Devaluation, Money, and Nontraded Goods

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This paper develops a monetary approach to the theory of currency devaluation.[1] The approach is "monetary" in several respects. The role of the real balance effect is emphasized and a distinction is drawn between the relative prices of goods, the exchange rate and the price of money in terms of goods. Furthermore, money is treated as a capital asset so that the expenditure effects induced by a monetary change are spread out over time and depend on the preferred rate of adjustment of real balances.[2] The latter aspect gives rise to the analytical distinction between impact and long-run effects of a devaluation.

The first part of this paper develops a one-commodity and two-country model of devaluation. The simplicity of that structure is chosen quite deliberately to emphasize the monetary aspect of the problem as opposed to the derivative effects that arise from induced changes in relative commodity prices. Trade is viewed as the exchange of goods for money or a means of redistributing the world supply of assets. A devaluation is shown to give rise to a change in the level of trade and the terms of trade, the price of money in terms of goods.

In the second part the implications of the existence of nontraded goods are investigated, and induced changes in the relative prices of home goods enter the analysis.

I. Devaluation in a One-Commodity World

In this part we develop a purely monetary approach to devaluation in discussing a two-country, two-monies, and one-commodity model.[3] This stripped down model abstracts from the complexities of distribution and substitution effects that may arise from changes in relative commodity prices and places primary emphasis on the real balance effect.

A. *The Model*

We assume that money is the only marketable asset and that real income (output) is in fixed supply in each country. The demand for nominal balances in each country is assumed to have the Cambridge form.[4]

* University of Rochester. This paper draws on my dissertation and I am indebted to the members of my thesis committee, Harry Johnson, Stanley Fischer, and Robert Mundell. In revising the material I had the benefit of comments from Karl Brunner, George Borts, Stanley Engerman, and Murray Kemp. I am particularly indebted to Ronald W. Jones and Michael Mussa with whom I enjoyed extended discussion of the topic.

[1] This approach is by no means novel. For formal developments see Frank Hahn, Jones (1971), Kemp (1969, 1970), Mundell, and Takashi Negishi (1972). Acceptance of that approach has nevertheless remained limited.

[2] A "capital-theoretic" approach to the real balance effect is developed by Alvin Marty.

[3] The notion of trade in one commodity may alternatively be interpreted as trade in a composite commodity, so that relative goods prices remain unchanged. Such conditions may obtain either because of perfect substitution or else because of the absence of distribution effects.

[4] The particular functional form of the demand for money obviously lacks generality. It is chosen here in order not to detract from the main line of argument. Alternative specifications would assume the demand for money proportional to expenditure as in Jones (1971) or else derive the demand for money from intertemporal utility maximization. Provided the underlying utility function is separable in consumption and real balances the qualitative conclusions of this paper carry over to such a formulation.

$$(1) \qquad L = kP\bar{y}; \qquad L^* = k^*P^*\bar{y}^*$$

where

k, k^* = the desired ratios of money to income
$\bar{y}$, $\bar{y}^*$ = real outputs
P, P^* = the money price of goods in terms of domestic and foreign currency

and where an asterisk denotes the foreign country. Given the exchange rate, e, the domestic currency price of foreign exchange, arbitrage ensures that

$$(2) \qquad P = P^*e$$

With respect to monetary policy we assume that the nominal quantity of money in each country M, M^*, is initially given and that governments abstain from changing domestic money supplies except as it is necessary to maintain a pegged exchange rate. Accordingly the rate of increase in the domestic money supply is given by the trade balance surplus, B.

$$(3) \qquad \dot{M} = B = -e\dot{M}^*$$

Desired nominal expenditure in each country, Z, Z^*, is equal to money income less the *flow* demand for money, H, H^*, where the latter is assumed proportional to the *stock* excess demand

$$(4) \qquad Z = P\bar{y} - H$$
$$Z^* = P^*\bar{y}^* - H^*$$
$$(5) \qquad H = \pi(L - M) = H(P, M);$$
$$H^* = \pi^*(L^* - M^*) = H^*(P^*, M^*)$$

and where π and π^* are the domestic and foreign rates of adjustment. The expenditure functions in (4) imply a short-run marginal propensity to spend out of income smaller than unity while in the long-run, when monetary stock equilibrium is attained, the average propensity to spend equals unity.

