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ON THE ADEQUACY OR INADEQUACY OF KEYNESIAN BALANCE-OF-PAYMENTS THEORY: A REJOINDER

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Abstract

This note again refutes Kuska's proposition that equality between the demand for and supply of money ("money market equilibrium") implies equilibrium in the balance of payments. Indeed, under a regime of fixed exchange rates it is precisely the balance of payments deficit or surplus that equilibrates the money market. The refutation of Kuska's proposition does not require any special assumptions about sterilisation policies. It is also established, again contrary to Kuska, that in a two country world with a fixed exchange rate, internationally mobile capital and endogenous interest rates, only one country can independently achieve a money supply target.

Failure to distinguish between the change in the money stock and domestic credit expansion appears to be the source of Kuska's erroneous indictment of "Keynesian" balance-of-payments theory. We also establish the conditions under which alternative (ex-ante) balance of payments definitions can be substituted for an asset market equilibrium condition.

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On the Adequacy or Inadequacy of Keynesian Balance-of-Payments Theory: A Rejoinder

by

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In a recent issue of this Review (September 1982) Edward A. Kuska has replied to comments by Alan V. Deardorff, Norman C. Miller and us (this Review, September 1981) on his article "On the Almost Total Inadequacy of Keynesian Balance-of-Payments Theory", published by this Review in September 1978. In his original paper Kuska set forth four Propositions indicting a large number of balance-of-payments models (which he chose to call "Keynesian") as being "inadequate" or inconsistent.

His Proposition 1 stated that omission of wealth in asset demand functions can have potentially bizarre implications for the implicit specification of "suppressed" asset demand functions. Along with our fellow commentators we agreed with this proposition, pointing out that it is well-known and has been reflected in macroeconomic models for some time without affecting their essential features or implications for policy in a fundamental way. No more need be said about this.

Kuska's Propositions 2 and 3 are the source of the controversy. Proposition 2 states that "Models which bring each country's demand and supply of money into equality have zero overall balance-of-payments figures in all periods. This is true whether the supplies of money are taken to be endogenous or exogenous. If in addition, the model includes other equations which allow the overall balance-of-payments to be non-zero, it is contradictory" (p.664). In Proposition 3 he states that "Models in which more than one market-clearing equation is suppressed do not require equilibrium in any of the excluded markets" (p.664).[1] Our comment demonstrated that Proposition 2 is based on an erroneous concept of equilibrium in which beginnning-of-period asset supplies are equated to end-of-period demands.

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1 Proposition 4 is a corollary of Proposition 2.

Proposition 3 we showed was false for the case in which bonds are internationally immobile (the one Kuska considered) but true if they are mobile between countries. We also pointed out that an implication of a proper specification is that, when bonds are internationally mobile, only one country can control or independently target its money supply.

In his reply Kuska attempts to resurrect his Proposition 2 and 3, arguing that they fail to obtain only when "simultaneous sterilisation" (which he asserts is an "empirically false assumption") takes place. In addition, concerning the endogeneity of one national money supply in a two-country fixed exchange rate world, he claims that "Buiter and Eaton made a slip in their analysis, for it transpires that both money market equations are redundant in the general model" (p.888).

I. On confusing changes in the money supply with domestic credit expansion

In fact, Kuska's two propositions are false regardless of whether or not the monetary authorities sterilise payments imbalances, as is his assertion that in a two-country framework with traded bonds both national money supplies are exogenous. His results follow from an error that is at the same time elementary and fundamental: he simply confuses the change in the domestic money stock with domestic credit expansion. As can be found in any text on the money supply process, in an "outside" money economy, the change in the (high-powered) money supply equals net central bank purchases of domestic government bonds (domestic money expansion) plus the domestic currency value of the change in international reserve holdings.[1]

Kuska introduces his error **in** his reply immediately following his equations (15) and (16) repeated here:

$$B \equiv L - M - \Delta M \qquad (1)$$

$$B^* \equiv L^* - M^* - \Delta M^* \qquad (2)$$

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1 See, for example, Johnson's Lectures in Economics 1, (1971, p.182) quoted below.

