

BETWEEN NATIONS, THE INTEREST MULTIPLIER IS EQUAL TO 2

By

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Introduction

In this paper we present an idea that is either utter nonsense or truly “revolutionary”. We claim that the interest payments effected by the debtor country, x billion dollars, increase its total debt stocks by the sum of x billion dollars while, at the same time, diminishing its official reserves by an equivalent amount, x billion dollars again. If this *double* effect proves to be true, the “interest theorem” is established.

Interest theorem: the interest multiplier is equal to 2.

The developing countries are our only concern for the simple reason that they serve huge sums of *net* interests to the rest of the world. By *net* interests we denote the difference between the interests *debited* and the interest *credited* on the current accounts. Whenever we use the word «interest» we mean *net* interest.

We choose Brazil as an obvious example.

We consider the payments effected between Brazil and the rest of the world taken as a whole.

Period P extending from 1974 to 2.002 is the longest for which World Bank statistics are available in all relevant details. Period p is a given year within P .

In P and in p the trade account (of Brazil) is assumed to be exactly balanced.

For period P and in most periods p , this assumption is borne out by the facts.

The figures are US\$ billions.

The interest-debtors are ID; the interest-creditors are IC.

In P the net deficit in the current account is 272 while the total interest payments are 240.

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Perfect accuracy is reached by injecting the (scant) surpluses into the official reserves.

B stands for Brazil and R for the rest of the world.

The monetary or nominal interest payments (in foreign exchange) are $i-N$.

The real interest payments (goods and services taken out of Brazil's domestic economy) are $i-R$.

In period p , B's imports and exports are equal to 60 on either side; in p the interest payments

(implied: effected by Brazil) are equal to 15.

The nominal or monetary flows (in foreign exchange or in dollars) are represented by continuous lines; the dotted lines represent the real flows.

Surprisingly, it is exceedingly easy to establish the *interest theorem*. The argument offered below provides a sufficient proof thereof.

In period p , Brazil spends 60 and gets 45 in an "unequal exchange".

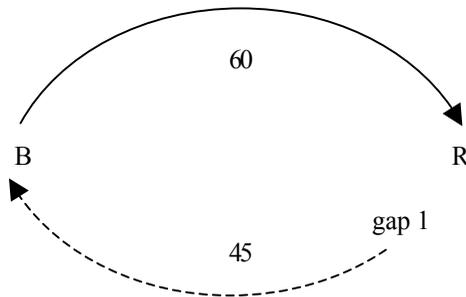


Fig. 1

If Brazil acquired 60 in imported goods and services, its total expenditures, equal to 60, could not include the interest payments. The interest payments are equal to 15 precisely because Brazil only obtains 45 in imports for its total expenditure equal to 60. Gap 1 = 15 is the exact measure of the interest payments.

In period p , the rest of the world (that is, the set of creditor countries) imports goods and services to the value of 60 at a cost of 45; if the cost were equal to the value, the interest accruing to R would be null.

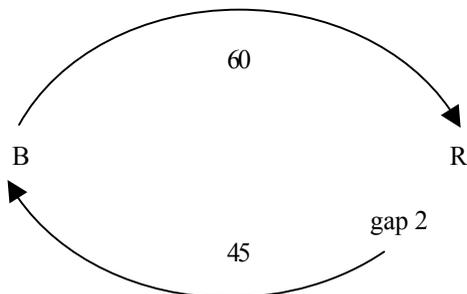


Fig. 2

The addition

$$\text{gap 1} = 15 + \text{gap 2} = 15$$

is the size = 30 of the total interest cost.

- Gap 1 is filled by an equal measure of new borrowings from abroad. In the terminology of the World Bank these are the new “loan disbursements”. The expenditure of the net financial resources increases the total debt stocks.
- Gap 2 is of a purely monetary nature; the sum of expenditures incurred by the current account plus the capital account is equal to 75; the corresponding receipts are equal to 60 considering that the net financial resources are absorbed by gap 1; as a consequence, gap 2 can only be filled by a decrease in the official reserves.

To sum up: When the interest payments made by ID to IC equal 15, the total cost incurred by the debtor country (Brazil) as a whole amounts to 30.

The double gap is clearly visible in the statistics published by the World Bank, which are highly reliable. “Every effort has been made to ensure the accuracy and completeness of the debt statistics.... Coverage has been improved through the efforts of the reporting agencies and the work of World Bank missions, which visit member countries to gather data and to provide technical assistance on debt issues (WB).”

The numbers for period *P* are :

- # 240 for the increase in the total debt stocks (including the debt stock reduction);
- # 240 for the missing reserves.

The sum of all interest payments, for the short term and the long term, is # 240.

It is warranted therefore to say that the WB statistics strongly illustrate the interest theorem.



