94-F-10

THE CLASSICAL ADJUSTMENT MECHANISM OF INTERNATIONAL BALANCES: THE RELEVANCE OF THE LABOUR THEORY OF VALUE

by

Costas Lapavitsas
The University of Tokyo

February 1994

Discussion Papers are a series of manuscripts in their draft form. They are not intended for circulation or distribution except as indicated by the author. For that reason Discussion Papers may not be reproduced or distributed without the written consent of the author.

THE CLASSICAL ADJUSTMENT MECHANISM OF INTERNATIONAL BALANCES:

THE RELEVANCE OF THE LABOUR THEORY OF VALUE

COSTAS LAPAVITSAS

UNIVERSITY OF TOKYO

FEBRUARY 1994

Introduction [1]

The work of Henry Thornton was rediscovered in Viner's (1924) study of the classical mechanism of balance of payments adjustment. [1] Contrary to Ricardo, who believed that money was exported only when its quantity was excessive or redundant domestically, Thornton held that money export could also be induced by balance of trade deficits, or, analogously, by capital transfers abroad. Although the substance of the issue is today considered settled in favour of Thornton, there is less agreement on why Ricardo, the most logical of political economists, should have argued something so patently fallacious. Mere scanning of the literature reveals a variety of opinion; he had insufficient knowledge of the realities of production in the British economy, Sayers (1953); he was concerned with long-run analysis and neglected the income effects of money transfers, Mason (1957); he did not neglect income effects, Grubel (1961); he emphasised exchange rate changes and alterations in the structure, rather than the level, of prices, Hollander (1979).

[1] I am grateful to Itoh Makoto for generous help with this article. I have also benefited from discussions with Yoshikawa Hiroshi. All errors are my own responsibility.

In Marx's monetary writings Ricardo's domestic quantity of money theory and the theory of international adjustment, were criticised in a way which challenged the very foundations of the Ricardian model. However, debate between different economic currents being what it is, Viner ignored Marx's critique, all the while recording faithfully the musings of several muddle-headed pamphleteers. [2] Based on Marx's work, this essay attempts to demonstrate that Ricardo's argument was the corollary of a key assumption of the mechanism namely, that money was a "simple" commodity, indistinguishable from all others.

This assumption also related to Ricardo's fundamental view that money had intrinsic quantity-of-labour value. It is an intriguing point in the history of economic thought that Marx had a labour theory of value similar to Ricardo's, but combined it with a totally different monetary analysis. This article argues that it was possible for Marx to do so precisely because he stressed the "special" character of money in domestic and international exchange namely, as reliable store of value, means of debt settlement, means of extraordinary payments, and medium of wealth transfer. On this basis Marx rejected the domestic quantity theory of money, and the international adjustment mechanism. [3] However, this also implied

that Marx's monetary analysis had neither the coherence nor the deceptive persuasiveness of Ricardo's schema.

In Thornton's work money was treated both as a simple and as a special commodity, without awareness of a theoretical problem.[4] Hicks (1967) has claimed convincingly that for Thornton a balance of payments disequilibrium caused by a bad harvest was a short-run phenomenon, whilst a disequilibrium due to excessive quantity of money was a long-run phenomenon. However, it is also maintained here that the issue related to the very consistency of the classical mechanism, and to the treatment of value. Viner neglected the importance of value theory, re-defined Ricardo's concept of money excess, and in so doing claimed that Thornton had provided a better exposition of the classical mechanism. It is claimed here that Viner's argumentation was problematic.

Hume's and Ricardo's automatic mechanism

For Hume (1955, 48) money only had "fictitious" value. Furthermore,

> "It is indeed evident, that money is nothing but the representation of labour and commodities, and serves only as a method of rating or estimating them."

(Hume, 1955, 37)

Marx (1970, 164) observed that, as a result, Hume,

> "never mentions the value of commodities and the value of gold, but speaks only of their reciprocal quantity."

The lack of intrinsic value meant that money only had relative exchange value, expressed as the proportion of the aggregate quantity of commodities to the aggregate quantity of money in circulation. In contemporary terms, the exchange value of money was reflected in the general price level, the latter being determined by the quantitative proportions of commodities to money.

We can facilitate the discussion by employing some Fisher-type equations of exchange, simplified by assuming unit velocity and gold money. Hume's view was essentially that,

$$(1) \qquad Y / M = 1 / P$$

M the quantity of gold money, Y real output circulated, Y/M the exchange value of money, and P an index of the price level.