Here B denotes the home-coutry's balance of payments, L end-of-period demand for home-country money, M is the beginning-of-period supply of home-country money , and, most importantly, ΔM is money issued by the government to finance its deficit, i.e., domestic credit expansion. Equivalent magnitudes for the foreign country are denoted with asterisks. That ΔM constitutes only domestic credit expansion is clear from Kuska's equations (1) and (3): ΔM and ΔM^* equal government expenditure plus debt service less taxes less bond issue to the domestic and foreign private sectors. To these he adds equation (2), which states that ΔM^e, "the amount of money supplied by the exchange authority in preserving the value of the exchange rate" equals ΔR, "the change in reserves" (p.889). Equation (4) equates ΔM^{*e} to ΔR^*. The change in total money supplies, which we will call ΔM^s and ΔM^{*s}, are, of course, the sums of domestic credit expansion and the change in reserves; i.e.

$$\Delta M^s \equiv \Delta M + \Delta M^e \tag{3}$$

$$\Delta M^{*s} \equiv \Delta M^* + \Delta M^{*e} \tag{4}$$

Thus the end-of-period money supplies are given by $M^s + \Delta M + \Delta R$ and $M^{*s} + \Delta M^* + \Delta R^*$, respectively.

By themselves, Kuska's equations (15) and (16) (our (1) and (2)) are almost correct. Replacing M by M^s and M^* by M^{*s} would make them wholly correct. We therefore replace (1) and (2) by

$$B \equiv L - M^s - \Delta M \tag{1'}$$

$$B^* \equiv L^* - M^{*s} - \Delta M^*[1] \tag{2'}$$

What is wrong is his interpretation of them, that "the balance of payments of the government and private sectors is equal to their excess demand for money" (p.891, emphasis added). The right-hand sides of his equations (15) and (16)

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1 We follow Kuska in assuming that money is only held by private residents in its country of issue. In our comment we also permitted domestic money to be held by foreign authorities (and vice versa). The loss of reserves for the domestic country was identified with the acquisition of domestic money by the foreign authorities net of the acquisition of foreign money by the domestic authorities (and conversely for the change in foreign reserves). In Kuska's exposition (followed here) reserves are best thought of as an "outside" asset such as gold. No substantial conclusions are affected by this minor change in specification.

(our (1) and (2)) are no such things. The end-of-period demands are L and L^*; the end-of-period supplies are $M^s + \Delta M + \Delta M^e$ and $M^{*s} + \Delta M^* + \Delta M^{*e}$. The correct expressions for the excess demands for money are given by the negative of the left-hand sides of his equations (19) and (20), repeated here, again with M and M^* replaced by M^s and M^{*s} respectively.

$$M^s + \Delta M + \Delta M^e - L = 0 \tag{5}$$

$$M^{*s} + \Delta M^* + \Delta M^{e*} - L^* = 0 \tag{6}$$

The right-hand sides of Kuska's corrected equations (15) and (16) (our (1') and (2')) give only the excess of one end-of-period money demands over beginning-of-period supplies plus domestic credit expansions.[1]

I.A Money market equilibrium and a non-zero balance-of-payments

If the right-hand sides of Kuska's corrected equations (15) and (16) (our (1') and (2')) did in fact represent the excess demands for money then, of course, his Proposition 2 would follow. Since the correct definitions are provided by the negative of the left-hand sides of his amended equations (19) and (20) (our (5) and (6)), equilibrium is perfectly compatible with $\Delta M^e = -e\Delta M^{*e} \neq 0$.

What Kuska has failed to realise is that under a regime of fixed exchange rates it is precisely the balance of payments that equilibrates the money markets. If end-of-period money demand exceeds the initial money stock by more than domestic credit expansion in that period, then a balance-of-payments surplus in that period provides the additional supply necessary to equilibrate end-of-period supply and demand. Conversely if domestic credit expansion exceeds the excess of end-of-period money demand over the beginning-of-period money

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1 In this sense Kuska's reply represents a step forward from his first publication. Instead of equating end-of-period demand to beginning-of-period supply he now adds to the beginning-of-period supply the within-period change from one source, domestic credit expansion. The within-period change arising from the change in in reserve holdings has not yet gained recognition in Kuska's equilibrium conditions.

stock, a balance-of-payments deficit ensues.[1] This point has been made succinctly by Johnson (1971).

> "Assume a country on a fixed exchange rate system, that the public adjusts its money holdings to the desired level (always and instantaneously) through spending or not spending, that there is a high degree of substitutability between the goods of this country and those of the rest of the world, that the world price level is constant, and money demanded is a multiple of income (Md = KY). Then the money supply existing at any time will be the sum of the assets backing the domestic money supply (international reserves and domestic credits MS = R + D). The basic assumption is that the money supply must always equal money demanded (Ms = Md). This means that through its domestic policy the monetary authority (by operations on D, through open market operations) does not determine the money stock. The money stock is determined by demand. What the authority determines is the size of the reserves, through the relation $\Delta R = B = \Delta Md - \Delta D$, ..." (p.182 emphasis added).

