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*DEVELOPMENT ASSISTANCE, RUDIMENTARY  
FINANCIAL MARKETS AND RELATIVELY RAPID  
GOODS MARKET ADJUSTMENTS*

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# DEVELOPMENT ASSISTANCE, RUDIMENTARY FINANCIAL MARKETS AND RELATIVELY RAPID GOODS MARKET ADJUSTMENT

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## **Abstract**

Development assistance that increases government spending in recipient countries is a key component of macroeconomic adjustment programmes. Such assistance has effects that cannot be predicted by standard macroeconomic models. A more reliable model must recognise that financial markets in recipient countries are rudimentary, that asset markets do not adjust instantaneously and that goods market adjustment will be relatively more rapid than asset market adjustment. Moreover, the determination of output and the interest rate will not be as dichotomous and market specific as assumed by Keynes and by Classical economists, but will be determined by both the goods and asset markets, as in the *IS-LM* model. But contrary to the predictions of the *IS-LM* model, and assuming that agents in developing economies do not hold significant amounts of speculative balances, the rudimentary state of financial markets ensures that output and income will initially increase after a fiscal stimulus financed by development assistance, but will contract thereafter; and that interest rates will be relatively sluggish. A steep *LM* indicates that this kind of adjustment will occur, because it implies that spending on (investment) goods and services will decrease in response to any excess demand for money that might be created by the fiscal expansion.

JEL Classification: E41, E44, E62, H30, H62

Keywords: Adjustment mechanisms, money demand, rudimentary financial markets, development assistance.

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## I. INTRODUCTION

The countries that are in greatest need of development assistance are probably the ones that are least equipped (institutionally and structurally) to benefit from such assistance. This is seldom recognised by standard macroeconomic models which usually take the institutional and structural features of an economy for granted, so that an externally financed fiscal shock is expected to have the same adjustment path in Guyana as in the United States. From the perspective of these models, development assistance that finances government projects in poor countries will appear to have perverse macroeconomic effects because the path of macroeconomic adjustment to fiscal shocks actually depends on the institutional and structural features of the economy, and these features are not consistent with those that are taken for granted in the standard models.

In contrast to standard macroeconomic models, this article suggests that the institutional and structural features of developing countries imply that goods market adjustment may actually precede and be faster than asset market adjustment to real or financial shocks, i.e., that there may be *relatively* rapid goods market adjustment. It is further argued that such adjustment may be the natural consequence of two key features of developing countries, to wit that financial markets are undeveloped and that goods markets are dominated by the production of primary goods that usually entail high inventory costs. While both of these institutional and structural features are seen to be important, the former (the state of financial market development) is given greater emphasis in this paper.

The idea of relatively rapid goods market adjustment requires a new way of thinking about macroeconomic adjustment in the many developing countries that are characterized by the relevant institutional features; and it also requires a new way of thinking of adjustment in the standard *IS-LM* framework - one that is inspired by the monetarist idea that excess balances may be used not only to purchase bonds but also to purchase goods and services, thereby restoring money market equilibrium by increasing prices and/or output. Conversely, if money demand exceeds money supply spending on goods and services, and particularly on investment goods and services, will decrease *if agents are too impoverished to hold significant speculative balances*.

The analysis in this article is conducted in a closed economy context, beginning with a re-examination of the economy's adjustment to 'neutral' development assistance that finances fiscal stimuli as envisaged by the standard *IS-LM* framework. By neutral is meant development assistance that does not involve any exchange rate or monetary effects of externally financed fiscal stimuli, almost as if the assistance takes the form of commodity assistance that has no Balance-of-Payments effects. It is assumed that prices are rigid and that the public can hold goods, money and securities, but that the goods markets is dominated on the production side by primary goods that entail high inventory costs; and that there are so many distortions in the financial markets that these markets can be best described as undeveloped or *rudimentary*. Additionally, the securities market is taken to be dominated by government bonds. Given that there are three markets, an excess demand in any two markets will be (by Walras' Law)

accompanied by an excess supply in the third. The final, fundamental, assumption is that agents do not hold significant speculative balances, i.e., that money demand is principally a demand for transactions balances. This last assumption is not unrealistic for poor countries: while the magnitude of speculative balances usually depends on the interest rate it is quite reasonable to assume that this relationship only holds after a certain income threshold. At any rate, Mishkin (1998) indicates that it is still a theoretical conundrum that persons hold any speculative balances at all, given that positive interest could be earned on alternative, highly liquid, assets.

The proposed view of adjustment contrasts with the conventional view that the *IS* will shift outwards, and output and the interest rate will rise in response to neutral development assistance that finances a fiscal stimulus. In the conventional view the fiscal stimulus will disturb equilibrium by increasing spending beyond the productive capacity of the economy, so that investment will exceed savings. At the same time the increase in income will raise the transactions demand for money. There will therefore be an excess demand for goods and an excess demand for money. The implied excess supply of securities will cause the price of securities to fall and will be eliminated as agents reduce their speculative balances to purchase the higher yield securities. Equilibrium will be restored in the money and securities market, and given the rise in the interest rate, investment will fall, savings will rise, and equilibrium will be restored in the goods market.

In the proposed view of adjustment a fiscal stimulus will in the *first* instance lead to a dramatic expansion in output and income as in the standard *IS-LM* analysis, but given the institutional/structural features of the economy there may be a contraction in output after the initial expansion. Such adjustment occurs because persons, instead of reducing their close-to-zero speculative balances by purchasing bonds, would instead reduce spending (on the residential construction component of investment goods, for example) in the goods market in an effort to satisfy any excess money demand that arises on account of the fiscal expansion. In other words, the excess demand for goods created by the externally financed fiscal stimulus will be directly eliminated by a reduction in the demand for goods that will lower income. The excess demand for money will be eliminated by this adjustment, and there will be no transactions in the market for securities. As such, interest rates will be somewhat rigid, or will increase by less than is predicted in the standard analysis. Had financial markets been more highly developed the adjustment to the excess demand for goods would have been more indirect, involving the securities markets, and income and the interest rate would have both risen permanently.

A key (functional) relationship exists between the demand for money and the interest rate, and another key (institutional) relationship exists between the adjustment to money demand imbalances and the state of financial market development. In the former case, the demand for money is taken to be largely a *transactions* demand for money, but Baumol (1952) and Tobin (1956) have demonstrated that even such balances are negatively sensitive to the interest rate. In the latter case, rudimentary financial markets are associated with low interest sensitivities of money demand and more specifically, relatively rapid goods market adjustment is taken to be more probable when the slope of the *LM* function is greater than one. This conjecture can be inferred both from simple geometry and from a number of empirical estimates of money demand

functions for countries whose states of financial development are fairly well known.

