Chapter 11   The Monetary Approach To The Balance of Payments

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"Balance of payments analysis", as cited by Rhomberg and Heller of the I.M.F., "has been influenced directly by the changing character of international economic problems; in addition, however, it has also been affected by changing methodological fashions in the mainstream of economic thought" (1). In this paper, we shall examine the approach which has resulted from these changing methodological fashions, referred to in the literature as the monetary approach to the balance of payments and distinguished from other approaches through its concentration on the behavioural relationships directly relevant to the money account. In this examination we will look at the origins of the approach, an issue around which a certain amount of controversy exists. We will then go on to look at the modern revival of the approach following a suspension of use in the middle point of this century. The characteristics and predictions of the approach will then be considered and finally we will look at what relevance the approach has to an examination of policy in the economy of Ireland. It is hoped that through this paper ,the monetary approach to the balance of payments will be shown to be a most useful and enlightening analytical framework, to whose predictions particular attention should be paid.

To begin, let us consider the early origins of the monetary approach. As noted in the introduction, these early origins are surrounded in some controversy. Essentially the controversy is over whether David Hume or Richard Cantillon is the true fore-father of the approach. In The New Palgrave, only Hume is mentioned under this heading and, in their Economic and Social Review article of 1985, Kennelly and Finn say that the classical origins of international monetary theory are commonly attributed to Hume, again not mentioning Cantillon. Essentially what is being referred to is Hume's specie flow mechanism in which he linked an increase in the money supply to a balance of payments deficit. The transmission mechanism which he noted was as follows: an increase in the money supply raises spending which in turn raises domestic prices. This makes domestic goods less competitive and a balance of payments deficit ensues, leading to a fall in the domestic money supply. In this way, given a domestic supply constraint, an increased money supply cannot be held indefinitely in a country. The effect which Hume is talking about is a relative price effect. The contention of those who support the Cantillon claim to being the fore-father is that Cantillon wrote of both a relative price effect and a cash balance effect (2). He saw an increased money supply raising prices and also raising expenditure directly on imported goods and on goods that would otherwise be exported. In this way, the money supply increase is manifest in a balance of payments deficit quite directly and the money supply falls. It is this cash balance effect that is at the centre of the modern monetary approach, and as such the claims of the Cantillon camp seem valid. Frenkel and Johnson go half way in conceding this when they write that the "new approach, while Humean in spirit, places the emphasis not on relative price changes but on the direct influence of excess money demand, or money supply, on the balance between income and expenditure" (3). They fail, however, to

attribute this cash balance effect to Cantillon.

Given the richness of the analysis of both Hume and Cantillon, it is perhaps surprising that these forms of analysis, with their emphasis on the monetary aspects of the balance of payments, should have been suspended for twenty-five or so years in the middle of this century. This suspension is explained in The New Palgrave "by the events of the 1930's including the international monetary collapse of 1931 and the Keynesian revolution."

In the 1930's, the methodological fashions of the day led to "the tools of value theory - demand, supply and elasticities" - being applied to the problem of balance of payments deficits (4). Hence we find the elasticities approach (Robinson, 1937), which implied that "selective national traded goods prices could be permanently altered by devaluation" under certain elasticity conditions. This approach however, suffered very much from its partial equilibrium stance, ignoring the crucial effects on aggregate income and expenditure arising from devaluation.

This difficulty with the elasticities approach was supposedly answered through the use of a methodological framework more in keeping with Keynesian analysis, seen in the absorption approach of Alexander (5). This approach argued that questions, regarding the effects on the balance of payments of changes in economic variables, were best assessed by ascertaining the effects on output and absorption. However, this approach suffered from the difficulty that it was not suited for examining changes which only affected output and absorption indirectly: changes such as devaluation or inflation. Its second major flaw, and one shared with the elasticities approach, is that it only looked at the current account balance and not at the overall balance of payments.