To derive a theory of the relationship between the quantity and the exchange value of money it was also necessary to have a view on the

determination of M, and here the functions of money were important. Hume essentially believed that money functioned as means of circulation alone. Money was,

> "only the instrument which men have agreed upon to facilitate the exchange of one commodity for another."
>
> (Hume, 1955, 33) [5]

The importance of this assumption becomes clear if we consider Marx's (1976, Ch 3, Pt 2) discussion of money's functions, in which it was argued that money as means of circulation belonged to and remained exclusively within the sphere of exchange, in contrast to stored money which exited the sphere. Consequently, if the whole money stock of a country, M^T, functioned as means of circulation alone, it followed that $M = M^T$. In other words, fresh money supplies inexorably finished in circulation expanding the country's active stock of money. Therefore, it was plausible for Hume to argue that the exchange value of money and the latter's quantity were inversely related. [6]

The international aspect of Hume's theory was an outgrowth of his domestic monetary analysis: money which was means of circulation domestically was also means of circulation internationally. Complex money functions, such as hoarding (reserve formation), played no

significant role in international transactions. Indeed, money flowed between nations in the manner of water between vessels, and sought the same "level" in all countries, (Hume, 1955, 64-65). Disturbances in the domestic quantitative proportions of commodities to money changed the value of money, and resulted in the wrong value of money in a particular country. Too much money lowered money's value (raised prices), hence encouraged the import and discouraged the export of commodities, and led to the outflow of money. The process stopped when money had again attained the correct "level". The mechanism was automatic and smooth, and emphasised the lack of a special role for money in international transactions.

Ricardo (High Price of Bullion, Sraffa III, 52), quite differently from Hume, assumed that money and commodities actually had intrinsic value,

> "Gold and silver, like other commodities, have an intrinsic value, which is not arbitrary, but is dependent on their scarcity, the quantity of labour bestowed in procuring them, and the value of the capital employed in the mines which produce them."

The same argument can also be found in the more mature writings of

Ricardo, (eg, Principles, Sraffa I, 352). Marx (1970, 170) approved of it, and, as we shall see below, made it a foundation of his own monetary theory.

From this starting point Ricardo, (Proposals, Sraffa IV, 55-58), derived a complex version of the equation of exchange, which may be summarised as,

(2) $M = f(m, yY, V)$

M the quantity of metallic money, m the intrinsic value of money, y the per unit intrinsic value of output, Y real output, and V the velocity of money. M varied inversely with m and V, and directly with the total value of transactions, yY.

As Hume had argued, however, money also had exchange value Y/M. Relating intrinsic value m to exchange value Y/M is the most intractable problem faced by monetary theory based on the labour theory of value. Suppose, for instance, that, other things equal, yY rose through an increase in output Y. Then,

> "- the value of money will rise on account of the increased use which will be made of it, and will continue permanently above

the value of bullion, unless the quantity be increased, either by the addition of paper, or by procuring bullion to be coined into money. There will be more commodities bought and sold, but at lower prices; so that the same money will still be adequate to the increased number of transactions, by passing in each transaction at a higher value. The value of money then does not wholly depend upon its absolute quantity, but on its quantity relatively to the payments which it has to accomplish;"

(Proposals, Sraffa IV, 56)

Thus, for Ricardo, if the required M was not forthcoming, the value of money, Y/M, would, "on account of increased use", permanently exceed the intrinsic value of bullion, m.[7] In his own terms, money would pass in exchange for value higher than its intrinsic one and prices would fall. In other words, the value of money in exchange (hence the level of prices) depended on the quantity of money relative to the quantity of commodities. That much, however, had also been said by Hume. The question for Ricardo was whether the divergence between Y/M and m could persist, given the presence of money's intrinsic value in the system; would the commodity value of money m act as an anchor for its exchange value Y/M (the price level)?

Ricardo reconciled Y/M and m by relying on, first, the undisturbed convertibility between coin and bullion, second, the absence of any role for money in exchange other than means of circulation. In the case of an increase in Y, other things equal, the fact that Y/M exceeded m (commodity prices had fallen) implied that bullion could be coined to the coiner's advantage. This would restore equilibrium in two ways; first, the available bullion would become scarcer, hence the value of bullion, m, would rise; second, the quantity of coin, M, would increase hence Y/M would fall (prices would rise), (Proposals, Sraffa IV, 56-57). The rise in m and the fall in Y/M would eventually re-establish equilibrium, ensuring that the price level could not be independent of the intrinsic value of money. Falls in Y, changes in M and so on, could be analysed analogously. If convertibility between coin and bullion (or, convertibility between circulating paper money and bullion, as during Ricardo's time) was interrupted, the equilibrating mechanism would not work, and the exchange value of coin would become independent of the intrinsic value of bullion. The quantity of coin would then permanently dictate prices. [8]

Forming money hoards, settling residual debt, making extraordinary purchases, and other "special" functions of money were problematic

for Ricardo's schema. The existence of hoards of metallic money implied that economic agents attempted to hold on to a particular monetary form of value, a process at odds with the continuous and smooth readjustment of the value of bullion fundamental to Ricardo's schema. Similarly, sudden payments and purchases required the abrupt intervention of money in exchange, as, for instance, when debts were called up, no credit was forthcoming, or natural disasters destroyed means of production and consumption. On such occasions, money appeared to be employed because of its generally acceptable social value, and not at all because it was to someone's pecuniary advantage to use it. Hoarding, paying, transferring wealth and so on, constantly re-asserted the practical importance of specifically possessing money rather than any commodities at all.