Note that sterilisation (let alone exact, simultaneous sterilisation) is nowhere required. The magnitude and duration of the balance-of-payments deficits that a country can run are of course constrained by the size of its stock of reserves.

I.B The exogeneity of money supplies

The same confusion between changes in the money supply and domestic credit expansion lead Kuska to conclude that, in a two-country framework, both money supplies can be exogenous or independently determined. He states that "Buiter and Eaton concluded that ... one of the domestic money stocks must be endogenous, that is, either ΔM or ΔM^* must be treated as a variable" (p.891). This statement is, of course, a non-sequitur, ΔM and ΔM^* are exogenous variables (assuming, as does Kuska, that G, T, ΔA, G^*, T^* and ΔD^* are policy-determined

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1 As John Makin has pointed out to us in discussion, if Kuska's Proposition 2 were correct a corollary would be that, in a regime of flexible exchange rates, the exchange rate would be indeterminate. If money market equilibrium implied a zero balance-of-payments there would be no role for the exchange rate.

and that no authority pegs interest rates), but they represent domestic credit expansions. The changes in the money stocks are given by our equations (3) and (4). The government can determine ΔM and ΔM^* independently, but since $\Delta M^e = \Delta R = B = -eB^* = -e\Delta R^* = -e\Delta M^{*e}$, and since e is fixed while B is endogenous, it is patently obvious that both countries cannot independently determine ΔM^s and ΔM^{*s}. For that to be possible B would have to be exogenous. Our conclusion that only one country can independently determine its money supply when B is endogenous stands. Kuska correctly lists B as an endogenous variable. As we show in the next section B is in fact endogenous when bonds are mobile, but not when they are non-traded.

To summarise, Kuska confuses domestic credit expansion with changes in the money stock, leading him to an erroneous proof of his Proposition 2 and a false result that both money stocks are exogenous when bonds are traded.[1] This mistake represents the major logical error in Kuska's reply that demands correction. There are, however, a number of other fallacies and misleading claims in his reply that require correction or clarification.

II. Suppression of bond-market equilibrium conditions

Kuska does not respond to our demonstration that his Proposition 3 is false for the case of no capital mobility, the case treated in his first article.

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1 From the false result that the two money stocks are exogenous, Kuska infers another demonstration of his Proposition 2: " ... if the money stocks are assumed to be exogenous and the demands are equal to them, ΔM^e and ΔM^{*e} in (19) and (20) (our (5) and (6)) must equal zero. These equations with (15) and (16) then force B and B^* to vanish, which is my Proposition 2" (p.895, emphasis added). Here Kuska proves Proposition 2 by changing definitions of the money stock. He shows on page 891, correctly, that domestic credit expansions (ΔM and ΔM^*) are exogenous. Here he incorrectly calls these magnitudes the changes in the money stocks, thereby "proving" that the money stocks are exogenous. On page 895 he has apparently adopted the correct definition of the money stock, but nevertheless applies the theorem that was proven for ΔM and ΔM^*, and asserts that the two money stocks, now defined correctly, are also exogenous, which of course they are not.

He does establish Proposition 3 using a model in which bonds are traded. As we pointed out in our comment, for this case his Proposition 3 would have been correct. He does not qualify his result, however, for the no mobility case. In addition he introduces a misleading and spurious distinction between "Keynesian" and "Monetary-Approach" definitions of the balance-of-payments, confusing ex ante and ex post or equilibrium notions.