Relatively rapid goods market adjustment also has implications for the determination of output and the interest rate. While it is often taken for granted in Keynes' *General Theory* and Post-Keynesian macroeconomic models that output and the interest rate are determined dichotomously in goods and asset markets respectively; and in Classical models that nominal output and the interest rate are determined dichotomously in money and goods markets respectively, the this might not be the case for many developing countries. As such the analysis is conducted in the *IS-LM* framework which assumes that the markets are interconnected and that output and the interest rate are determined non-dichotomously (or simultaneously) in both the goods and asset markets.

The paper is organized as follows. Section II discusses the importance of the state of financial market development to the adjustment mechanism. It is argued that the *IS-LM* framework makes the critical assumption that financial markets are significant and well developed, and that only in economies where this assumption is valid can the mechanism of macroeconomic adjustment be innocuously ignored. In Section III a fairly extensive review of the standard *IS-LM* adjustment mechanism is presented and the determination of output and the interest rate is discussed. The main idea of the paper, that of relatively rapid goods market adjustment when financial markets are rudimentary and also when inventory costs are high, is presented in Section IV. Section V considers some implications of the idea of relatively rapid goods market adjustment for the open economy. The paper concludes in Section VI with some comments on the implications of the analysis for government intervention to achieve full employment.

## II. FINANCIAL MARKET DEVELOPMENT AND MACROECONOMIC ADJUSTMENT

Though it is rarely made explicit in the literature, the state of financial market development and the mechanism of macroeconomic adjustment to shocks are closely related to each other because both real and financial shocks generate changes in desired and/or available liquidity in the economy that disturb money market equilibrium, and more generally, asset market equilibrium. It is not that economists are unaware of this relationship but rather that the theoretical discussion of macroeconomic adjustment has been conducted in an institutional framework where financial markets were so developed that this element of the mechanism of macroeconomic adjustment could have been taken as a premise of the analysis. Analogously, economists who write on developing country issues usually do point out the rudimentary state of financial markets, but do so only to identify it as an impediment to economic growth. Hardly ever do developing country economists recognize the relationship between financial market development and macroeconomic adjustment, and when they do they too stop short of attempting to integrate this reality in their models of macroeconomic adjustment. Furness (1975, p. 191) for example notes without any elaboration that:

... the enormously important role assigned to the rate of interest [in Keynes' analysis], not only as a determinant of investment but also as a key link with monetary influences, assumes numerous and sophisticated financial operators and speculators, a wide variety

of financial assets, and a market highly responsive to changes in the supply of and demand for such assets.

If development economists merely note that financial markets are rudimentary in developing countries while conventional macro-theoretic discussions appear to beg the question of the role of financial market development in macroeconomic adjustment, they are doing so within an accepted paradigm. In the early literature simple models of income determination were pushed to the limits to derive complicated multipliers that made macroeconomic adjustment seem almost mechanical. When the models were later refined, for example by the addition of the money market in the Hicks-Hansen *IS-LM* model, the adjustment mechanism was so taken for granted that the singular focus seemed again to be the effect of including the money market on the size of the relevant multipliers. This literature subsequently developed by subjecting several other unrealistic assumptions (such as the formation of expectations, the flexibility of the labour market, the costliness of information, the degree of competition, and so forth) of this model to further scrutiny, without at any stage contemplating the importance of the state of financial market development to the model's implicit adjustment dynamics.

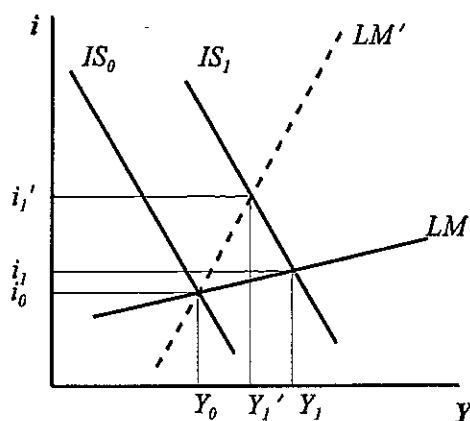
There were indeed some later *IS-LM* models such as Holmes and Smyth (1972), Mankiw and Summers (1984), Mankiw and Summers (1986), and Feldstein (1984), which used appropriately specified money demand functions to show that expansionary fiscal policy may actually produce contractionary or at least non-standard results. But if any of these extensions to the basic *IS-LM* model seems appealing in a developing country context, it is important to note that all of them have taken the mechanism of macroeconomic adjustment as given. Put differently, both the standard *IS-LM* framework and the extensions assume that financial markets are relatively developed, and therefore that there is a virtually instantaneous asset market adjustment to asset market disequilibria, much as is the case in most industrialized countries.

While there has undoubtedly been significant theoretical progress in macroeconomics for countries with highly developed financial markets, the discussion of adjustment in developing countries, despite its voluminousness, is still in its infancy. Admittedly the literature on how and why financial market development may (or may not) foster growth and development in such countries is well developed, but this discussion usually revolves around the hypothesis that financial markets support the efficient allocation of capital in an economy. Extensive reviews of this literature are undertaken in Levine (1997), and Khan and Senhadji (2000), while arguments for and against financial development as a contributor to growth and development are contained in Fry (1997), Singh (1997) and Arestis and Demetriades (1997). But understanding whether and in what way financial development is related to growth and development in no way clarifies the relationship between financial market development and macroeconomic adjustment; and these authors do not refer to this relationship even though most of the countries for which growth and development are pressing priorities are also the ones that are in need of fundamental macroeconomic adjustment. Indeed, the ambivalence with which this literature regards adjustment and growth as being either contradictory or mutually reinforcing itself suggests that at best, there is only an amorphous awareness of the relationship between financial market development and macroeconomic adjustment.

At a more technical level, analysing financial markets and the efficiency of capital allocation is an exercise in economic statics that contributes little to our understanding of the relationship between financial market development and macroeconomic adjustment because the latter is in the domain of economic dynamics - a point that may not even be appreciated in the discussion of financial development and growth and development. Nor is this oversight confined only to the writings of academic economists. Economic efficiency and macroeconomic adjustment are often conflated even by international agencies such as the International Monetary Fund and the World Bank, which often provide generous 'structural *adjustment*' financing to developing countries for drafting legislation for the development of securities markets, almost as if these countries were being asked to re-configure their economies to suit the reality that is being assumed in the available models.

The hypothesized relationship between financial market development and macroeconomic adjustment is best presented in an *IS-LM* framework that includes the important modifications that the transactions demand for money is also negatively sensitive to the interest rate and that speculative balances are essentially nil. In Fig<sup>201</sup> the combinations of interest rate and output that assure equilibrium in the goods and money markets are given by the *IS* and *LM* functions, respectively. The *IS* curve is downward sloping: from any point on the *IS* a decline in the interest rate will increase the demand for investment goods, creating an excess demand for goods that must be satisfied by using up inventories; implying in turn an increase in output to restore equilibrium in the goods market. There are two *LM* curves, the one labeled *LM'* being steeper than the one labeled *LM*. The *LM* curves are upward sloping: Any increase in output will increase the income sensitive component of transactions demand for money beyond the fixed money supply so that restoration of money market equilibrium will require an increase in interest rates to choke off a part of the interest sensitive component of the transactions demand for money. Note for the moment that with 'normal' adjustment dynamics, any increase in government expenditure that shifts the *IS* curve outwards from  $IS_0$  to  $IS_1$ , will raise output by a greater amount along the flatter the *LM* curve. The diagram shows that after the expansionary

Figure 1





fiscal policy the equilibrium would be  $(Y, i_1)$  if the  $LM$  curve were relatively flat and  $(Y_1, i_1')$  if the  $LM$  curve were relatively steep (again, assuming 'normal' adjustment dynamics). A more general specification of the modified  $IS-LM$  model is given in Table 1.