In Figure 1 we show the domestic rate of hoarding, H, and the foreign rate of *dis*hoarding, $-H^*$, as a function of P the domestic currency price of goods. The schedules are drawn for given nominal money supplies in each country and an exchange rate e^0. With the nominal quantity of money given, hoarding in the home country is an increasing function of the price level. An increase in the price level creates a stock excess demand for money and causes expenditure to decline relative to income as the community attempts to restore the real value of cash balances. It follows that we may view the hoarding schedule alternatively as the flow demand for money or the excess supply of goods (in nominal terms). By the same reasoning the foreign rate of *dis*hoarding, given the exchange rate, is a decreasing function of the home price level. We note that the distribution of the money supplies underlying Figure 1 is not compatible with balance of payments equilibrium. Foreign monetary stock equilibrium would obtain at P' while for domestic monetary equilibrium the price level would have to be equal to P''.

Consider now the conditions of short-run equilibrium. In order for the world goods market to clear, we require that world income equal world expenditure or

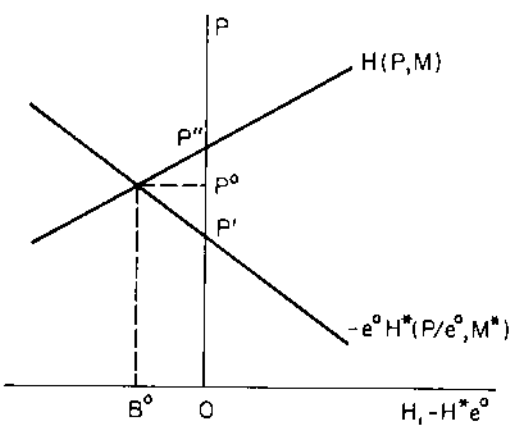

FIGURE 1

equivalently that the home country's rate of hoarding equal the foreign country's rate of dishoarding.

$$H = -H^* e^0 \tag{6}$$

The equilibrium is shown in Figure 1 at a domestic currency price of goods P^0; a higher price level would leave a world excess supply of goods and a lower price level a world excess demand for goods. We observe, too, that the short-run equilibrium at P^0 implies a trade balance deficit for the home country equal to B^0. That deficit, in the absence of sterilization, as we assume, redistributes money from the home country to the rest of the world. The reduction in the domestic nominal quantity of money reduces real balances at the initial price level and thereby causes planned hoarding to decrease and conversely abroad. In terms of Figure 1 this implies that the hoarding and dishoarding schedules shift to the right, a process that continues over time until they intersect between P'' and P' on the vertical axis. At that time exchange of money for goods ceases since each country has achieved its preferred asset position and spends at a level equal to its income.

B. *The Short-Run Effects of a Devaluation*

Consider now the short-run or impact effect of a devaluation on the part of the home country. A devaluation changes the equilibrium relationship between price levels in the two countries. Differentiating equation (2) we obtain

$$\hat{P} = \hat{P}^* + \hat{e} \tag{7}$$

where a $\hat{}$ denotes a relative change in a variable. Equation (7) informs us only about the relationship between changes in the price levels at home and abroad; we have to investigate the equilibrium condition in the world goods market in order to determine what the actual change in the price level in each country will be. For that purpose we turn to Figure 2 where we show the world economy in initial long-run equilibrium at a domestic currency price of goods P^0.