The sources of confusion can best be demonstrated by considering Kuska's full model, restated here in a slightly more compact form:

Kuska's equations (19) through (24) amended again by substituting M^s for M and M^{*s} for M^*, repeated here as equations (9) through (14), represent the market clearing conditions for the two monies, two bonds and two outputs:[1]

$$M^s + \Delta M + \Delta M^e - L = 0 \tag{7}$$

$$M^{*s} + \Delta M^* + \Delta M^{*e} - L^* = 0 \tag{8}$$

$$A + \Delta A + A^* - H - H^* = 0 \tag{9}$$

$$D^* + \Delta D^* + D - J^* - J = 0 \tag{10}$$

$$Y - C - I - G - X + eX^* = 0 \tag{11}$$

$$Y^* - C^* - I^* - G^* - X^* + e^*X = 0 \tag{12}$$

Here A and D denote beginning-of-period supplies of domestic and foreign bonds respectively, held by private agents in the home country while A^* and D^* are the amounts held by private agents abroad; H and H^* denote home and foreign demands for domestic bonds while J and J^* are the home and foreign demands for foreign bonds.[2] Equations (11) and (12) equate domestic and foreign incomes, Y and Y^*, to the traditional components of aggregate demand. The variables Y, C, I, G, M, L, H, H^*, A, A^* and X are measured in domestic currency. Y^*, C^*, I^*, G^*, M^*, L^*,

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1 These are identical to the ones we presented in our equations (17) through (22) except that Kuska's equations (24) and (25) (repeated here as (11) and (12)) equate output to income while ours equated goods supplied to goods demanded. The two conditions are related by Walras' Law so we have no quarrel with this change.

2 It would have been better to write $\Delta A + \Delta A^*$ instead of ΔA in (9) and $\Delta D + \Delta D^*$ instead of ΔD^* in (10), but we merely follow Kuska's notational conventions.

J, J^*, D, D^* and X^* are foreign-currency-denominated.

Equations (7) through (12) are related by two aggregate national budget constraints, Kuska's equations (7) and (8) repeated here with the ususal amendments:[1]

$$Y - C - I - G + eD - A^* \equiv P_A (H - A - \Delta A) + eP_D^* (J - D) + (L - M^s - \Delta M) \tag{13}$$

$$Y^* - C^* - I^* - G^* + e^*A^* - D \equiv P_D^* (J^* - D^* - \Delta D^*) + e^*P_A (H^* - A^*) + (L^* - M^{*s} - \Delta M^*) \tag{14}$$

Finally, the home country's reserve gain must identically equal the foreign loss:

$$\Delta M^e \equiv - e\Delta M^{*e} \tag{15}$$

An important point is that equations (7) through (15) <u>completely</u> describe a general equilibrium system without any reference to the balance of payments. A definition of the balance of payments in terms of magnitudes determined by this system can be appended, but it is not necessary for solving it. If <u>formulated appropriately</u> a balance-of-payments definition can be interpreted as an equilibrium condition to <u>replace</u> any one of equilibrium conditions (7) through (14).

II.A <u>The redundancy of one equilibrium condition : traded bonds</u>

Assume that (7) and (11) and (8) and (12) obtain. Then (13) becomes:

$$X - eX^* + eD - A^* \equiv P_A (H - A - \Delta A) + eP_D^* (J - D) + \Delta M^e \tag{16}$$

While (14) becomes:

$$X^* - e^*X + e^*A^* - D \equiv P_D^* (J^* - D^* - \Delta D^*) + e^*P_A (H^* - A^*) + \Delta M^{*e} \tag{17}$$

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1 They are derived by combining the government and private sector constraints for each country, given by equations (9) and (12) and (10) and (14) of our comment.

Multiplying (17) by e and adding it to (16) gives

$$0 \equiv P_A (H + H^* - A - A^* - \Delta A) + e P_D (J + J^* - D - D^* - \Delta D) + \Delta M^e + e\Delta M^{*e} \quad (18)$$

Equations (18) and (15) thus do not imply that both bond markets are in equilibrium. Excess demand in one can be offset by excess supply in the other. Requiring that one bond market be in equilibrium as well as both money markets and both goods markets does, however, insure equilibrium in all markets. One and only one bond market can be suppressed. Any five of conditions (7) through (12) are sufficient to determine the endogenous variables Y, Y^*, P_A, P_D^*, and ΔM^e. Kuska is thus correct in treating ΔM^e as an endogenous variable when bonds are traded. A consequence, as we have shown, is that ΔM^s or ΔM^{*s} is also endogenous.