**Table 1. The Modified  $IS-LM$  Model**

THE MODEL	MODEL DESCRIPTION
<p><i>The Goods Market</i></p> $Y = \bar{C} + c(Y - tY) + \bar{I} - bi + \bar{G}$	<p><i>IS</i>: output equals autonomous and induced spending by consumers, investors and government; <math>Y</math> is output, and autonomous consumption, investment and government are represented by the usual notation; <math>c</math> is the marginal propensity to consume, <math>t</math> is the tax rate, and <math>b</math> is the sensitivity of investment spending to the interest rate</p>
<p><i>The Money Market</i></p> $\frac{\bar{M}}{\bar{P}} = kY - hi$	<p><i>LM</i>: money supply equals money demand; the transactions demand for money has two components, one of which increases with income and the other decreases with the interest rate; <math>\bar{M}</math> is the nominal money supply, <math>\bar{P}</math> is the (fixed) price level, and <math>Y</math> is output; <math>k</math> is the responsiveness of money demand to income and <math>h</math> is the responsiveness of money demand to the interest rate. N.B. that agents do not hold speculative balances so that even though the right side of equation for the <math>LM</math> appears to be unmodified, the interpretation is different.</p>

The rudimentary state of financial market development in developing countries is generally reflected in low interest elasticities of money demand, and therefore relatively steep  $LM$  curves. The slope of the  $LM$  curve is  $k/h$ , where  $k$  and  $h$  are the income and interest sensitivities of transactions money demand, respectively. Debate on the slope of the  $LM$  is not new, though most of the time and effort have been spent on the assumptions about this slope implied by various schools of thought, as against various states of financial market development. Thus most macroeconomics textbooks repeat, probably for expository purposes, the claim that the classical quantity theory, and therefore monetarism, assumes a vertical  $LM$  in the sense that it relates the demand for money to income (e.g., in the famous Cambridge cash balances equation  $M = kPy$ ) and not to the interest rate as was done by Keynes. This claim is of no trivial theoretical significance. Friedman (1974, p. 138) actually addressed this issue and rejected the claim:

In my opinion, no 'fundamental issues' in either monetary theory or monetary policy hinge on whether the estimated elasticity [of demand for money with respect to the interest rate] can for most purposes be approximated by zero or is better approximated by -.1 or -.5 or -2.0, provided it is seldom capable of being approximated by -∞.

It is not clear if this debate recognizes that the slope of the  $LM$  curve is not a datum, and moreover that it may even depend on the prevailing economic policy framework. Could it not be for example that the demand for money is relatively more or less sensitive to the interest rate as financial markets are more or less developed, but that the state of financial market development is the *consequence* of the economic policy framework? Under the monetarist inspired adjustment programs recommended for developing countries many of the strictures such

as high tax rates may very well restrict the development of financial markets and may well contribute to a low measured interest sensitivity of money demand.

Whether or not this is the case the slope of the  $LM$  is not a datum and there are at least two good *a priori* reasons for believing that the  $LM$  is indeed steep, namely the rudimentary state of local financial market development and related to this, the low levels of per capita incomes in developing countries. Regarding the first reason, in countries with highly developed financial markets any excess balances would immediately be jettisoned by rational economic agents in the securities markets, resulting in a rise in the price of bonds and a fall in the interest rate. Similarly any excess demand for money would be satisfied by reducing purchases of securities, thereby raising the interest rate. The measured interest sensitivity of money demand would therefore be high, as long as persons can economize on money balances *by turning to the markets for bonds and equities*. Conversely, the absence of such markets would place institutional constraints on the ability of agents to dispose of excess balances or acquire additional cash, constraints that would manifest themselves in low measured interest sensitivities of money demand, even if preferences for liquidity were identical to those of economic agents in countries with developed financial markets. This is an important qualification to the commonplace observation that developing countries are 'cash economies' in which persons choose to hold cash and other components of money in large amounts, because it means that such behaviour is not so much a reflection of peculiarly developing country preferences as it is a statement about the (institutional) constraints on agents' choice. As such, a low value for  $h$  found for developing countries will be reasonable, and consistent with their reality of rudimentary financial markets.

But as pointed out earlier, in poor countries whose financial markets are rudimentary agents might not even hold speculative balances, and this is the second reason for believing that the  $LM$  will be relatively steep. Because agents do not hold speculative balances, the measured interest sensitivity of money demand may actually reflect the sensitivity of *transactions* demand for money to changes in the interest rate. The  $h$  in the general  $LM$  equation may therefore be interpreted as being made up of two components,  $h_t$  (the interest sensitivity of transactions demand) and  $h_s$  (the interest sensitivity of speculative demand). Clearly, if  $h_s$  is zero, the overall measure  $h$  of the interest sensitivity of money demand will be relatively small.

Money demand functions have recently been estimated for several developing countries, while studies of money demand in industrialized countries have been conducted for decades now. Of the developing country studies, some consider if financial liberalization affects (for example) the stability of money demand and its reciprocal, the velocity of circulation, and others simply estimate money demand functions in an effort to refine the modelling and estimation techniques. For both sets of countries the money demand functions are estimated for a variety of monetary aggregates and with different scale and opportunity cost variables. Whatever the reason, whatever the technique and whatever the statistical strength of the results, the estimates of money demand for developing countries seem to suggest that the interest elasticity of money demand might increase with financial market development, and conversely that the  $LM$  function will be relatively steep for most developing countries. Admittedly only Deckle and Pradhan

(1997) mention the possible relationship between financial market development and the size of the interest elasticity of money demand, and they do so merely in passing. Nonetheless, low interest elasticities for developing countries and high interest elasticities for developed countries may infer the relationship that is being suggested.

Of the developing country estimates of money demand, Egoumé-Bossogo (2000) estimates for the period January 1990 to September 1999, the interest elasticity ( $h$ ) and the income elasticity ( $k$ ) of money demand in Guyana to be -0.046 and 0.8 respectively. Deckle and Pradhan (1997) found statistically significant interest and income sensitivities of (narrow) money to be -0.076 and 1.18 respectively for Malaysia, over the period 1976 - 1995; and -0.079 and 1.0 respectively for Thailand over the period 1978 - 1995. Similarly, Sánchez-Fung (2000) found  $h$  and  $k$  to be -0.04 and 1.0 respectively for the Dominican Republic money demand function estimated for 1950 - 1999; and Ahmed (2001) found the corresponding coefficients to be -0.036 and 0.8 for Bangladesh, for the period 1974 - 1995. Financial markets are all quite rudimentary in the countries referred to, though they range from virtually absent in Guyana to having a relatively long-standing stock market in Malaysia. The estimates clearly suggest a relatively steep  $LM$ .