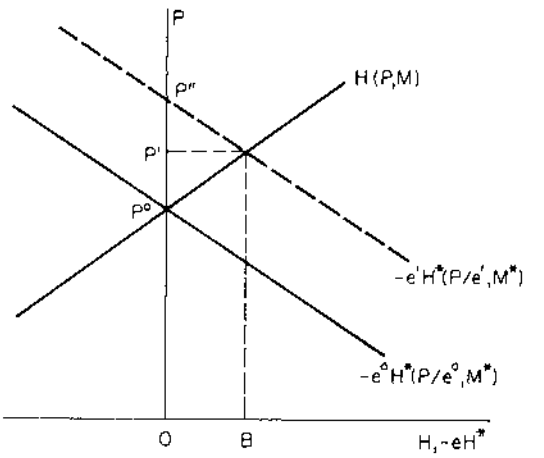

FIGURE 2

The effect of a devaluation is shown in Figure 2 by an upward shift in the foreign dishoarding schedule. For foreign monetary stock equilibrium to obtain, given the nominal quantity of money, the foreign currency price of goods would have to remain constant which in turn by (7) implies that the domestic price level would have to increase in the same proportion as the exchange rate, a price change equal to $(P''-P^0)/P^0$. The domestic hoarding schedule, on the contrary, is unaffected and domestic monetary stock equilibrium would continue to obtain at a domestic price level P^0. It is observed from Figure 2 that at an unchanged domestic price level there would be a world excess demand for goods due to the increase in foreign real balances and expenditure while at an unchanged foreign price level there would be a world excess supply of goods due to the decrease in domestic real balances and expenditure. It follows that in order for the world goods market to clear the price level changes will have to

be distributed in such a manner as to reduce domestic absorption and increase foreign absorption by an equal amount.

The equilibrium increase in the domestic price level is equal to $(P'-P^0)/P^0$ while the foreign price level declines in the proportion $(P''-P^0)/P^0$. We note that both the domestic and foreign currency price of goods change less than proportionately to the rate of devaluation and that the distribution of price changes depends on the relative slopes of the hoarding schedules.

Given these price changes foreign real balances have increased and the real value of domestic balances has decreased thereby causing foreigners to dishoard in order to decumulate their capital gains and domestic residents to save in order to restore the real value of their cash balances. The home country's balance of payments surplus is equal to OB and causes a redistribution of the world money supply.

The formal criterion for the price changes and the balance of payments can be developed by differentiating the goods market equilibrium condition

$$(6') \quad \pi(kP\bar{y} - M) + e\pi^*(k^*P\bar{y}^*/e - M^*) = 0$$

with respect to P and e holding the nominal quantity of money constant in each country. The relative change in the domestic price level is

$$(8) \qquad \hat{P} = \frac{\pi^* M^* e}{\pi M + \pi^* M^* e}\hat{e}$$

Defining the world money supply, measured in terms of domestic currency $\overline{M}$,

$$(9) \qquad \overline{M} = M + eM^*$$

and the domestic and foreign country's share in the money world supply, σ and σ^*, we can rewrite (8) as

$$(8') \qquad \hat{P} = \frac{\pi^*\sigma^*}{\pi\sigma + \pi^*\sigma^*}\hat{e} \geq 0$$

Substituting (8') in (7) we obtain the effect of a devaluation on the foreign price level:

$$(10) \qquad \hat{P}^* = \frac{-\pi\sigma}{\pi\sigma + \pi^*\sigma^*}\hat{e} \leq 0$$

Equations (8') and (10) show the distribution of price changes to depend on relative effective size where effective size is the product of the speed of adjustment and the share in the world money supply. In the small country case ($\pi\sigma/\pi^*\sigma^* = 0$) the home country price level increases in the same proportion as the exchange rate.

The home country's trade balance surplus is obtained by differentiating the flow demand function for money with respect to the price level and substituting (8) to yield

$$(11) \quad dB = dH = \pi M\left[\frac{\pi^* M^* e}{\pi M + \pi^* M^* e}\right]\hat{e} > 0$$

Equation (11) confirms that the balance of payments unambiguously improves.