II.B The redundancy of two equilibrium conditions : non-traded bonds

If bonds are not internationally mobile $J \equiv D \equiv H^* \equiv A^* \equiv 0$. Equations (16) and (17) reduce to

$$X - eX^* \equiv P_A (H - A - \Delta A) + \Delta M^e \quad (19)$$

$$X^* - e^*X \equiv P_D^* (J^* - D^* - \Delta D^*) + \Delta M^{*e} \quad (20)$$

With no trade in bonds and no external debt service payments, the conditions

$$\Delta M^e \equiv X - eX^* \quad (21)$$

$$\Delta M^{*e} \equiv X^* - e^*X \quad (22)$$

hold identically. Therefore (19) and (21) imply domestic bond market equilibrium while (20) and (22) imply foreign bond market equilibrium. Both bond market equilibrium conditions are redundant. Thus any four of conditions (7) through (12) are sufficient to describe equilibrium. In this case one of Y, Y^*, P_A, P_D^* and ΔM^e is exogenous. Both countries can independently determine ΔM^s and ΔM^{*s} when bonds are not traded.

II.C On "Keynesian" and "monetary-approach" balance-of-payments definitions

Kuska accuses our fellow commentators and us of attempting "to utilise a balance-of-payments equation to make the system determinate" (p.887). This is false. In our comment, as above, we make no use of the balance-of-payments equation as an equilibrium condition to determine equilibrium. The balance-of-payments can be inferred from equilibrium in the money, bonds and goods markets and the budget constraints. Walras' Law does, however, permit replacing one equilibrium condition with a linear combination of that condition and others. Thus replacing one bond market equilibrium condition with a condition that equates the change in reserves to an expression for the balance-of-payments that is derived using that bond market equilibrium condition is a valid procedure.

Kuska provides two sets of definitions of the balance-of-payments. The first set, which he calls the "monetary-approach" definitions, is given in his equations (11) and (12), repeated here:

$$B \equiv [Y - C - I - G + eD - A^*] + P_A (A + \Delta A - H) + eP_D^* (D - J) \tag{23}$$

$$B^* \equiv [Y^* - C^* - I^* - G^* + e^*A^* - D] + P_D^* (D + \Delta D^* - J^*) + e^*P_A (A^* - H^*) \tag{24}$$

The second set, which he calls the "Keynesian" definitions, are given in his equations (13) and (14) repeated here:

$$B' \equiv [X - eX^* + eD - A^*] + P_A (H^* - A^*) - eP_D^* (D - J) \tag{25}$$

$$B^{*'} \equiv [X^* - e^*X + A^*/e - D] + P_D^* (J - D) - e^*P_A (H^* - A^*) \tag{26}$$

Substituting B and B^* from (23) and (24) for ΔR and ΔR^* in the budget constraints (7) and (8) yields

$$B \equiv \Delta R + (L - M^s - \Delta M - \Delta M^e) \tag{27}$$

$$B^* \equiv \Delta R^* + (L^* - M^{*s} - \Delta M^* - \Delta M^{*e}) \tag{28}$$

Since $B = \Delta R = \Delta M^e$ and $B^* = \Delta R^* = \Delta M^{*e}$ equations (27) and (28) imply:

$$\Delta M^e = L - M^s - \Delta M \tag{29}$$

$$\Delta M^{*e} = L^* - M^{*s} - \Delta M^* \tag{30}$$

which are the conditions for equilibrium in the money market. Thus the so-called "monetary-approach" definitions apply if and only if the money market is in equilibrium. If the money market is in disequilibrium so that end-of-period money stocks do not equal L, then Kuska's "monetary-approach" definitions do not hold. It is not correct, as Kuska asserts, that "Even in this situation where not all markets clear in an equilibrium sense, the budget constraints and the monetary-approach definitions, and therefore equations (15) and (16), (our equations (1') and (2')) must hold for any actual trading which takes place" (p.895, footnote 10, emphasis in the original).

Since Kuska's "monetary-approach" definitions of the balance-of-payments are equivalent to money market equilibrium conditions, they cannot be substituted as equilibrium conditions for either the bond market or goods market equilibrium conditions. On the other hand, combining what Kuska calls the "Keynesian" definitions, (25) and (26), with the budget constraints (7) and (8), yields

$$\begin{aligned} Y - C - I - G - X + eX^* \equiv\ & P_A\,(H + H^* - A - A^* - \Delta A) + \\ & + (L - M^s - \Delta M - \Delta M^e) \end{aligned} \tag{31}$$

$$\begin{aligned} Y^* - C^* - I^* - G^* - X^* + X/e \equiv\ & P_D^*\,(J + J^* - D - D^* - \Delta D^*) \\ & + (L^* - M^{*s} - \Delta M^* - \Delta M^{*e}) \end{aligned} \tag{32}$$

These are linear combinations of money, bond and goods market equilibrium conditions. The so-called "Keynesian" definitions of the balance-of-payments, then, can be substituted as equilibrium conditions for any one of the money, bonds or goods market equilibrium conditions. Thus suppressing two bond market equilibrium conditions even when bonds are traded is a valid procedure if the appropriate balance-of-payments "equilibrium" condition such as our (25) and (26) is introduced.