Allowing for international transactions did not materially alter Ricardo's model. At international equilibrium, commodity money was divided among nations according to the value of domestic transactions and velocity, so that it "preserved every where the same value", (High Price of Bullion, Sraffa III, 52). Ricardo immediately added that commodity money, "like other commodities", (ibid), had its own intrinsic value. Thus, at international

equilibrium there was no divergence between Y/M and m. Since money had the same value everywhere there could be no advantage to merchants in shifting money between nations. Therefore, international equilibrium was balance of trade equilibrium, trade being, in effect, barter.[9]

The discovery of gold, or fresh money supplied by banks of issue, other things equal, would increase M, hence lower the exchange value of money, Y/M, (raise the domestic price level). Since the value of bullion remained temporarily the same, coin could be profitably melted into bullion. This made the domestically available bullion more abundant, and so led to a fall in the domestic intrinsic value of money. Since, however, the value of money abroad (intrinsic and relative to commodities) had remained unchanged, bullion could now be exported to a merchant's advantage. Export of bullion, however, *was* balance of trade deficit. The export of bullion lowered the exchange value of money abroad (raised foreign prices), raised money's domestic exchange value (lowered domestic prices), and so acted to restore equilibrium. The process stopped when the excess quantity of money was eliminated and trade equilibrium re-established. Equilibrium in the value of money was restored at a slightly lowered level globally (slightly

raised prices, reflecting the increase in the global amount of money), a fact which Ricardo considered a weakness of a purely metallic money. Thus, he advocated the use of paper money whose quantity could be managed so as to keep money's value constant, (Proposals, Sraffa IV, 57).

Ricardo's international adjustment mechanism, once again, relied on the absence of any special role for money in international exchange. Money moved between countries as a simple commodity, ie, only when disparities between money's domestic and international value created the possibility of pecuniary gain from sending money abroad. Such disparities necessarily implied that the quantity of money was excessive (redundant) in one or more countries, and were eliminated through the re-establishment of the proper proportions between commodities and money across the world. By this token, balance of trade deficits were the result of excessive money in circulation, and were automatically corrected through the export of the excess.

The problem was that, in practice, the export of money frequently appeared to be the result of necessity, and not of choice for individuals and countries. At a further remove, international

payment imbalances also frequently appeared unrelated to domestic excess of money over commodities. Bad harvests, in particular, seemed to cause balance of trade deficits, and to necessitate the flow of gold for payment abroad. To Ricardo's contemporaries it seemd not at all unreasonable to assume that money was a special commodity, required for its unique ability to pay and to transfer value. Ricardo, however, could not accommodate a special role for money within his automatic mechanism. If, for whatever reason, nations found it necessary to use money in their commercial transactions, it followed that, on those occasions, money's movement was not caused by disparities between the value of money in different countries. By the same token, the proportionate division of money among the nations of the world, and its domestic proportions relative to commodities, were not able to explain money export undertaken as an obligation by a nation. Ultimately, if countries found it necessary to export gold, it was conceivable that countries were compelled to do so even at the original point of equilibrium in the balance of trade and in the division of commodity money across the world. The mechanism would lose its generality.

Ricardo was alive to the importance of the point. He asked Thornton

to explain why foreigners should refuse to accept English goods and demand money instead, (High Price of Bullion, Sraffa III, 61). He cut down the hapless Bosanquet for daring to suggest that England was "compelled" to import corn when the harvest was bad, (Reply to Bosanquet, Sraffa III, 208). He employed his remarkable analytical powers to befuddle Malthus, who knew that there was something wrong but could not tell exactly what, (Letters, Sraffa VI, 26).

In a revealing part of his correspondence with Malthus, Ricardo insisted that international flows of money be explained in a way compatible with economic principles, ie, by treating money as an ordinary commodity, (Letters, Sraffa VI, 64-65). The adjustment mechanism had to assume that money was exported solely because it was advantageous to do so. This applied even when debts had to be settled abroad,

> "It rests with you [with Malthus, CL] therefore to prove that a case can exist when it may become the *interest* of a nation to pay a debt by the transmission of money rather than in any other mode, when money is not the cheapest exportable commodity, - when money (taking into account all expences which may attend the exportation of different commodities as well as money) will not purchase more goods abroad than it will at home."

(Letters, Sraffa VI, 64, emphasis in original)

It was necessary to Ricardo's model that the export of money be founded on the pecuniary interest of merchants, and, for such interest to exist, the value of money at home had to be lower than abroad. Therefore, the original state of equilibrium in the value of money had to have been disturbed. It then followed, *ipso facto*, that money's domestic quantity was too large relative to commodities, and that it was the excess which was exported. Do not tell me that people cannot see what is in their interests, Ricardo declared to Malthus, that could apply to all propositions of political economy, (Letters, Sraffa VI, 64).