C. *The Long-Run Effects of Devaluation*

The long-run effects of devaluation on nominal money supplies and price levels may be interpreted with the help of Figure 3. In quadrants II and IV we show the domestic and foreign demand for real balances as hyperbolae; quadrant III shows the equilibrium price relationship $P^*e = P$ for the initial exchange rate as the ray OA. Lastly in quadrant I the world money supply at the initial exchange rate is given by $\overline{M}\,\overline{M}^*$, where $\overline{M}^* = \overline{M}/e$.

Initial long-run equilibrium is indicated by point E where the distribution of the world money supply is such that each country holds the desired quantity of real balances and where the equilibrium relationship between price levels is satisfied.[5]

A devaluation on the part of the home

[5] For a similar geometric treatment, see Arnold Collery.

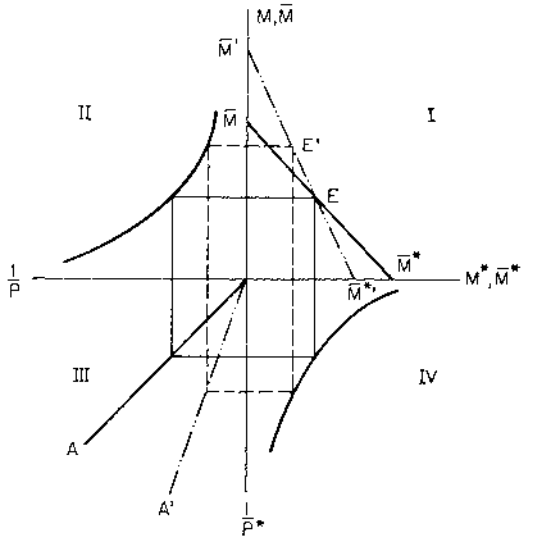

FIGURE 3

country affects both the price relationship and the world money supply. To each domestic price level corresponds now a lower equilibrium foreign price level; this is indicated in quadrant III by a rotation of the arbitrage line to OA'. Furthermore, given the initial nominal quantities of money in each country indicated by point E, the world money supply measured in terms of either currency changes: it decreases when measured in terms of foreign currency by the initial domestic quantity of money times the exchange rate change and it appreciates in terms of domestic currency by the initial foreign quantity of money times the exchange rate change. Accordingly the world monetary constraint rotates around point E—the initial endowment of currencies—to become $\overline{M}'\overline{M}^{*\prime}$.

It is readily verified from Figure 3 that the initial distribution of money supplies at point E is no longer appropriate as a long-run equilibrium position since it would be inconsistent with the new price relationship. The new long-run equilibrium is shown by point E' indicating an increased domestic quantity of money and price level and a decreased foreign quantity of money and price level. Real balances obviously remain unchanged, between the new equilibrium and the old.

We should emphasize that our assumption about the absence of national money supply changes other than by the balance-of-payments mechanism is only one possible assumption about the behavior of money supplies. If we had assumed on the contrary that the home country accompanied the devaluation by an equiproportionate increase in its nominal quantity of money the only short- and long-run effect of the combination of policies would be an equiproportionate increase in the domestic price level and no effect whatsoever abroad.[6]

The latter monetary assumption would be appropriate if the home country wished to run a transitory budget deficit financed by money creation without impairing its foreign exchange position; the former assumption corresponds to the case where a country uses a devaluation to increase its foreign exchange holdings.

II. Devaluation and Nontraded Goods

In this part we consider an extension of the monetary model to introduce flexibility in relative prices. Following Jones (1972), Michael Michaely, Mundell, and Anne Krueger, we assume that there are two classes of goods produced and consumed in each country, traded goods and nontraded goods. Each class of goods itself is taken to be a composite commodity so that the relative prices of goods within each group are invariant. The aggregation chosen here places emphasis on the relative price of nontraded in terms of traded

[6] In terms of Figure 3 the policy combination would imply that the world monetary constraint both rotates and shifts outward passing through $\overline{M}^*$ since the world money supply measured in terms of foreign currency would remain unchanged. The conclusions in the text are readily verified from the fact that the new equilibrium point would lie vertically above point E.

goods rather than on the terms of trade between internationally traded goods; it emphasizes the effects of changes in absorption on relative prices rather than the income effect of changes in the relative prices of traded goods.