With concern regarding unemployment giving way to concern over inflation, the Keynesian methodological approach came to be supplemented by the tools of monetary analysis, and hence we see a revival of interest in the monetary approach to the balance of payments. This revival of interest occurred at both an academic level and also at the level of central bankers and other national and international financial officials. The acceptance of the Keynesian analytical framework had left a gap in terms of problems arising in the areas of the balance of payments and monetary issues.

In academic circles, the first element of this modern revival is considered to be, albeit in an indirect sense, Meade's "The Balance of Payments". It was Mundell who then took Meade's analysis, extended it to include the capital account, and also incorporated two developments which robbed Meade's analysis of two assumed policy instruments. One such development was the growing reluctance of countries to use devaluation as a policy instrument, the other being the growing constraints on the use of trade barriers arising from G.A.T.T negotiations. While it was also Mundell who recognized that, in a model of capital mobility, the central bank controls not the money supply and employment but domestic credit and the balance of payments, it was Johnson who popularized the concept of the fundamentally monetary nature of the balance of payments (6).

Outside of this academic circle, the main developments in this area were made under Polak at the International Monetary Fund. Their approach to monetary management in the context of balance of payments disequilibra, evolved in the 1950's in work concerned with Latin American economies. The approach followed monetary approach reasoning, estimating prospective money demand changes and altering domestic credit expansion accordingly in an effort to keep the external account in balance (7).

Given the origins of the monetary approach to the balance of payments and its modern revival, let us now look at the characteristics of the monetary approach and then let us go on to look at its predictions.

The essence of the monetary approach is that it views changes in the international reserves of a country as a reflection of a stock disequilibrium in the domestic money market. The link between the international reserves and the money market is that the change in the international reserves must equal the difference between changes in the demand for money on the domestic money market and domestic credit expansion. In the monetary approach, a balance of payments deficit/surplus exists when there is a decrease/increase in the international reserves. As such, its focus is the overall balance of payments and not the components, i.e. the current and capital accounts.

The monetary approach to the balance of payments is really an extension of closed economy monetary theory, stressing the stability of the demand for money function and considering the channels through which changes in the money supply, out of line with changes in money demand, affect the economy. In a closed economy, an expansion of the money supply, in excess of any increase in money demand, leads to increased spending as people try to run down their money balances. This increased spending leads to increased prices and a fall in the real money supply, a process which continues until money supply and demand are again equated. In the case of an open economy, however, with perfect capital and goods mobility and a fixed exchange rate, an increased money supply will not raise prices as prices are exogenous. Instead, an increased money supply leaks out of the economy through a balance of payments deficit and a fall in the external reserves, because of the cash-balance effect discussed above. In this way, the money supply is brought into line with money demand.

As noted above, the monetary approach looks only at the money account and does not consider the other accounts of the balance of payments. A correct analysis, however, in terms of the other accounts, should in principle arrive at the same answers as the monetary approach, but such an analysis would tend to neglect the role of money (8). As proponents of the monetary approach regard the balance of payments as being fundamentally a monetary phenomenon, an analysis which does not place money at the centre of attention is seen as inferior. For them, the attraction of the monetary approach is that it analyses the relationships directly relevant to the money account and not in terms of other behavioural relationships which are only indirectly relevant to the money account.

In order to clarify the above concepts, and so as to enable us to look at the predictions of the approach, let us set up a model. In doing so we must specify a demand for money function and a money supply process (9).

Looking firstly at the money demand function, let us use the following expression:

$$m^d/p = f(Y, r, i) \qquad \text{(i)}$$

This expression says that the real demand for money depends on the income level, the opportunity cost of holding money i.e. the interest rate, and also the rate of inflation.