Ricardo did not resolve the problem, and on occasion he had to retreat. Thus, he admitted to Malthus that payment of a money subsidy abroad could lead to the outflow of money if the subsidy was large, (Letters, Sraffa VI, 73). In his celebrated derivation of the law of comparative advantage he accepted that, in the case of a two country two good model, it was possible for money export to take place if technical change had upset the balance of trade and created a surplus in favour of one country. But he was quick to add that, if the model was expanded to include more commodities, the

flows of exported money would be small, (Principles, Sraffa I, 141). The implication was that such money export was insignificant.

Marx's monetary analysis assumed, with Ricardo, that money (and commodities) had intrinsic value (labour time).[10] Prices were the ratio of commodity values to the per unit value of money, (1976, Ch 1, 2, 3). Thus, commodities circulating per period had a total price, $TP = yY / m$. Given velocity, the equation of exchange was very similar to that of Ricardo,

(3) $M = TP / V = yY / Vm$ [11]

By re-arranging and assuming unit velocity, the exchange value of money may be written as:

(4) $Y / M = m / y$

Given velocity (treated as a technical and institutional datum), and given value determination in production, the equation of exchange merely signified the amount of money socially necessary in the sphere of exchange for every level of output.

In a technical sense, furthermore, Hume and Ricardo treated the entire money stock as means of circulation, and so $M^T = M$. For Marx, (1976, 231-232), stored money, M^H, did not belong to circulation. Thus, $M^T = M + M^H$, and the issue became how to specify the division of M^T into its component parts so that M corresponded to the necessary amount of money in circulation. [12] The special role of money was vital in tackling this,

> "The hoards thus act as channels for the supply or withdrawal of circulating money, so that the amount of money circulating as coin is always just adequate to the immediate requirements of circulation."
>
> (Marx, 1970, 136)

Marx, despite not developing a complete theory of money supply along these lines, provided the elements of an answer by locating several sources of hoarding in the reproduction of the total social capital, (for instance, 1978, 423-424, 568-569).

As I have already argued for Ricardo, however, it was important to this type of analysis to establish that the intrinsic value of money provided an anchor for money's exchange value. At one remove, the problem was resolved in (4) by posing Y/M as equal to m/y. It is evident, however, that this was only tenable if commodities and

money exchanged at value. If the price and the value of commodities diverged as a result of short-term fluctuations of market demand and supply, (Marx, 1981, 279-301), the exchange value of money would also diverge from its intrinsic value. The price level and the commodity value of money could move in ways not directly related to each other.

Ricardo's resolution of this problem, as we have already seen, took the form of an elaborate automatic mechanism based on, first, free convertibility between coin and bullion, second, money functioning solely as means of circulation. In so far as an answer for it can be found in Marx's work (by no means a full one), the indications are that Marx, unlike Ricardo, tended to think of such divergences as regular phenomena of the trade cycle. With the benefit of the intervening half-century, during which the trade cycle had emerged as a fixture of the world market, Marx did not treat pronounced short-term fluctuations in the exchange value of money as extraordinary monetary events, such as those of the Napoleonic Wars. On the contrary, he tended to see such fluctuations as merely an aspect of the general tendency to economic crisis, the roots of which were to be found in the dynamic of capitalist production itself. Equally significantly, the analysis of the re-balancing of

the value of money was impossible without the explicit consideration of credit, which was absent from Ricardo's abstractions.

Thus, during a market boom the growth of demand, sustained by the expansion of credit, led to the rise of prices and so reduced the exchange value of money.[13] The turning point, which for Marx was connected to industrial overproduction and a lowering of the profit rate, was inevitably accompanied by credit deflation, and a rush for cash. In a commercial crisis, money was universally demanded as means of payment, as well as hoarded for reasons of precaution and speculation. As the rush for cash took place, commodity prices collapsed, raising the exchange value of money. In other words, the re-adjustment of the value of money under a commodity money system necessarily entailed pronounced price fluctuations. This re-adjustment had real costs, such as company bankruptcies and unemployment, mostly inflicted through the deflation of credit. Furthermore, no a priori guarantee existed that the rise in the exchange value of money during a slump would accurately compensate for its fall during a boom.

The monetary dimensions of this process were related to those

special roles and functions of money which were problematic for Ricardo's monetary theory. The sudden rise into prominence of hoarding, of debt settlement, of generally acceptable transfer of value, were the indispensable accompaniment of the contraction of credit. At such times the possession and use of money was perceived by economic agents as a dire social necessity and not at all a choice,

> "The bourgeois, drunk with prosperity and arrogantly certain of himself, has just declared that money is a purely imaginary creation. 'Commodities alone are money', he said. But now the opposite cry resounds over the markets of the world: only money is a commodity. As the hart pants after fresh water, so pants his soul after money, the only wealth."
>
> (Marx, 1976, 236)

Marx left no precise theoretical formulation of how the swing to cash allowed the intrinsic value of money to provide a "centre of gravity" for money's exchange value. He emphasised mostly the abrupt nature of the process, as well as its close relation to trade cycles and economic crises originating in production. This, on a theoretical plane, contrasts poorly with Ricardo's elaborate and elegant resolution. It is, however, to Marx's credit that he

incorporated some clearly important functions of money, as well as some patterns of monetary crisis, into his theoretical system.