This extension has two implications for the effects of a devaluation: changes in hoarding or equivalently changes in expenditure relative to income change the equilibrium relative price of home goods and these changes in relative prices in turn affect the equilibrium rates of hoarding.

We will show that in this more disaggregated structure the conclusions of the one-commodity model continue to hold for the effects of a devaluation on the balance of payments and the prices of traded goods; the additional element that arises is that the reduction in domestic absorption and the increase in foreign absorption cause the relative price of home goods to decline at home and to rise abroad. This result may be viewed as a special case of transfer analysis and arises in that perspective since each country's marginal propensity to spend on foreign home goods is by definition zero.[7]

A. *The Model*

Denoting traded and nontraded commodities as goods one and two, respectively, we assume that production takes place along a concave transformation curve and that supplies are a function only of the relative price:

$$X_i = X_i(q) \qquad i = 1, 2 \tag{12}$$

where q is the relative price of nontraded goods—the ratio of the domestic currency prices of nontraded and traded goods, P_2 and P_1, respectively:

$$q = P_2/P_1 \tag{13}$$

[7] The relationship between the transfer problem and devaluation is more extensively analyzed in Dornbusch (1973) and Jones (1971).

Demand for the two commodities is assumed to depend on money prices and nominal expenditure, or, using the homogeneity property and adopting traded goods as a numeraire, on relative prices and real expenditure measured in terms of traded goods, $\tilde{Z}$.[8]

$$C_i = C_i(q, \tilde{Z}) \qquad i = 1, 2 \tag{14}$$

Real expenditure is defined as real income less real hoarding, all measured in terms of traded goods as a numeraire:

$$\tilde{Z} = \tilde{Y} - \tilde{H} \tag{15}$$

where real income or the real value of output is defined as follows:

$$\tilde{Y} \equiv X_1 + qX_2 = \tilde{Y}(q) \tag{16}$$

Monetary considerations affect the goods markets via the expenditure function and in particular via the planned rate of hoarding. Maintaining our assumption that the demand for nominal balances is proportional to money income and that hoarding is proportional to the stock excess demand for money we may write the desired real rate of hoarding, measured in terms of traded goods, as a function of the relative price and the real quantity of money measured in terms of traded goods:

$$\tilde{H} = \tilde{H}(q, \tilde{M}) \tag{17}$$

where

$$\tilde{M} = M/P_1 \tag{18}$$

Our assumptions about the stock demand for money ensure that an increase in either domestic currency price raises the desired rate of real hoarding so that the following properties hold:

$$q\frac{\partial \tilde{H}}{\partial q} \equiv \alpha > 0; \qquad -\tilde{M}\frac{\partial \tilde{H}}{\partial \tilde{M}} \equiv \beta > 0 \tag{19}$$

[8] In the remainder of this paper a tilde will denote the fact that a quantity is measured in terms of traded goods. When these quantities are referred to as "real" this will not imply measurement in terms of a price index.

The definition of real expenditure in (15) may be rewritten as the budget constraint in a manner that reveals the disaggregation of the model:

$$(20) \quad q(X_2 - C_2) + (X_1 - C_1) = \tilde{H}$$

It is evident from the budget constraint that when the home-goods market clears ($X_2 = C_2$) the excess supply of traded goods identically equals the planned rate of hoarding.

