a_1 Y_t + a_2 r_t + a_3 r_t^o + a_4 M_{t-1}^d + u_t$$

(ii) **Price Expectation Model**

$$M_t^d = a_0 + a_1 Y_t + a_2 r_t + a_3 r_t^o + a_4 M_{t-1}^d +$$

$$a_5 \sum_{j=0}^{n} w_j p_{t-j} \ u_t$$

(iii) **Buffer Stock Model**

$$M_t^d = a_0 + a_1 Y_t + a_2 r_t + a_3 r_t^o + a_4 M_{t-1}^d +$$

$$a_5 \sum_{j=0}^{n} w_j p_{t-j} + a_6 \left(M_t^* - M_t \right) + u_t$$

Definition of variables:

M^d = measure of real money balances

Y = scale variable such as income or wealth

r = an opportunity cost variable

r^o = own rate of return on money

u = error term

p = annualized consumer price inflation rate

$\sum_{j=0}^{n} w_j P_{t-j}$ = a measure of inflationary expectation.

M^* = anticipated money supply

The Partial Adjustment Model treats demand for real money balances as the regressand while income (GDP), interest rates and lagged money were the regressors. Various monetary aggregates were used: base, M_1 and M_2 each divided by the GDP price deflator. The second model introduces price expectations in modification of Model 1. In determining inflation expectation, the authors employ a number of lag procedures to estimate the weights attached to previous inflation rates, including least square estimates, posterior mean for Shillers smoothness prior on lag co–efficients, the Almon Polynomial distributed lag and Ridge regression. In order to avoid parameter instability and interest rate over–shooting, often associated with partial adjustment demand model, the authors also introduce a Buffer Stock Model, incorporating a set of variables that economic agents assume have a systematic influence on the money supply.

In a period of structural changes, "residual error distribution" is likely to affect all the co–efficients in an equation both stochastic and nonstochastic. In order to take account of this the authors use random co–efficient estimation procedure, in contradistinction to the fixed co–efficient estimation.

Empirical Results

The major empirical result can be outlined as follows:

For Model 1 all the co–efficients have *a priori* plausible values and right algebraic signs. There is also a marked decline in the interest rate elasticity of nominal money balances from the period of regulation to the period of deregulation. The results also show structural change due to deregulation. According to the authors, the regression results support the hypotheses that, first, financial deregulation has altered the relationships between the monetary aggregates and their determinants, making monetary targeting which relies on stable demand for money, more difficult to implement; and second that money demand is less interest-elastic in the deregulated financial environment than in the regulated system.

In Model 2 in which price expectation was explicitly recognized, in one of the equations, its co–efficient was significant showing that nominal interest rates have not fully captured the "Fisher effect" over the estimation period. It is noteworthy that all the four lag procedures for estimating price expectations enumerated in the previous section improved the forecasting performances of the models; the Almon procedure for determining expectations resulted in lower root mean–square errors for the base, whereas the Shiller lag worked best for M_1 and M_3.

The Buffer Stock Model was introduced in an effort to eliminate the source of parameter instability. The model improved forecasting results when fixed–coefficient estimation was used.

Concluding Remarks

Several points emerge from our review of the paper. The first and perhaps the most important is that empirical results provided evidence that financial deregulation led to a break-

down in the well-behaved money demand relationships that held in the regulated financial system in Australia. To every Central Bank this is a most critical conclusion, since the Bank's ability to control money supply depends vitally on the predictability of the demand for money. Thus, any country that has embarked on deregulation of its financial system will find it instructive to replicate this study. However, from the experiences of other countries (UK, US, etc.) it is clear that no single concept or definition of money or credit can be expected to always provide reliable signals about economic performance. This is in view of such factors as market innovations, regulatory changes and unusual economic development. Hence, in using monetary and credit aggregates as guides for policy and in interpreting likely economic developments there is need for continuing judgments about the impact of emerging institutional developments, more so when the economic or financial environment has changed drastically. Also Charles Goodhart, of the Bank of England, has argued that any attempt to control a monetary aggregate is to distort it, since it will lead to the production of money substitutes. In the same vein, the Board of the US Federal Reserve has argued that the value of the monetary aggregates for policy depends not so much on the stability of their relationship to other economic variables as on the predictability of these relationships, taking into account structural shifts that are known to be in process. This reasoning must have informed the inclusion of price expec-

tation in the model. Predictably, the result was a substantial reduction in forecast errors. Furthermore, it is noteworthy that price expectations serve as proxy for the opportunity cost of holding money, particularly when interest rates may not have reflected market clearing values.

A second useful lesson is that when there is an increase in the proportion of investment balances held within M_3 instability in the demand for money may result. The payment of interest on demand deposits in Nigeria since 1990 may have similar effects. Furthermore, it is shown that by altering the interest rate elasticity of the demand for money, financial deregulation contributed to money demand instability. A third and final lesson is that financial deregulation may change the route through which monetary policy is transmitted to the real economy.

In conclusion, the paper underscores the importance of continuous study of the financial system as a means of sharpening the tools for the management and control of the economy, particularly for countries that have undertaken financial sector reforms. Also those economists who are interested in econometric testing will find the study quite instructive and beneficial.

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