Ricardo's automatic mechanism of international adjustment was also rejected by Marx. The gist of the critique was that money was a special commodity internationally, as it was special domestically. "World money" was the means of payment in the settlement of trade balances, as well as when "the customary equilibrium" between nations was disturbed. "World money" was also used to effect capital and other wealth transfers,

> "whenever it is not a matter of buying or paying, but of transferring wealth from one country to another, and whenever its transfer in the form of commodities is ruled out, either by the conjuncture of the market, or by the purpose of the transfer itself."
>
> (Marx, 1976, 242-243)

In order to participate in world trade, countries had to possess a reserve of world money, which was not to be confused with the domestic reserve aiming at the needs of domestic circulation, (Marx, 1981, 701-702). The underlying view was that no automatic balancing mechanism between nations existed at all. Marx repeatedly

pointed to the fact that balance of payments crises and the drain of gold tended to involve all capitalist countries successively. This indicated that "the root of the problem is actually not the balance of payments at all.", (Marx, 1981, 622), but rather, "overproduction, fostered by credit and the accompanying general inflation in prices", (ibid, 623). "Real", rather than monetary, factors typically caused balance of payments disequilibria. Credit deflation was characteristic of such international crises, and compulsory international movements of money took place in the settlement of balances between nations.

Marx (1970, 177), finally, criticised Ricardo for "arbitrarily arranging" the actual economic phenomena of the Restriction, such as harvest failure, in order to refute the "real" destabilising influences on the balance of trade and to ascribe everything to monetary excess. By the same token, Marx (1970, 158-159), unlike other classical political economists, did not disparage the emphasis laid by the Mercantilists on the role of gold in international capitalist trade.

Most notably absent from Marx's work was a theoretical mechanism connecting international to domestic monetary phenomena on the

basis of the labour theory of value. The relation between domestic means of circulation and reserves to international means of payment and reserves, was suggested rather than analysed. No proper theoretical analysis of the behaviour of "world money", and its connection to domestic money on a global scale, was to be found in Marx's work. This was, once again, in poor contrast to Ricardo's polished theoretical treatment of these questions. Nevertheless, the tenor of Marx's discussion implied that a narrow monetary model resolving the issues in the manner of Ricardo, would mislead rather than clarify. Marx's stress on the special character and functions of money in capitalist exchange indicated that broader theories, incorporating the analysis of production itself, and the role of credit, (as well as the significance of the economic role of the nation state), were necessary in order to connect domestic to international monetary phenomena.

Thornton's analysis and Viner's reconstruction of the adjustment mechanism

Thornton's analysis of the effect of "real", as distinct from monetary, factors on the balance of trade, the rate of exchange and the price of gold, is to be found in chapter V of his book. It should

be stressed that in that chapter Thornton did not employ Hume's mechanism, even though he clearly knew it, (Perlman, 1986). Thornton's (1939, 145) argument was, rather, that imports and exports naturally balance in the long run because of a limit to the possible accumulation of debt, or to the loss of bullion (perhaps due to individual budget constraints). In the short run, however, the natural balance could be disturbed. Bad harvests could lead to a balance of trade deficit, which could not be promptly eliminated by economising on imports, or by expanding exports. The volume of bills on the importing country would rise, hence the exchange rate would fall. Thus, the demand for gold to send abroad would rise, leading to a higher market price for gold. This would create an incentive to evade the law forbidding the melting down of coin, and, as melting took place, the Bank of England would inevitably lose bullion reserves. Thornton, however, did not suggest that the export of gold would, through price or income effects, restore equilibrium in the manner of Hume.

Contractionary policy by the Bank of England, according to Thornton, could arrest "real" factor short-run drains of gold, and restore external payments equilibrium. In arguing this he put forth the following idea,

"At the time of a very unfavourable balance of trade (an event which Dr Smith leaves totally out of his consideration), it is very possible, as I apprehend, that the excess of paper, if such is to be called, is merely an excess above that very low and reduced quantity to which it is necessary that it should be brought down, in order to prevent the existence of an excess of the market price above the mint price of gold."

(Thornton, 1939, 150-151)

The excess of paper, "if such is to be called", was not part of an automatic mechanism for establishing the value of money. Rather, Thornton made the important practical point that contractionary monetary policy would correct the external imbalance regardless of cause. A sharp contraction should be avoided on the grounds of the damage it would cause to production in the country. It was better to possess a large hoard of gold, and to sit out the drain by tolerating a reduction in the Bank of England's reserve ratio, (Thornton, 1939, 152). Viner adopted Thornton's tentative notion of excess of money under the above conditions, incorporated it into the automatic mechanism, and applied it to deficits arising out of capital transfers which Thornton did not explicitly discuss.