Given a corresponding set of behavioral relations and constraints for the foreign country we can now turn to the conditions of short-run equilibrium in this model. Short-run equilibrium obtains when for a given exchange rate and given money supplies, all goods markets clear; that is, when the market for nontraded goods clears in each country and when the world market for traded goods clears. Such an equilibrium, by the budget constraint in each country, implies that one country's planned rate of hoarding equals the other country's planned rate of dishoarding. Equations (21) formally state these equilibrium conditions of the model

$$(21) \qquad E_2 \equiv X_2(q) - C_2(q, \tilde{Z}) = 0$$

$$E_2^* \equiv X_2^*(q^*) - C_2^*(q^*, \tilde{Z}^*) = 0$$

$$\tilde{H}(q, \tilde{M}) + \tilde{H}^*(q^*, \tilde{M}^*) = 0$$

where

$$\tilde{M}^* \equiv M^*/P_1^*; \quad q^* \equiv P_2^*/P_1^*; \quad P_1^* e = P_1$$

The first two conditions in (21) state that in equilibrium the excess demand for home goods is zero in each country while the third equation is the market clearing condition in the market for traded goods.

B. *The Impact Effect of a Devaluation*

To examine the modifications in the effects of devaluation brought about by the introduction of nontraded goods we consider first the relationship between the relative price of home goods and real hoarding. In particular we want to show that an increase in real hoarding lowers the relative price of home goods. That result obtains since an increase in real hoarding represents a decrease in real expenditure relative to real income so that at constant relative prices and given a positive marginal propensity to spend on home goods the demand for home goods decreases. A decline in the relative price of home goods is required in order to eliminate the excess supply generated by an increase in hoarding. More formally the relationship between the relative price of home goods and real hoarding may be derived by differentiating the first market equilibrium condition in (21) to obtain

$$(22) \quad \hat{q} = -\frac{m_2}{(\eta_2 + e_2)qC_2} d\tilde{H}$$

where

$$m_2 \equiv q\frac{\partial C_2}{\partial \tilde{Z}} > 0$$

$$\eta_2 \equiv -\frac{q}{C_2}\left[\frac{\partial C_2}{\partial q} + \frac{\partial C_2}{\partial \tilde{Z}}\frac{\partial \tilde{Y}}{\partial q}\right] > 0$$

$$e_2 \equiv \frac{\partial X_2}{\partial q}\frac{q}{X_2} > 0$$

The terms m_2, η_2, and e_2, denote respectively, the marginal propensity to spend on home goods, the compensated elasticity of demand for home goods, and the elasticity of supply.

In Figure 4 we show the market equilibrium schedule for the home country's nontraded goods market as the locus $E_2 = 0$; to maintain market equilibrium the expenditure reducing effects of an increase in hoarding have to be offset by the substitution effects of a decrease in the relative price of home goods.

So far we have treated hoarding as the exogeneous variable and have enquired into the relative price effects of changes in

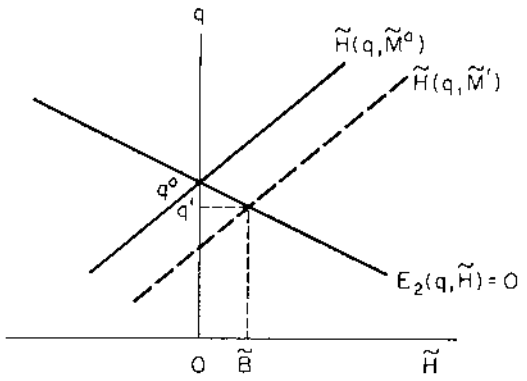

FIGURE 4

hoarding. We wish next to develop an expression that relates the rate of hoarding, given the nominal quantity of money, to price changes. Differentiating the hoarding function in (17) we obtain

$$d\tilde{H} = \alpha\hat{q} + \beta\hat{P}_1 \tag{23}$$

and substituting for the change in the relative price of home goods, $\hat{q}$, from (22), we obtain