In contrast the estimates of money demand for countries with fairly developed financial markets return high interest sensitivities of money demand. Blundell-Wignall, Rondoni and Ziegelschmidt (1984) estimated money demand equations for a number of OECD countries using quarterly data from 1973 to 1983 and found the interest and income sensitivities respectively to be -0.1 and 0.04 for the United States; -0.38 and 0.08 for Japan; -0.66 and 0.42 for Germany; -0.14 and 0.21 for France; and -0.49 and 0.11 for Canada. Sriram (2001) reports on a number of more recent studies which generally confirm that the interest sensitivity of money demand is relatively high for developed countries with highly developed financial markets. In other words, one may expect a relatively flat  $LM$  in countries with highly developed countries, and though the evidence is very thin, it may even be that liquidity traps may arise from 'too much' financial market development.

To the extent then that the state of financial development is reflected in low interest sensitivities of money demand and relatively steep  $LM$  curves, macroeconomic adjustment will clearly depend on whether or not financial markets are developed. Moreover, the very adjustment dynamics will be different, as will be the results of expansionary fiscal policy.

### III. THE DETERMINATION OF OUTPUT AND THE INTEREST RATE

Inasmuch as the role of financial market development in the adjustment process is taken for granted, so too is the determination of output and the interest rate taken for granted in the discussion of macroeconomic *adjustment*. While in the  $IS-LM$  model the goods and asset markets are interconnected, and output and the interest rate are determined by the interaction of these markets, classical quantity theorists and Keynes himself assumed that the goods and asset markets were distinct. The classical assumption was that the interest rate was determined in the goods market by the equality of savings and investment; and that nominal income was

determined in the money market, by the equality of money demand and money supply. For Keynes (and Post-Keynesians) the interest rate was determined in the money market (a summary of the market for assets) and output was determined in the goods market - the latter giving effect to his view that output was determined by the level of effective demand for goods and services.

Not only are markets distinct in the classical and Keynesian models but each market is responsible for the determination of a particular variable, i.e., for the classicals nominal output and the interest rate are determined separately in the money and goods markets respectively while for Keynes and Post-Keynesians real output and the interest rate are determined separately in the goods and money markets, respectively. The adjustment in the markets is therefore *dichotomous*. For the classical quantity theorists the money market was the arena of nominal output adjustments while the goods market is the arena of interest rate adjustments; and for Keynes the goods market was the arena of real output adjustments while the money market was the arena of interest rate adjustments. Real (full employment) output was determined exogenously in the classical model, and a unique, endogenous interest rate equated full employment savings and investment whereas for Keynes output was determined in the goods market while the interest rate was given, determined 'exogenously' in the distinct and unrelated money market. Thus Keynes was able to counter the classical argument that the economy will automatically return to full employment from any disequilibrium, because he was able to argue that the interest rate determined in the unrelated money market may be 'too high,' so that savings will unavoidably exceed investment in the output-determining goods market. In turn this was the basis of Keynes' argument for government intervention to raise effective demand.

The issue of whether the markets in which output and interest rates adjust are dichotomous or interconnected has been given relatively scant treatment<sup>1</sup> in the literature on the special features adjustment, the focus being instead on the price flexibility assumption, i.e., on the automaticity or otherwise with which the economy returns to full employment output and on the Keynesian assumption that it is *quantity* rather than price that adjusts more rapidly to macro-disturbances. This last assumption was quite a paradigm shift at the macro level considering the dominance of the Marshallian view of a price-led adjustment mechanism in individual markets;<sup>2</sup> though Keynes did follow Marshall in assuming discrete rather than continuous adjustment and in assuming that one variable adjusted much more quickly than did the other--albeit for the reversal of the roles of price and quantity in that discrete process.<sup>3</sup> 'Momentous' though this reversal of the role of prices and quantities was for countries with developed financial markets,<sup>4</sup> it is rather the recognition that the dichotomous adjustment of output and the interest rate could have been assigned specifically to the goods and asset markets respectively that deserves attention when studying countries with undeveloped financial markets. If nothing else, Keynes' choice of different markets for output and interest rate determination suggests that this matter is not a trivial one for adjustment.

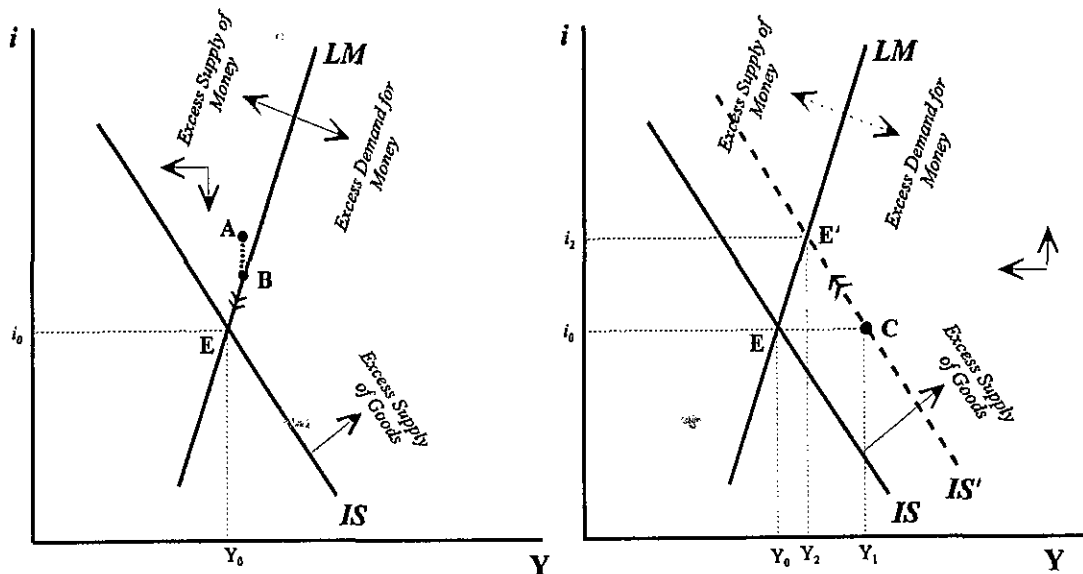
To bring the matter into focus, consider that the IMF-approved (effectively, IMF-designed) macroeconomic adjustment programs being followed by developing countries place heavy emphasis on potential excess balances in the economy, with the result that almost every Central Bank has adopted a tight monetary policy stance. What the IMF fears is that excess money

balances will be used, not to purchase bonds (a short hand for stocks, treasury bills, etc.) as assumed by Keynes, but instead to purchase *goods and services*. This is a key concern in an open-economy context, but for now it is the assumed adjustment mechanism that warrants further elaboration.<sup>5</sup> In the context of the present discussion, what the IMF recognises is that markets are interconnected in developing countries, and particularly that *money* market disequilibria can lead to adjustment in the market for *goods*. In turn, this means that output and interest rate determination in developing countries is not as dichotomous as assumed by Keynes and the classicals.