As defined, Kuska's "Keynesian" definitions hold if and only if all three markets are in equilibrium. Their correctness therefore requires more markets to be in equilibrium than Kuska's "monetary-approach" definitions. However, neither set of definitions holds in general ex ante or out of equilibrium.[1] If one restricts the analysis to equilibrium positions only, all the definitions are equivalent.

III. On the "flow" specification of capital movements

On page 893 Kuska shifts ground in his attack on "Keynesian" balance-of-payments models, resurrecting the now very familiar issue of the "flow" specification of capital movements: "Indeed, the balance-of-payments definitions used in the literature are invariably different from those called Keynesian here, being generally written as variants of:

$$B'' = X - eX^* + eD - A^* + F\,(r - r^*) \qquad [(33)]$$

$$B^{*}'' = \left[X^* - X/e + A^*/e - D\right] - e^*F\,(r - r^*)" \text{ (p.893).} \qquad [(34)]$$

(Our equations (33) and (34) appear as equations (31) and (32) in Kuska).

Kuska's criticism of this specification is more justified than the rest of his attack. Comparing (33) and (34) with (25) and (26) shows that these imply that

$$P_A\,(H^* - A^*) - eP_D^*\,(D - J) = F\,(r - r^*), \qquad (35)$$

a rather unlikely functional form since beginning-of-period stocks do not affect the within-period movement of capital.

In criticising this specification Kuska takes a position held by most balance-of-payments economists, "Keynesian" or otherwise, for well over a decade. Since the criticism by William H. Branson (1970), specification of international capital movements in terms of asset market equilibrium has become standard. (See also, Branson (1976a, 1976b), Turnovsky (1976), Dornbusch (1977),

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1 Kuska's confusion on this point relates to the general issue of the applicability of Walras' Law ex ante in equilibrium and ex post. Since a complete discussion would take us somewhat far afield the interested reader is referred to Buiter (1980).

Allen and Kenen (1980) and Whitman (1970)). The only models that we know of from the past decade that employ (33) and (34) are those by Frenkel and Rodriguez (1982) and Dornbusch and Frenkel (1982). If criticising the "Keynesian" models for using a flow specification of capital movements is to become the major thrust of Kuska's attack, he is only just joining the rest of the profession.

IV. Conclusion

Kuska's first paper and his reply both fall into the unhappy category of "What's right is not new and what's new is not right". Right but not new are (1) the recognition that wealth should, in general, be an argument in asset demand functions; (2) the proposition that, in general (but not in the model without capital mobility analysed in Kuska (1978)), Walras' Law permits the suppression of only one equilibrium condition; and (3) the familiar criticism of the "flow" specification of capital movements. New but not right are the following: (1) the proposition that (in a two-country, fixed exchange rate world) equilibrium between money demand and money supply in both countries implies balance-of-payments equilibrium. Kuska's Proposition 2 is false regardless of whether "the monetary authorities are able to sterilise exactly and simultaneously all balance-of-payments flows" (Kuska (1982, p.887) italics in the original). (2) The proposition that in a two-country world with a fixed exchange rate, given public spending, taxation, and borrowing, both countries' authorities can choose their money supplies independently.

It is important to note that this whole unfortunate debate concerns matters of logic, not of doctrine. Those propositions of Kuska's that we have demonstrated to be false are so regardless of whether one chooses to think of oneself as a Keynesian, a monetarist, a Marxist or a Follower of the Line of the Imam. Kuska's attempt to convert an issue of logic into a "Keynesian" (or generally inadequate) versus monetary-approach (or adequate) dispute merely

obscures the real issue. The source of the logical error in his reply is fundamental and straightforward: he confuses changes in the stock of money with domestic credit expansion. In fact, when domestic credit expansion does not equal the difference between end-of-period money demand and the initial money stock,[1] it is the change in reserves created by a non-zero payments balance that creates the change in the money stock required to maintain money market equilibrium. This is the fundamental insight of the monetary approach to the balance of payments.

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1 If there is monetary equilibrium in successive periods, this equals the change in money demand.

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