Thornton's analysis in chapter V contained some confusion on the money price of gold expressed in gold coin, (noted in a different context by Horner, 36-40), and Ricardo was quick to pounce: a rise in gold demand could not increase the gold price of gold, (High Price, Sraffa III, 60). Nevertheless, the fact that Ricardo was concerned to find supplementary arguments to rebut precisely this part of Thornton's work, indicated that a sensitive point had been touched. Thus, Ricardo (op cit, 61) asked Thornton to explain why foreigners should refuse to accept English goods and demand money instead. Far from providing better foundations for it, Thornton had actually argued something quite problematic for the mechanism: money was a special commodity in international capitalist exchange,[14]

> "The country, therefore, which has the favourable balance, being, to a certain degree, eager for payment, but not in immediate want of all that supply of goods which would be necessary to pay the balance, prefers gold as part, at least, of the payment; for gold can always be turned to a more beneficial use than a very great overplus of any other commodity."
>
> (Thornton, 1939, 151)

In chapters VIII and IX Thornton analysed fluctuations in the money supply, and expounded a mechanism very similar to Hume's. He gave a rightly lauded account of how expansion of credit money could have "real" effects on capital accumulation, but could also lead to a balance of trade deficit and a fall in the exchange rate through higher domestic expenditure and prices. But this was not problematic for Ricardo. His fire was attracted by Thornton's non-Humean discussion of "real" factors operating on the balance of trade, and the necessity of sending money abroad. Such factors, and the resultant role of money, were theoretically intractable within the mechanism. Thornton, however, was not aware of the theoretical problem.

Viner's (1937, 295) opinion that Thornton had applied "the Hume type of explanation generally to any type of disturbance of the balance of payments", has been influential in providing a classical pedigree for modern theories of automatic adjustment of international balances. Viner summarised Ricardo's theory of international monetary circulation as follows,

"(1) Gold will be exported only if it is relatively redundant as compared to other countries.

(2) An export of gold is always the *cause*, never the *effect*, of

an unfavourable balance of trade.

(3) A failure of the harvest, or the grant of a subsidy or loan to a foreign country, does not create a redundancy of currency, that is, does not make the existing level of prices in the country suffering the failure of the harvest, or granting the subsidy or loan, too high, and, therefore, does not result in the export of gold."

(1924, 196, emphasis in original)

It has been a key point of this article that redundancy or excess of money relative to domestic commodities was indeed fundamental to Ricardo's (and Hume's) mechanism. However, it was also argued that, if excess of money was a fundamental part of the automatic mechanism, the problem inevitably emerged of reconciling redundancy with occasions in which money appeared to be exported out of necessity, especially occasions in which "real" factors, such as bad harvests, caused balance of trade deficits. Viner's resolution, elaborating on Thornton's aside on money excess, is worth quoting at length,

"The first of these propositions is unquestionably sound. But it requires more careful definition than is given to it by Ricardo. Two countries have the proper amounts of

currency relative to each other if the relative price levels in the two countries are such that trade between the countries results in an even balance of international payments. Any cause which makes the price level of a country too high to bring about an even balance of international payments, whether it be an over-issue of paper currency, or a crop failure, or the grant of a foreign loan, or a sudden decline in the relative demand of foreign countries for its products as compared to its demand for foreign commodities, makes currency redundant in that country."

(Viner, 1924, 196)

For Viner, the "proper" quantity of money was determined entirely by reference to the balance of payments, using the intervening step of the price level. This was evidently thought of as the true general principle of the automatic mechanism.[15] If a country could not balance its payments it followed that its price level was too high, which meant that its quantity of money was too large. Arguing backwards, as it were, Viner identified a common element between "real" and monetary factors operating on the balance of international transactions, ie, the very existence of a deficit.

Consequently, the domestic price level was too high in all such instances and the quantity of money too large.

Viner's rejection of Ricardo's second and third proposition depended on his view of the "wrong" level of prices: if prices remained "wrong" foreign loans or external shocks could not be made good by changes in the volume of exports and imports, (1924, 196-198). Therefore, money movements had to take place, correcting the price levels and restoring equilibrium. The automatic mechanism retained its general applicability. Viner (1924, 198-200) finally argued that, perhaps, Ricardo had "an exaggerated notion" of the difficulty of exporting gold and did not appreciate that gold could settle debts promptly and at the same nominal value.