By way of review, the traditional *IS-LM* view of the adjustment process with highly developed financial markets and significant speculative balances is depicted in Fig. 2. In the first panel of Fig. 2, the economy is in equilibrium at point **E**, the intersection of the curves labeled *IS* and *LM*. If instead the economy were at **A**, there would have been an excess supply of both money and goods, warranting some form of adjustment. The *excess supply of money* would lead to the purchase of bonds, which in turn would increase the price of bonds and reduce the interest rate; and the *excess supply of goods* (savings greater than investment) would lead to an increase in inventories and a decrease in production and output. In other words, if the economy were at a point like **A**, forces would have been set up to reduce both the interest rate and output, as indicated by the orthogonal arrows, and to move the economy to **E**. Moreover, given that the asset markets adjust rapidly, money market equilibrium would be established much more quickly than goods market equilibrium, with the economy first being put on the *LM* curve at **B**, after which the goods market would adjust 'downwards' along the *LM*, until full equilibrium is established at **E**.

This view of adjustment has important implications for our understanding of the effect of development assistance on output. It implies in particular that, unless the economy is in a liquidity trap, an externally financed fiscal expansion (by way of commodity assistance) with rapid asset-market adjustment will unambiguously lead both to an increase in output and an increase in the interest rate *along* the *LM* curve. In the second panel of Fig. 2, the economy will move from **E** to **E'** along the *LM* curve, output and the interest rate increasing to  $Y_2$  and  $i_2$ , respectively. In the goods market the output adjustment will be restricted to  $Y_2$  by the increase in the interest rate in the money market, a result that is known as the crowding out of private investment by the fiscal expansion. Crowding out is therefore greater the more rudimentary the financial markets because, as argued earlier, the money demand function will be less interest sensitive in this case and therefore the *LM* will be steeper. Crowding out will also be greater the flatter the *IS*, i.e., the higher the marginal propensity to consume, the lower the tax rate, and the higher the interest sensitivity of investment - as may be the case in high income countries. Nonetheless, the adjustment mechanism to correct for excess balances will be the standard one, and output will consistently increase with expansionary fiscal policy regardless of the increase in the interest rate.

Figure 2



Even at this stage, with standard *IS-LM* adjustment dynamics, it should be clear that development assistance that raises government expenditure will not have the same effect as assistance that allows government to reduce taxes. As a case in point, recall that the HIPC Initiative releases debt service resources to finance increased social sector spending, rather than reduced taxes. In the foregoing analysis of fiscal policy to stimulate the economy, disjoint increases in government expenditure and decreases in taxes have been assumed to produce identical changes in output and the interest rate. This can of course be so by the choice of an appropriate tax rate, but even so the costs of the two otherwise identical policies will necessarily be different because changes in government spending affect output and the interest rate directly while changes in taxes act indirectly, first changing disposable income then, via the less-than-unitary marginal propensity to consume, changing consumer spending. On the other hand, though a fiscal stimulus in the form of an increase in government spending will be more direct than a commensurate decrease in taxes, “for the great bulk of most governmental expenditures on goods and services it is impossible to arrange that the effect should be rapid and prompt without incurring great waste and inefficiency. Most governmental expenditures on goods – defense, police, education, health, roads, and so on – are in respect of public services requiring careful forward planning.”<sup>6</sup> For this reason, the relative costs of disjoint fiscal policy changes that affect output and the interest rate identically may have different effects on the national debt.

But even though the determination of output and the interest rate is taken to be non-dichotomous in the *IS-LM* model, the standard dynamics are not consistent with the institutional realities of developing countries. By adding ‘relatively rapid goods market adjustment’ dynamics to the interconnectedness of markets and the non-dichotomous determination of output

and the interest rate, development assistance will appear to be of dubious usefulness to developing countries.

#### IV. DEVELOPMENT ASSISTANCE AND RELATIVELY RAPID GOODS MARKET ADJUSTMENT

Notwithstanding the rigidity of prices in developing countries, it is quite unlikely that the traditional *IS-LM* adjustment occurs in developing countries, and the effects of a fiscal expansion financed by neutral development assistance may for that reason be quite different as well. Though it is still quantity rather than price that will adjust, it is more likely that most of the adjustment will take place in the market for goods than in the market for assets, or at any rate that the goods market adjustment would precede and be faster than the adjustment in the market for assets.

In the first instance, financial markets are rudimentary, i.e., they are 'repressed,' undeveloped or riddled with distortions. The interest sensitivity of money demand will therefore be low, and it may even be smaller in absolute terms than the income sensitivity of money demand. The latter possibility increases because of the assumption that agents in developing countries do not hold speculative balances, given that there is a component of transactions demand that is negatively sensitive to the interest rate. When the interest sensitivity of money demand is less than its income sensitivity the slope of the *LM* ( $k/h$ ) is *greater* than one, and economic agents may be more inclined to 'behave as monetarists,' jettisoning excess money balances by increasing spending in the goods markets rather than in the asset markets or satisfying any excess demand for money by reducing spending in the goods markets rather than in the asset markets. When this happens there may be a phenomenon that can best be described as a 'goods market adjustment to asset market disequilibria.'

An examination of the estimates of money demand functions that were given earlier reveals that for every developing country for which estimates are reported, the absolute value of its interest sensitivity of money demand is smaller than the absolute value of the corresponding income sensitivity; and for all the OECD countries (other than France) for which estimates are reported, the absolute values of the interest sensitivities are all greater than the corresponding income sensitivities. This empirical pattern ought to be interesting, as indeed it is; and to the extent that the estimates are valid, it might not merely be an awkward result that would be best ignored because existing theory cannot explain it.

Consider the adjustment that would be required to restore money market equilibrium if the economy were at point A in the first panel of Fig. 2. It is evident that more of an interest rate reduction is required than an output increase to restore money market equilibrium. Indeed, whenever the interest sensitivity of money demand is smaller than its income sensitivity in absolute terms, or whenever the slope of the *LM* is *greater than one*, the change in the interest rate required to move the economy back onto the *LM* is greater than the change in output that would alternatively be required. Intuitively therefore rudimentary financial markets and the absence of significant speculative balances in developing countries will stack the cards in favor of output versus interest rate adjustment. Moreover, output adjustment can occur rather readily

for investment goods such as residential construction. Indeed, the major component of investment in many developing countries is indeed residential construction.