Transforming equation (i) into terms of rates of growth, we arrive at equation (ii):

$$m^{\cdot d}/m^d - p^{\cdot}/p = e_Y(Y^{\cdot}/Y) + e_r(r^{\cdot}/r) + e_i(i^{\cdot}/i) \qquad \text{(ii)}$$

The dot beside a variable denotes a time derivative. The parameters e_Y, e_r, and e_i are the elasticities of real money balance demand with respect to income, the interest rate, and the rate of inflation respectively. As the demand for money is positively related to income and negatively related to the rates of interest and inflation, we expect the signs of the elasticities to be as follows:

$$e_Y > 0, \ e_r < 0, \ e_i < 0.$$

As a final element in our construction of the demand for money function, we specify it in nominal terms by transforming equation (ii) as follows:

$$m^{\cdot}/m = p^{\cdot}/p + e_Y(Y^{\cdot}/Y) + e_r(r^{\cdot}/r) + e_i(i^{\cdot}/i) \qquad \text{(iii)}$$

Moving on to the second element of our model, that is the specification of the money supply process, we will use the simple money multiplier model. By this we mean that the money supply will be taken as equalling the product of the stock of high powered money and the money multiplier, i.e.

$$M = mH \qquad \text{(iv)}$$

The stock of high powered money (H) is made up of the domestic (D) and foreign (R) components and, as such, we can write:

$$H = R + D \qquad \text{(v)}$$

Substituting (v) into (iv), and rewriting in terms of growth rates, we arrive at equation (vi):

$$M^{\cdot}/M = m^{\cdot}/m + (R/H)(R^{\cdot}/R) + (D/H)(D^{\cdot}/D) \qquad \text{(vi)}$$

As the focus of our attention is changes in the international reserves, it makes sense to specify equation (vi) in terms of $R^{\cdot}/R$. Hence we arrive at equation (vii):

$$R^{\cdot}/R = (H/R)(M^{\cdot}/M - m^{\cdot}/m) - (D/R)(D^{\cdot}/R) \qquad \text{(vii)}$$

Taking $M = m^d$ (i.e. money market equilibrium), we can substitute equation (iii) into equation (vii) and arrive at the key relationship in the monetary approach to the balance of payments, i.e. equation (viii):

$$R^{\cdot}/R = (H/R)(p^{\cdot}/p + e_Y Y^{\cdot}/Y + e_r(r^{\cdot}/r) + e_i(i^{\cdot}/i) - m^{\cdot}/m) - (D/R)(D^{\cdot}/D) \qquad \text{(viii)}$$

Considerations of this relationship can lead us to the conclusion of the monetary approach.

Firstly, it can readily be seen that changes in the international reserves, i.e. balance of payments disequilibria, are made up of changes in money demand (the first component of the R.H.S.) minus changes in the domestic component of the money supply. However, we can read deeper than that. It can also be seen that with a constant demand, changes in money supply will be reflected one-for-one in the external reserves. Looking at the demand component of the expression, we see that growth in real income (ceteris paribus) leads to an increase in reserves. While mathematically obvious, the intuition behind this is that, with increased income, people's demand for money will rise. As such, they will attempt to accomodate money balances by reducing spending, thus leading to a balance of payments surplus. Similarly, increases in the rates of interest or inflation lead to falls in the external reserves, given the signs of the elasticities e_r and e_i. As a final note to the model, it should be pointed out that the public does not react passively to all the variables in the model but has an influence on the money multiplier,

which in turn affects the level of the external reserves.

Before leaving this theoretical discussion of the monetary approach to the balance of payments, let us look at two misconceptions regarding the approach, noted as such by Frenkel and Johnson. The first misconception is to consider the approach as 'monetarist' rather than 'monetary'. Frenkel and Johnson illustrate this point by noting that the monetary approach "asserts neither that monetary mismanagement is the only cause, nor that monetary policy is the only possible cure, for balance of payments problems".

The second, and more interesting misconception, is that the monetary approach is merely a tautology and not a theory. Proponents of this view argue that to say that changes in international reserves are equal to the difference between changes in domestic money demand and D.C.E. is to say nothing. However, this point is refuted by pointing out that the monetary approach goes further than this in postulating a stable demand for money function. By postulating this, the tautology becomes a theory. According to Frenkel and Johnson, all theories begin with a tautology "and have to do so to define the variables they seek to explain".

Having looked at the theoretical issues involved in the monetary approach, let us now go on to look at its relevance to policy in the context of the economy of Ireland. Being a small and open economy, with an element of control exercised over the exchange rate, Ireland broadly meets the assumptions of the approach and, as such, an assessment is valid.