Fig. 3

What can be done? Each indebted country, Brazil in particular, can avoid the formation of gap 2. After the required reform is in place, Brazil will cut by half the cost of the interest; its yearly savings in foreign exchange will be equal to 15 billion dollars. Furthermore Brazil is entitled to “reparations” covering period ***P***.

Text

It is *universally* (not merely generally) taken for granted that interest payments effected by developing countries are *either* nominal *or* real but never both nominal *and* real all at once.

In period ***p*** Brazil transfers an amount of domestic products, goods or services, through “unrequited” exports, $ex_i = 15$. If exports ex_i were exchanged for equivalent imports, the *real* payment of interest via those exports would be nil. The fact that exports ex_i are unrequited carries a clear meaning: The Brazilian product conveyed by exports ex_i , $pr_i = 15$, is acquired without cost by the rest of the world. As a result Brazil acquires an equivalent financial claim

against the rest of the world, that holds an equal claim (interest) against Brazil. The two equal and opposite claims then cancel out.

After the unrequited export of $pr_i = 15$ Brazil *should be* entitled to calling it quits.

The real payment of interest having taken place, it would be absurd to argue that the monetary payment of interest is still outstanding.

We have just emphasized *should be*, the reason being that we are here in a normative territory. Nobody would question that it is right and proper for the debtor to be released of his obligation provided he makes over to this creditor an equal value of assets, financial or otherwise.

Now, it is a truism to say that no pathology could ever be brought to light under the assumption that everything necessarily jibes with the world as it *should be*. Unfortunately, in the real world malfunctions do exist.

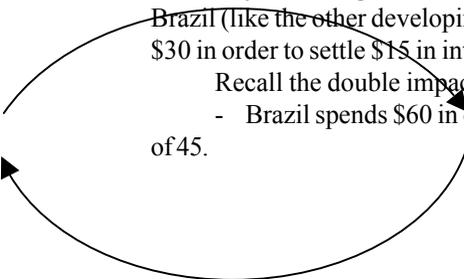
Still, it would be preposterous to contend that for a debt of \$15 in interest to be fully discharged, the debtor is under an obligation to hand over the *monetary* sum of \$15 and, furthermore, additionally to transfer equivalent *real* assets (financial or commercial) to the creditor.

The same argument also works the other way around; how could we straight-facedly allege that a debt that is already discharged in *kind*, at 100% of its value, remains an undiminished liability pending its final payment in *monetary units*?

In the face of these obvious misgivings, the circular flows, *real* and *nominal* (or, in the same sense, *monetary*), defined and depicted above, bring home - by the strength of their simple and unquestionable logic - the fact that Brazil (like the other developing countries) is unavoidably subjected to paying \$30 in order to settle \$15 in interest.

Recall the double impact of the interest payments.

- Brazil spends \$60 in cash while its real imports are reduced to a value of 45.



60

B

R

45

Fig. 4

- The rest of the world spends \$45 in cash and imports goods and services to a total value of 60.

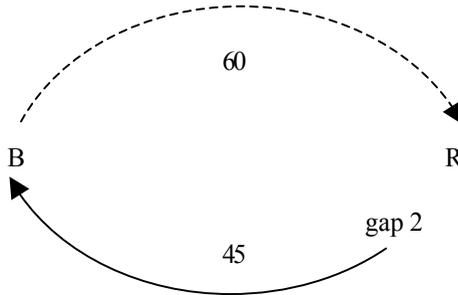


Fig. 5

- B spends \$15 over and above the sum spent by R.
 - R enjoys a value of \$15 in imports over and above the value of B's imports.

These gaps, *monetary* on the one hand (- 15 in B's dollar-receipts) and *real* on the other hand (- 15 in the value of B's imports) cannot possibly prevail.

The exact and compelling reason why both gaps are necessarily "filled" is at hand: it lies in the fact that the trade account is balanced.

In the end, once the double cost (real and monetary) of interest is covered, Brazil's imports are equal to its exports, 60 on each side.

Consider first the *real* gap; it stems from the unrequited export of pr_i .

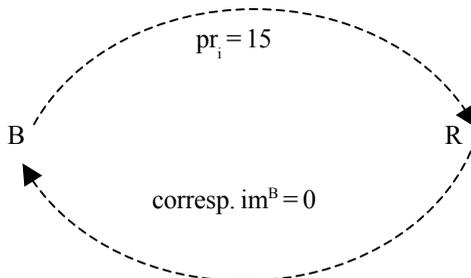


Fig. 6

Brazil transfers a fraction of its current output, $pr_i = 15$, and receives no imports in “exchange” ; im^B are the imports of Brazil which correspond to the export of pr_i .

To repeat, this gap cannot be allowed to persist since, in the last analysis, Brazil’s imports are equal to 60. How is the value of B’s imports to be raised from 45 to 60? The answer verges on the obvious: the current net “loan disbursements” granted to Brazil by the rest of the world, $LD_i = 15$, provide the required sum of foreign exchange.