Development assistance that increases government spending, shown as an outward shift in the *IS* curve to *IS'* in the second panel of Fig. 2, would initially move the economy from *E* to *C* if output adjustment were dominant. In the spirit of the well known fly-paper effect of the public finance theoretic literature, and despite a relatively steep *LM*, a fiscal stimulus may produce quite a dramatic increase in output and economic activity with the usual short fiscal policy lag. While the economy will end up at *E'* if the adjustment dynamics are those assumed in the standard *IS-LM* model, relatively rapid goods market adjustment will generate a different result.

At *C* there is an excess demand for money relative to the *LM* curve. With standard *IS-LM* adjustment dynamics, agents at *C* would attempt to satisfy the excess demand for money by selling or reducing their purchases of bonds, the price of bonds would fall, interest rates would rise to  $i_2$ , and output would fall to  $Y_2$ , as noted above. But what if the slope of the *LM* were greater than one and persons instead attempted to satisfy the excess demand for money by reducing spending, as is being hypothesised? The *IS-LM* framework does not consider these adjustment possibilities. Indeed, it is the monetarist framework that envisages this kind of adjustment.<sup>7</sup> It is not at all clear though that this would justify the abandonment of the *IS-LM* framework and the adoption of the monetarist one. What may be required instead is a simple re-interpretation of the former to take account of the realities of adjustment in developing economies.

Regarding the adjustment to a 'neutral' externally financed fiscal stimulus, note that point *C* in the second panel of Fig. 2 is characterized by an excess demand for money relative to the *LM* curve. Following the logic of the preceding paragraph, one may therefore expect that persons will now *reduce* their spending on goods and services (and particularly residential construction) to correct this disequilibrium. Thus, after a burst of economic activity, output may even *shrink* with a lag after the initial fiscal stimulus. The *IS* will shift inwards from *IS'* in the second panel of Fig. 2. Output would therefore have increased relative to the original equilibrium, but it would have involved a *contraction* from  $Y_1$ .<sup>8</sup> At the same time, by choosing to reduce spending persons are at the same time choosing *neither to reduce their purchases of bonds nor to sell bonds* as in the traditional framework. In a developing country context this means that confronted with an excess demand for money after the fiscal stimulus, persons would not use the deposits they hold at commercial banks. Now, in countries with rudimentary financial markets most of these deposits are used to buy government securities, as pointed out by Ott (1961) and McKinnon (1973). Had deposits been broken then, the demand for treasury bills would have decreased, and the interest rate would have risen, just as would happen with a sale of bonds by the public.

Interest rates will therefore be relatively rigid, on account of two opposing forces: there may be a partial asset-market adjustment to the excess demand for money involving some reduction of fixed deposits ('sale' of publicly held bills), placing upward pressure on the interest rate; and, since output will still be higher than  $Y_0$  even after the contraction associated with reduced



spending, fixed deposits may increase relative to the pre-fiscal stimulus level, and the demand for treasury bills will rise, placing downward pressure on the interest rate. To the extent that more of the adjustment takes place in asset-markets *after* the economy has moved to C, as is most probable, the interest will rise, though not to  $i_2$  as in the case of rapid asset-market adjustment. Moreover, output would be even lower than  $Y_2$ , the amount to which it would have risen in a traditional Keynesian world. In other words, the economy will not move back to  $E^*$  along the curve  $IS^*$ ; but it will end up somewhere between E and  $E^*$ .

The rudimentary state of financial markets and the paucity of speculative balances, along with the relatively more rapid goods-market adjustment that is implied, suggests that adjustment in developing countries may not be dichotomous: For the goods market to have adjusted, or to have adjusted relatively more rapidly, in response to disequilibrium in the market for assets, it must be that the goods and asset markets do more than merely 'overlap.' The concrete implications of this alternative view of adjustment are that output may increase dramatically with an externally financed fiscal stimulus, but only to contract thereafter; and that interest rates may tend to be more rigid than in the traditional models, or if they increase with a disjoint increase in government spending or reduction in taxes, the increase will be moderate.

There is at least one other argument that can be invoked to support this view of the adjustment process. To the extent that the slope of the  $LM$  is greater than one and goods markets adjust to asset market disequilibria, there will be disequilibrium in the goods markets. But if output responded to satisfy the change in desired spending the  $IS$  would have shifted as well. With rigid prices, the probability that this output response will actually occur and that the  $IS$  will shift, is greater the higher the inventory costs in goods markets and this is in turn more likely the more the goods markets are dominated by primary goods production. In other words high inventory costs may combine with rudimentary financial markets and close-to-zero speculative balances to cause goods market adjustment to precede and be faster than asset market adjustment.

In other words, a relatively more rapid goods market adjustment can be attributed not only to a stable, relatively steep  $LM$  curve, but also to the ready output response to changes in spending associated with a shifting  $IS$  curve. Recall that in the standard  $IS-LM$  analysis changes in spending are satisfied by inventory changes, but if the goods markets are dominated by primary commodities and agricultural goods inventory costs will be relatively high.<sup>9</sup> The cost of storing primary commodities and agricultural goods is so high that current output will have to increase in the case of an increase in demand or to decrease in the case of a negative shock. Moreover, the relatively labor-intensive nature of the production makes this quite feasible, especially if the economy is a labor surplus one. The implications of high inventory costs for adjustment was studied by Blinder (1982, p. 347), who noted that:

When output is not storable, firms can react to increases in demand only by raising prices or by boosting production. The more they do of one, the less they have to do of the other.... [Firms] with sharply rising marginal inventory costs will rely less on inventory changes and will exhibit larger price and output fluctuations.

When prices are rigid,<sup>10</sup> firms with high inventory costs will therefore respond to shocks by changing output. This is precisely what is required when the financial markets are undeveloped, because excess balances can only then be jettisoned by spending on goods and services. The attempt to increase spending in goods markets will lead to an increase in prices if output does not increase.

#### V. SOME OPEN ECONOMY POLICY IMPLICATIONS OF RELATIVELY RAPID GOODS MARKET ADJUSTMENT

If the goods markets do adjust relatively more rapidly than do the asset markets, the policy implications may well be non-trivial. Here we focus on the implications of such adjustment for IMF-type adjustment programmes, even though the scope of such programmes goes beyond the framework that has so far been developed. Note that in an open economy framework, development assistance will necessarily involve an increase in the money supply as long as the exchange rate stability is a priority of macroeconomic policy. The same increase in money supply attends IMF balance of payments support and HIPC assistance.