However, if we think of Viner's argument in the classical terms of the value of money, it becomes evident that he solved Ricardo's problem by making the exchange value of money unrelated to the domestic proportions of commodities to money. The exchange value of money would be "wrong" if the balance was in deficit, despite the domestic proportion of commodities to money being "right" relative to the rest of the world. The problem in that case is that the equilibrium of the global system would have no necessary connection

to the underlying reality of output levels and velocities, which was important to both Hume and Ricardo. In Ricardo's schema international equilibrium depended on the establishment of the correct proportion of commodities to money across the world, which also meant that the exchange value of money was brought into line with its intrinsic value. Similarly, in Hume's schema, money sought its proper "level", consonant with the proper quantitative division of commodities to money across the world. In Viner's formulation there is no foundation for the globally "correct" exchange value of money, other than the unexplained fact of the existence of balance of trade equilibrium. That is not an effective defence of the classical automatic mechanism of international adjustment.

Conclusion

Hume and Ricardo attempted to construct a theoretical mechanism through which the domestically established exchange value of money found a common level across the world market. The process equalised the domestic proportions of commodities and money for different countries, and adjusted international balances. This theoretical edifice functioned satisfactorily, provided that money was a simple commodity and an insignificant means of circulation. On this basis,

Ricardo could also make the equilibrium exchange value of money consonant with the latter's intrinsic, quantity-of-labour value.

The classical mechanism had inevitable difficulty accommodating phenomena in which money functioned as a special commodity, for instance, reserve formation, international value transfer, international and domestic debt settlement. Ricardo's bizarre insistence that money was exported only when its quantity was excessive domestically, was a corollary of the mechanism. He attacked Thornton because the latter's discussion of the special role of money in international exchange had highlighted this weakness of the mechanism. Viner ignored entirely the value dimension of Ricardo's analysis, and corrected the weakness of the mechanism by assuming it away.

Marx, despite also starting from a commodity money with its own labour-quantity-value, rejected Ricardo's domestic quantity theory of money, and the automatic mechanism of international adjustment. In doing so, his work lost the elegance and apparent completeness of that of Ricardo. However, Marx's analysis emphasised precisely the monetary phenomena which Ricardo found so difficult to incorporate in his theory. Marx further indicated that a broad

theory, incorporating the analysis of production instability and credit, is necessary in order to explain imbalances in international transactions. For this reason his less elegant monetary work retains more relevance than Ricardo's.

Notes

1. Thornton's obscurity was such he did not even rate a mention in Seligman's (1903) acclaimed study of "neglected" contemporaries and successors of Ricardo, which included Torrens.

2. There is evidence that Viner, whose scholarship was justly famous, had read even obscure works of Marx, (1991, 152-153).

3. For a Marxist critique of Ricardo's international theory see also Shaikh (1980), who, however, concentrates on the law of comparative advantage and not on the adjustment mechanism.

4. A certain inconsistency in Thornton's thought was regretted by Horner (1957), and accepted with reservations by Hayek (1939, 46).

5. Hume remarked that only active money, which was not "locked up in chests", and only commodities which came to the market, and were not "hoarded in magazines and granaries", (ibid, 41), participated in the determination of money's value. This recognition of the function of hoarding, however, remained unused in his theory.

6. In this view of things, Hume's celebrated "transmission mechanism", see Duke (1979), Mayer (1980), Perlman (1987), dealing with short-run "real" effects, was not central to his theory. Marx (1970, 161, footnote) essentially saw Hume's theory as a "black box", the "transmission mechanism" being an embellishment.

7. There is, inevitably, a problem of dimensions in directly comparing price to value but the point made by Ricardo is clear.

8. This element of Ricardo's quantity theory seems to have influenced Marx's account of fiat money inflation, (1970, 118-122). In the latter, the quantity of paper money "passed for" or

"symbolised" a certain quantity of commodity money required by circulation. This was predicated on the assumption that fiat paper money could not be hoarded, it became "useless scraps of paper" when not functioning as means of circulation, (ibid, 119).

9. In the Principles (Sraffa I, 143), Ricardo stated that the value of money could differ between countries. This, however, arose from perfectly explicable causes, such as tax, transactions costs and so on, and did not lead to any problematic conclusions about the movement of money. At international equilibrium money might have different value between England and Poland, but it did not move between them.

10. Ricardo's and Marx's labour theories of value were not identical. For Ricardo, quantities of labour embodied in commodities did not determine their "absolute" or "real" value, but "governed" their exchange ratios, or relative prices. By this token, variations in relative prices, which were not temporary, indicated alterations in values, (Schumpeter, 1954, 597). This had a bearing on Ricardo's account of changes in the intrinsic value of money: increases in the available quantity of bullion reduced the scarcity of bullion, hence lowered its value. Marx argued that the quantity of labour embodied in commodities was their absolute value. Relative market price changes did not necessarily indicate changes in the level of absolute value. Furthermore, according to Marx (1969, 164-172), Ricardo was obsessed with the mere determination of the quantity of value (ie, exchange ratios), and did not specify the social forms of value separate from value's labour substance. The implication was that Marx in his own analysis, as in (1976, Ch 1), had demonstrated the necessary connection between the forms of value and money, indeed that money

was the independent form of absolute value.