$$d\tilde{H} = \gamma\beta\hat{P}_1 \tag{24}$$

where the terms

$$\gamma \equiv \frac{1}{1+\alpha\delta} > 0; \qquad \delta \equiv \frac{m_2}{(\eta_2+e_2)qC_2} > 0$$

are introduced for notational convenience. To gain further understanding of the relationship between hoarding, relative prices and the money price of traded goods derived in (24) we turn to Figure 4 where we show the effect of an increase in the price of traded goods. In addition to the market equilibrium schedule for home goods we draw a hoarding schedule as an increasing function of the relative price of home goods, given the nominal quantity of money and the price of traded goods and hence the real quantity of money, $\tilde{M}^0$. The schedule is upward sloping since an increase in the price of home goods raises income and hence the demand for money thereby increasing the desired rate of hoarding.

Initial equilibrium is shown at a relative price of nontraded goods, q^0. An increase in the price of traded goods reduces the real money supply and hence increases at constant relative prices the desired rate of hoarding. This is shown in Figure 4 by a rightward shift of the hoarding schedule. Since at constant relative prices there is an excess supply of home goods, their relative price will decline to q' which in turn dampens the equilibrium rate of hoarding, $\tilde{B}$, relative to what it would have been at constant relative prices. The shift in the hoarding schedule corresponds to the term $\beta\hat{P}_1$ in (24) while the dampening effect shows in the term γ.

It will be recognized that in the composite commodity model analyzed earlier perfect substitutability ensured that $\delta=0$. In the present formulation the absence of perfect substitution and the requirement that home-goods markets clear ensure that absorption changes are reflected in changes in relative prices; furthermore these induced changes in relative prices affect the equilibrium rate of hoarding tending to reduce the hoarding response associated with a given change in the price of traded goods.

Having developed the basic relationships of the model we can now proceed to investigate the effects of a devaluation. For that purpose we turn to Figure 5. In the upper part of that figure we draw the domestic and foreign home goods market equilibrium schedules, where the latter is drawn as a function of the foreign rate of *dis*hoarding and hence is negatively sloped. We assume, arbitrarily and without consequence, that initially the relative prices of home goods are the same in both countries. In the lower part of Figure 3 we draw the domestic hoarding schedule and the foreign dishoarding schedule. It is important to note that along these hoarding schedules the relative price of home goods

is allowed to adjust in order to clear the home-goods market so that by the budget constraint these hoarding schedules may alternatively be interpreted as the domestic excess supply of traded goods and the foreign excess demand for traded goods. Analytically the schedules are defined by equation (24) and its counterpart for the foreign country.

Initial equilibrium obtains at a domestic currency price of traded goods P_1^0 and equilibrium relative prices of home goods $q^0 = q_0^*$. A devaluation by the home country may be analyzed in a manner similar to the composite commodity model developed above. At an unchanged domestic currency price of goods foreign real balances increase causing foreigners to dishoard which is shown in Figure 5 by a rightward shift of the foreign dishoarding schedule to $\tilde{H}^{*\prime}$. Short-run equilibrium will obtain at a domestic currency price of goods $\bar{P}_1$ where the world market for traded goods clears. The increase in the domestic price of traded goods causes the home country to reduce expenditure relative to income and run a trade balance surplus equal to $\tilde{B}$. Corresponding to the reduction in domestic absorption we find a decline in the relative price of nontraded goods at home to $\bar{q}$ while the increase in foreign absorption raises the relative price of nontraded goods in that country to $\bar{q}^*$.