IMF policies are not usually formulated in the standard *IS-LM* context, most likely because that framework generally assumes that adjustment follows the standard dynamics. Though IMF adjustment programmes are usually presented in basic if somewhat disguised quantity-theoretic terms, they actually attempt to deal precisely with the consequences of relatively rapid goods market adjustment in developing countries. As noted earlier, this is because it is only the monetarist framework that admits the possibility that excess balances arising from development assistance in the context of exchange rate stabilisation could be used to increase spending and therefore absorption. Several economists from the developing world have been dissatisfied with IMF adjustment policies over the years, largely because these policies are based on a theoretical framework that has to accept all the other unrealistic assumptions of the monetarist framework just so that it may deal with the possibility of goods market adjustment to asset market disequilibria.<sup>11</sup>

The idea of relatively rapid goods market adjustment can easily and should urgently be extended to the open economy, especially to address the balance-of-payments problems of the many developing countries that are characterized by rudimentary financial markets and the high inventory costs associated with primary goods production. In a recent study, Naastepad (2002) uses a real-financial computable general equilibrium model to study how IMF-type adjustment programs, by reducing credit supply, may lead to a reduction in output and income when credit is used to finance working capital. This study employed more sophisticated techniques than most and introduced a novel and important transmission mechanism (among other things), but the hypothesis that adjustment programs are not favourable to economic growth is not a recent one.

Thus Thomas (1982) refers to the need to reduce production bottlenecks as an *alternative* to the IMF's earlier prescriptions of fiscal discipline and demand deflation. In the wake of the large-scale nationalisations following independence it was possible to focus either on the

ballooning public sector and the fiscal imbalances that attended it, or to focus on the production bottlenecks in major industries, albeit bottlenecks that were probably caused by the public sector's assumption of the ownership of those industries. Simply put, the IMF focussed on the former while developing country economists focussed on the latter. For the developing country economists, the production bottlenecks themselves, and not fiscal indiscipline, were identified with crises in the developing world precisely because the *only* available mechanism of adjustment (i.e., the goods market adjustment) was fundamentally vitiated when the large scale nationalisations in the immediate post-independence era ended in massive inefficiency and corporate failures.

Not surprisingly, developing country economists routinely opposed the IMF's standard prescription of a freeze on wages for example, because such a policy meant not merely the reduction of aggregate demand but also a reduction in labour supply and even labour productivity. A wage freeze had the potential of reducing whatever little capacity the goods market had to adjust, even though this was the only kind of adjustment that was possible in most developing countries.<sup>12</sup> Thomas (1974) was implicitly aware that in developing countries goods markets adjust relatively more rapidly than do asset markets, that most of the adjustment takes place in goods markets, and therefore that policies that impaired goods market adjustment without promoting asset market adjustment were clearly misguided.

But the IMF has still not recognised the primacy of goods market adjustment in developing countries. In a more updated IMF programme one may find for example that fiscal discipline takes the form of privatisation; a freeze on wages is replaced by public sector reform; budget surpluses (in *very* poor countries!!) are engineered where there used to be budget deficits, even if that means inordinately high marginal tax rates on labour and capital; and corruption and inefficiency in nationalised industries are merely replaced by corruption and inefficiency in lucrative, donor-agency financed public sector agencies that at least are not usurping the traditional functions of the private sector. Admittedly, IMF programmes now routinely contain structural benchmarks for the development of capital markets, though this is often expected to happen by the mere enactment of appropriate legislation - regardless of the high marginal tax rates on profits, only a partial loss offset for tax purposes, high tax rates on labour income, and the taxation of inputs such as oil, all of which reduce the incentives to invest and take risk. And the standard IMF adjustment programmes now add some supply-side policies, chief among which is exchange rate liberalisation.

But as long as financial markets are rudimentary and speculative balances are close to zero; and as long as goods markets are dominated by primary production and high inventory costs, and residential construction continues to be the dominant form of investment, goods market adjustment will continue to precede and be relatively faster than asset market adjustment; and fundamental adjustment will not take place merely by the removal of production bottlenecks and the creation of opportunities for the disposal of excess balances in asset markets. Excess balances will still be first used to increase investment and consumption spending on goods and services many of which will be imported. IMF-style adjustment programmes that ignore these implications of the structural features of the supply side of goods markets will continue to

produce more heat than light, more noise than fundamental adjustment.

There has been a clear case of such wrong-headed policy under the current adjustment programme in Guyana. Precisely because of a relatively more rapid goods market adjustment any excess balances will stimulate spending, but as noted earlier for stable exchange rate policy regimes, excess balances are almost endemic in an environment of increased foreign aid, debt relief, money laundering, and migration-driven remittances, even if capital inflows are limited. The IMF is fully aware of this so that it even supports an increase in Guyana's internal public debt in the hope that persons with excess balances, rather than buy goods and services, would buy (short-term) treasury bills. Recent practice is for the Bank of Guyana, on behalf of the fiscal authority, to auction (new) 182-day and 364-day Treasury Bills for reducing or 'mopping up' excess balances.<sup>13</sup> The reduction in liquidity is achieved when the public buys the issued treasury bills *and* when the Bank confiscates the proceeds from the auction by depositing them into a special account that cannot be debited. In essence, this can be characterised as a fiscal policy initiative to reduce excess balances, *and one that increases the government's debt.*<sup>14</sup>

This aspect of the macroeconomic programme, popularly known in Guyana as the 'sterilisation of liquidity,' is one of the *most destabilising* elements of the programme. Singh (1999) contains a discussion of the distortions added to the financial system by the primary sale of treasury bills to reduce the perceived excess supply of money in the economy. Indeed, the most serious distortionary impact of the programme is on the interest rate, despite the arguments that the treasury bill market is 'more competitive' since the treasury bill market has been 'liberalised.' (At any rate, it is not good enough to note that the treasury bill market is 'competitive,' because this competition is only on the demand side; on the supply side, the issuance is totally *discretionary*, and there are no competing assets). If, as noted before, development assistance leads to an excess demand for money following the temporary increase in output, the excess balances induced by a policy of exchange rate stabilisation may well be sufficient to eliminate any disequilibrium in the money market. The so-called sterilisation programme is conducted as if development assistance only increases liquidity in the economy, thereby raising interest rates to levels that are 'too high.'

An adjustment programme for Guyana must take consideration of the possibility of a relatively rapid goods-market adjustment to asset market disequilibrium. Though the discussion of these issues is clearly beyond the scope of this paper, it should be noted that one solution, but it is only a specious solution, may actually be the development of financial markets to promote asset-market adjustment. The danger of such a knee-jerk reaction is that what matters is the *relative* speed of adjustment, and as long as the structural and incentive features of both the goods<sup>15</sup> and the asset markets remain biased in favour of a more rapid goods market adjustment, structural reform to increase the rate of asset market adjustment will be futile and worse, will entail high 'non-adjustment' costs.

## VI. CONCLUSION

If persons have neither access to developed financial markets nor speculative balances to use in

the rudimentary financial markets that are available, they may resort to the markets for goods and services to correct asset market disequilibria. This idea was applied to the analysis of an externally financed fiscal stimulus that is neutral with respect to the money supply, the exchange rate and the Balance of Payments. The analysis suggests that development assistance such as commodity assistance that provides a fiscal stimulus may not be as useful as is usually thought, and indeed, may lead to the destabilisation of output and employment in the recipient countries, with output increasing only to contract again.