11. For a fuller discussion of this see Lapavitsas (1991)

12. The similarities with the Cambridge approach are apparent in the emphasis on hoarding. The Cambridge tradition, however, treats hoarding as a factor determining the velocity of the total money stock rather than its division.

13. For a developed contemporary Marxist analysis of the cyclical behaviour of capitalist accumulation, the role of credit and the significance of price level fluctuations in restoring the exchange value of money, see Itoh (1988, ch 9).

14. As he also did in his insightful discussion of hoarding and the variability of velocity in ch III. Thornton's stress on hoarding was quoted approvingly by Marx, (1987, 195).

15. Viner has been criticised for making price levels the key variable of the adjustment mechanism (for a summary see Staley, 1976). By his own admission, he underestimated the role of reallocation of domestic resources in restoring external equilibrium, (1937, 306). Mason, (1956), who agreed with Viner's opinion on Thornton, has shown that price levels were not the only variable to be found in the classical writings on the mechanism. Nevertheless, price level changes were the main variable for the classical economists.

Bibliography

Duke, M., I., (1979), *David Hume and Monetary Adjustment*, History of Political Economy, 11:4.

Grubel, H., G., (1961), *Ricardo and Thornton on the Transfer Mechanism*, Quarterly Journal of Economics, Vol LXXV, May.

Hayek, F., A., von, (1939), *Introduction*, to Thornton's Paper Credit, George Allen & Unwin, London.

Hicks, J., (1967), *Thornton's* ***Paper Credit***, in *Critical Essays in Monetary Theory*, Oxford University Press.

Hollander, S., (1979), *The Economics of David Ricardo*, Heinemann, London.

Horner, F., (1957), *The Economic Writings of Francis Horner*, Fetter, F., W., (ed), London School of Economics, London.

Hume, D., (1955), (1752), *Writings on Economics*, Rotwein E., (ed), Nelson, Edinburgh.

Itoh, M, (1988), *The Basic Theory of Capitalism*, McMillan, London.

Lapavitsas, C., (1991), *The Theory of Credit Money: A Structural Analysis*, Science & Society, Vol 55, No 3, Fall.

Marx, K., (1969), (1910), *Theories of Surplus Value*, Pt II, Lawrence & Wishart, London

– (1970), (1859), *A Contribution to the Critique of Political Economy*, Progress, Moscow.

– (1976), (1867), *Capital I*, Penguin, New Left Review, London.

– (1978), (1885), *Capital II*, Penguin, New Left Review, London.

– (1981), (1895), *Capital III*, Penguin, New Left Review, London.

– (1987), *Marx & Engels Collected Works*, Vol 29, Progress, Moscow.

Mason, W., (1956), *The Stereotypes of Classical Transfer Theory*, Journal of Political Economy, Vol LXIV, No 6, December.

– (1957), *Ricardo's Transfer Mechanism Theory*, Quarterly Journal of Economics, Vol LXXI, February.

Mayer, T., (1980), *David Hume and Monetarism*, Quarterly

Journal of Economics, Vol XCV, August.

Perlman, M., (1986), *The Bullionist Controversy Revisited*, Journal of Political Economy, Vol 94, No 4.

– (1987), *On a Controversial Passage in Hume*, Journal of Political Economy, Vol 95, No 2.

Ricardo, D., (1951), (1810), *The High Price of Bullion*, in *The Works and Correspondence of David Ricardo*, Vol III, Sraffa, P., & Dobb, M., Cambridge University Press.

– (1951), (1811), *Reply to Bosanquet*, in Sraffa, Vol III.

– (1951), (1816), *Proposals for an Economical and Secure Currency*, in Sraffa, Vol IV

– (1951), (1817), *The Principles of Political Economy and Taxation*, in Sraffa, Vol I.

– (1951), *Letters*, in Sraffa, Vol VI.

Sayers, R., (1953), *Ricardo's Views on Monetary Questions*, in *Papers in English Monetary History*, Ashton, T.S. & Sayers, R., (eds), Oxford University Press.

Schumpeter, J.,A., (1954), *History of Economic Analysis*, Oxford University Press, New York.

Seligman, E.,R.,A., (1903), *On Some Neglected British Economists*, Pt I, Economic Journal, Vol XIII, September, Pt II, Economic Journal, Vol XIII, December.

Shaikh, A., (1980), *The Laws of International Exchange*, in *Growth, Profits, and Property*, Nell, E., (ed), Cambridge University Press.

Staley, C.,E., (1976), *Hume and Viner on the International Adjustment Mechanism*, History of Political Economy, 8:2.

Thornton, H., (1939), (1802), *An Enquiry Into the Nature and Effects of the Paper Credit of Great Britain*, George Allen & Unwin, London.

Viner, J., (1924), *Canada's Balance of International Indebtedness, 1900-1913*, Harvard University Press, Cambridge, Mass.

– (1937), *Studies in the Theory of International Trade*, Harper & Brothers, New York.

– (1991), *Essays in the Intellectual History of Economics*, Irwin, D.,A., (ed), Princeton University Press.