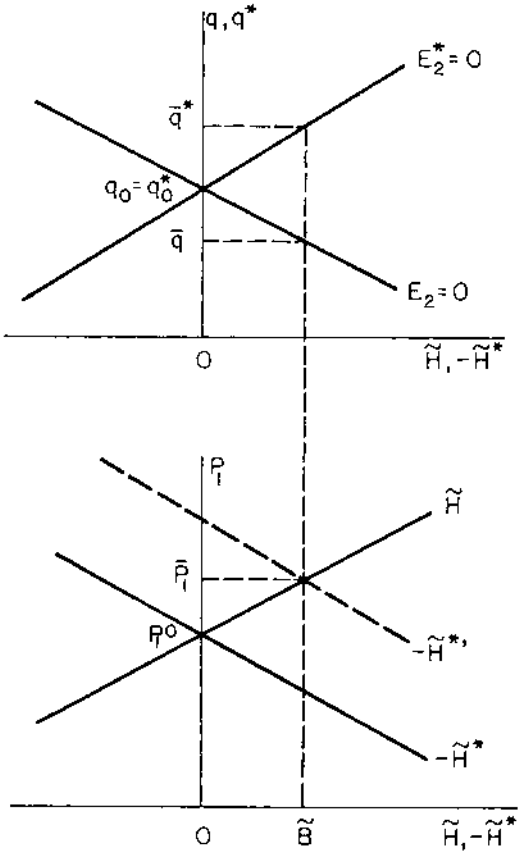

FIGURE 5

These results can be derived more formally by consideration of the equilibrium in the world market for traded goods. Recalling that (24) allows explicitly for market clearing in the home-goods market that expression is identically equal to the excess supply of traded goods. Accordingly we may use (24) and its counterpart for the foreign country to determine the effects of a devaluation on the domestic currency price of traded goods:

$$\beta\gamma\hat{P}_1 + \beta^*\gamma^*(\hat{P}_1 - \hat{e}) = 0 = d\tilde{H} + d\tilde{H}^* \tag{25}$$

Solving for the relative change in the domestic currency price of traded goods yields

$$\hat{P}_1 = \frac{\beta^*\gamma^*}{\beta\gamma + \beta^*\gamma^*}\hat{e} \equiv \theta\hat{e} \tag{26}$$

The solution for the effect of a devaluation on the domestic currency price of traded goods shows that this price will increase less than proportionately to the rate of devaluation ($0 < \theta < 1$). Differentiating the price relationship $P_1^* = P_1/e$ it is seen that the foreign currency price of traded goods will fall less than proportionately to the rate of devaluation. Substitution of (26) in (24) shows that the devaluing country's balance of payments unambiguously improves:

$$d\tilde{H} = \beta\gamma\theta\hat{e} \tag{27}$$

So far our results correspond qualitatively to those obtained in the composite commodity model. The departure arises from the fact that changes in absorption in the two countries change the equilibrium relative prices of home goods. Substituting (27) in (22) we find that a devaluation lowers the relative price of nontraded goods in the home country and raises it abroad:

$$(28) \quad \hat{q} = -\delta\beta\gamma\theta\hat{e}; \quad \hat{q}^* = \delta^*\beta^*\gamma^*(1-\theta)\hat{e}$$

While, like in the first part of this paper, short-run equilibrium is characterized by an exchange of traded goods for real balances and hence the absorption effects of a devaluation are emphasized, the role of the relative price of home goods is nevertheless crucial in the adjustment mechanism. Given imperfect substitutability between home goods and traded goods on the production side it is the adjustment in the relative price of home goods that translates changes in absorption into an excess supply of traded goods at home and an excess demand for traded goods abroad.

III. Concluding Remarks

Rather than summarize here the conclusions of this paper we wish to emphasize some of the issues raised by the present formulation of devaluation analysis.

The first and primary issue concerns the role of money in models of devaluation. The stance taken here is that a devaluation is foremost a monetary phenomenon and that its effects derive from the reduction in the real value of money attendant upon a devaluation. If it is believed that the effects of a reduction of real balances on expenditure, by whatever transmission mechanism, are negligible then it may stand to reason that the effects of a devaluation are negligible not that there must be other powerful avenues through which it exerts its effects.

The second issue that deserves attention is that of aggregation. The formulation developed here suggests that it is helpful to view traded goods as a composite commodity and thus to highlight the distinction between money and goods and between classes of goods that are respectively traded and nontraded.

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