Output and the interest rate are determined 'simultaneously' in developing countries, making them amenable to *IS-LM* type analyses. An important difference is that, with the relatively rapid goods market adjustment that is premised on a relatively steep *LM*, output adjustment will generally occur more readily than interest rate adjustment. In other words, though the interest rate will be formally endogenous, it will not adjust without some considerable lag. The friction that prevents interest rate adjustment is due to the rudimentary state of financial markets and also to the paucity of speculative balances in poor countries. In turn, the view that speculative balances are negligible in such countries is based on the view that the negative sensitivity of speculative balances to the interest rates only applies *after* a minimum income threshold.

This theoretical point is one that has important policy implications. The friction associated with interest rate adjustment allows the model of relatively rapid goods market adjustment to accommodate the Keynesian position that is determined by the level of effective demand, and that deficient demand could lead to reductions in output and employment. Had the interest rate been wholly endogenous, goods market disequilibria would have been automatically eliminated by asset market adjustments. Thus an excess demand for goods (an excess of investment over savings) would have been eliminated by endogenous movements in the interest rate, implying that output cannot be influenced by changes in the level of effective demand. The foregoing analysis of relatively rapid goods market adjustment, by its emphasis on frictions in interest rate adjustment, is fully consistent with the Keynesian position that the level of effective demand is a significant determinant of the level of output and therefore admits a role for government in the attainment of full employment in developing countries.

## Endnotes

1. An outstanding exception to the literature's tendency to take dichotomous adjustment for granted is Foley (1975). In this article Foley distinguished between what he called a 'beginning-of-period' equilibrium from an 'end-of-period' one in asset markets, or alternatively between stock and flow models of equilibria in asset markets that adjusted continuously. By doing so he recognised that however distinct they might be asset markets can actually overlap with the goods (and factor) markets. Thus he writes, "In the end-of-period equilibrium, demands and supplies are offered as of the end of the period. Agents can offer to sell capital, for instance, which does not exist at the trading moment but which they plan to produce during the period. Contracts are made for labour and capital services *and consumption* during the period and asset deliveries at the end" (p. 309); and "The ... '*IS-LM*' apparatus can be rigorously justified in the stock model, since asset market equilibrium is *separate from* the consumption goods market but no sense in the flow equilibrium model," p. 319, (emphases added). Though Foley recognises the possibility that the distinct markets may interact, he stops short of considering whether the adjustment mechanism is necessarily as dichotomous and variable-specific as envisioned by Keynes, i.e., whether and to what extent interest rates and output may also be determined in the goods and asset markets, respectively.

2. Recall that in Marshall's 'market period' exogenous changes in demand would trigger immediate adjustments in price to maintain quantity demanded at the level prevailing before the disturbance. This (price adjustment) effectively converts what would have otherwise been an excess demand (supply) into an excess supply (demand). In the short run, *producers* would respond by adjusting quantity supplied accordingly, until in the long run supply itself changed following adjustments in the capital stock. Keynes essentially lifted this adjustment mechanism out of the particular market context and inserted it, without any alteration other than the aforementioned reversal of the roles of price and quantity, into the market for all goods that is represented by the *IS* goods-market equilibrium *schedule*. It is the dichotomous adjustment in the market for assets that then picks a particular price-quantity combination in equilibrium. In the market for assets, it is again quantity that adjusts, so that if there is an excess supply of money persons will buy bonds, thereby raising the price of bonds and lowering the interest rate. The crux of the matter is that in the dichotomous adjustment, persons with excess money will buy bonds, and not *goods*!

3. "In general equilibrium flow models, *prices* are the only endogenous variables which enter as arguments into the demand and supply functions of individual households.... In "Keynesian" flow models the corresponding arguments are *real income* and the interest rate. Of these real income is a measure of *quantity*, not of price.... In the short run, the "Classical" system adjusts to changes in money expenditures by means of price-level movements; the Keynesian adjusts primarily by means of real income movements," Leijonhufvud (1968, p. 51).

4. "Keynes followed Marshall in assuming that one variable adjusted so quickly that the adjustment could be regarded as instantaneous, while the other variable adjusted slowly. Where he deviated from Marshall, and it was a momentous deviation, was in reversing the roles assigned to price and quantity," Friedman (1974, p. 18).

5. To the extent that it happens, absorption will increase and this will in turn increase the current account deficit unless there is a corresponding increase in output.
6. Meade (1972), p. 352. Meade points out that the relative costs of disjoint fiscal policy will also be affected by the particular government spending and tax changes that are chosen, even if the effects on output and the interest rate are identical. Because of the inefficiencies associated with unplanned increases in public spending, Meade advocated a public commodity price stabilisation marketing scheme that will have the same effect without the associated inefficiencies. His idea that government can maintain buffer stocks under the marketing scheme is particularly interesting because, as argued later in this paper, prohibitive inventory costs are precisely why developing countries might have relatively more rapid goods market adjustment than industrialised countries.
7. See Meltzer (1995).
8. If prices were flexible, another possibility is that the attempt to reduce spending in the face of an excess demand for money would cause prices to fall and the *LM* would shift outwards. With the *IS* shifting inwards and the *LM* shifting outwards, the economy could even end up at output  $Y_2$  and interest rate  $i_0$ . Yet another possibility is that the excess demand for money could lead to a sale of real assets. The price of real assets would fall as with real estate bubbles. The relative price of new investment will decline, aggregate demand will fall and the *IS* will shift in, à la Tobin's *q*-theory of investment.
9. A major part of this cost for poor, primary producing countries is the opportunity cost of stockpiling versus selling output. The high cost of inventories is why rich countries only can afford to stockpile, oil, gold, grains, etc.
10. We can invoke the role of unions and labour market rigidity to rule out price fluctuations.
11. In a classic article, Polak actually makes what he calls the 'Keynesian' assumption that imports depend on income one of the distinguishing features of his model. But this is only a recognition that excess balances can indeed be jettisoned by increasing spending on goods and services because with a stable demand for money, increases in money supply will produce not merely excess balances but also increases in nominal income in order to correct the money market disequilibrium. And increases in nominal income increase imports in Polak's model.
12. Little wonder then that most countries that have adopted IMF adjustment policies usually have to deal with massive social unrest. If the economy were viewed as a closed physical system that is subject to changes in temperature (i.e., shocks), some 'steam' will have to be let off when adjustment avenues are cut off!
13. The Bank also issues 91 day treasury bills on behalf of government but the proceeds from the sale of treasury bills of this maturity are not sterilised. Presumably then, government debt and government expenditure increase with the primary issue of 91 day treasury bills.

14. The Central Bank can also reduce the money supply by selling treasury bills from its accumulated stock, in which case government's debt is unaffected: all that happens is that ownership of the outstanding stock of treasury bills has changed. This is a straightforward case of the tightening of monetary policy.

15. e.g., primary production and high inventory costs; and a fiscal regime that does not encourage either the supply of or the demand for primary securities.



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