In his article "Implementing Monetary Policy" (C.B.I. Quarterly, Summer 1985), O'Cofaigh said that "the maintenance of an adequate level of external reserves for the defence of the exchange rate is a primary responsibility of the Central Bank." He went on to say that "in assessing the adequacy of our external reserves, the way in which current balance of payments deficits have been financed - mainly by foreign borrowing, entailing a rapid build-up in the external indebtedness of the public sector - must be taken into account."

Given this concern over the level of the external reserves, by invoking the monetary approach we can say that policy should be concerned with ensuring that growth in the domestic component of the money supply (D.C.E.) is in line with any growth in money demand. This will ensure the stability of the external reserves. Should the monetary authorities wish to increase the external reserves, again a policy prescription is provided. Perhaps of utmost importance however is to ensure the D.C.E. does not exceed growth in money demand because, again as stated by O'Cofaigh, "the excess spills over into balance of payments deficits which threaten the stability of the exchange rate".

It was this line of thinking which lead Kelleher to say, when commenting on balance of payments deficits in the 1970's, that "corrective actions require policy measures which will reduce the growth in credit expansion (as measured by D.C.E) to a level in line with the growth in money demand" (10).

Given this simple analysis, it is perhaps surprising to read, again in O'Cofaigh's article, that the Central Bank at the time didn't "implement or specify targets for D.C.E." The reason for this is that a major part of D.C.E. is out of the control of the Central Bank, that is the monetary financing of the P.S.B.R.

For most of the 1980's, with the level of public borrowing so high, the private sector financial surplus (S - I) was not sufficient to finance public borrowing. As such, it was necessary to resort to monetary financing by injecting purchasing power into the economy without withdrawing any. This led to growth in D.C.E. and, certainly up to the mid-1980's, a balance of payments deficit existed

consistent with monetary approach predictions. The effect on the external reserves of these balance of payments deficits was, however, masked by the fact that foreign borrowing was used to finance the budget deficit and, as such, financed the balance of payments deficit. Hence, the policy of high government deficits, financed by monetary means, was manifest not only in balance of payments deficits but also in a rise in external indebtedness. Either way, the continued pursuit of such a policy would have put pressure on the exchange rate. It was this growth in international indebtedness which lead Walsh, O'Leary and Leddin to say that "rather than looking at R (external reserves), it is more appropriate for policy to concentrate on N.R. (net external reserves) = R - G.F.B. (government foreign borrowing)" (11). This also fits in with O'Cofaigh's remarks on taking into account the financing of balance of payments current account deficits.

In conclusion, let it be said the monetary approach to the balance of payments offers a richer and more satisfying analysis of the balance of payments as opposed to approaches which overshadowed it in the middle of this century. What is more, we can say that the monetary approach preceded these other approaches, as noted in the section on early origins. As regards its application to the economy of Ireland, it is worth noting that the corrective action being undertaken at the moment, while in line with monetary considerations, is analysed largely in fiscal terms, in political circles at least. Whether this is due to ignorance of the monetary implications of policy, or an inability to articulate, isn't clear, but from our analysis it is clear that the monetary implications of policy are neglected at a cost.

Footnotes
1. "The Monetary Approach to the Balance of Payments", I.M.F.
2. Cantillon, "Entrepreneurs and Economists", Murphy Chapter 13.
3. "The Monetary Approach to the Balance of Payments", Frenkel and Johnson.
4. I.M.F., Chapter 1.
5. I.M.F., Chapter 1.
6. This paragraph draws on Frenkel and Johnson, Chapter 1.
7. I.M.F., Chapter 1.
8. Frenkel and Johnson.
9. This model is from I.M.F., Chapter 11.
10. R. Kelleher, "Recent Developments in Monetary Policy", Economic and Social Review, 1980.
11. Walsh, O'Leary and Leddin, "Economy of Ireland" (ed. J.W. O'Hagan), 5th edition.

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