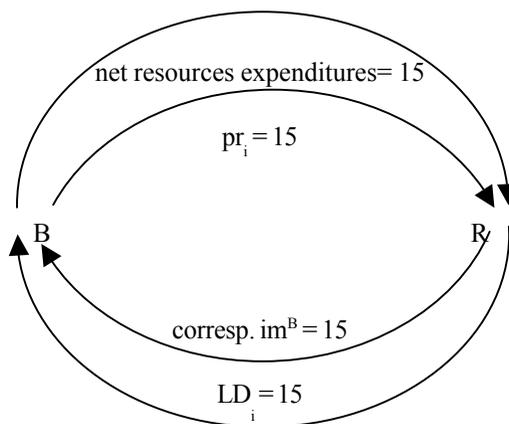


Fig. 7

We strictly follow the method developed by the World Bank. “Loan disbursements *minus* Principal repayments *equals* Net resource flows on debt.” In this paper LD_i stands for the net resources thus defined. If, instead of being spent, the net resources were integrated into the sum of official reserves, the export of pr_i would remain unrequited. Fig. 7 shows the *expenditure* of the net resources.

It should be noted that we do not introduce the expenditure of the net resources in order to win an argument or to score a point against the World Bank. On the contrary, when the trade account is at an equilibrium, the debtor country is mechanically unable to settle the totality of its current bill, *including the interest due on its foreign debt*, unless it complements its export-receipts by net exports of *financial* assets. Without a doubt, the WB agrees to that. In period p Brazil’s *commercial* exports are equal to 60, complemented by its *financial* exports equal to 15. “Loan disbursements” are precisely the sums of

foreign exchange accruing to Brazil in payment for its exports of financial obligations (IOUs).

Fig. 7 comprises the final step, namely the *outflow* (or expenditure) of the net resources. Here we witness the “buyback” of pr_1 . If im^B remained equal to zero, Brazil’s imports would finally fall short of its exports, a state of affairs that is squarely contradicted by the *balanced* trade account. As soon as the net resources = 15 are spent, im^B is increased by 15, from 0 to 15; the final value of B’s imports, including $im^B = 15$, is then 60, as it must be given that the value of the corresponding exports is 60.

The *real* gap generated by the interest payments is thereby repaired.

So far the suggested analysis is conventional, unexceptionable.

At this point in the argument the essential contention finally enters. Its fundamental “oddity” is immediately obvious: the *monetary* gap generated by the payment of interest alongside with the real gap awaits to be filled in its turn.

Figures 3 and 6 clearly show that Brazil “receives” 45 but spends 60.

Although the existence of this discrepancy has already been sufficiently documented, its crucial importance warrants a further exercise in elucidation. Let us start all over again concerning the precise point that should rivet the attention of the careful reader. The *real* gap created by the payment of interest is not in any way a moot point. On this matter no problem whatever can be identified; it is quite trivial to assert that the real payment of interest implies an equal measure of unrequited exports; whence no intellectual prowess is required to conclude that imports are restored to their initial value by financial resources (procured by “loan disbursements”). By way of contrast, the issue of the *monetary* gap generated in tandem with the real gap is thorny indeed.

We are about to experience one again a major departure from conventional wisdom.

No proof has ever been offered to the effect that the multiplier applying to the interests served between nations is equal to 1. It “goes without saying”. Is it really necessary to prove that “square 1” is equal to 1?

For all that, we are already acquainted with a stunningly simple demonstration of the undeniable existence of the *monetary* gap generated in parallel with the *real* gap.

Nevertheless, suppose that we are still in the dark and that we simply deny the existence of the monetary gap.

We even go one step further from the truth by attempting to prove that the alleged monetary discrepancy is merely a figment of the imagination.

As soon as the real gap is fixed, Brazil’s imports are at a level with its exports, 60 both ways. Once the expenditure of the fresh “loan disbursements” and the expenditure of the “net resources” are taken into account, the domestic

economy of Brazil witnesses a total inflow of dollars equal to 60 (commercial exports) + 15 (financial assets exchanged for the new loan disbursements); the corresponding total dollar-outflow is equal to 60 (commercial imports) + 15 (expenditure of the net resources). Where is the alleged shortfall of the inflow relative to the outflow of foreign exchange to be found?

Most conveniently, the existence of a crucial asymmetry now comes to our rescue and seals the case.

The relevant dissymmetry is easy to grasp.

It may be useful at first to restate the problem we are dealing with: What is the exact impact of interest payments on the equilibrium of the trade account? Only commercial flows, real and monetary, belong in this precise frame.

We can now formulate the terms of the alleged asymmetry:

- the payment of interests by Brazil is an add-on to the payment of its imports;
- but when the rest of the world converts its interest-revenue into real goods or services, it thereby incurs an expenditure that is included in its import expenditures.

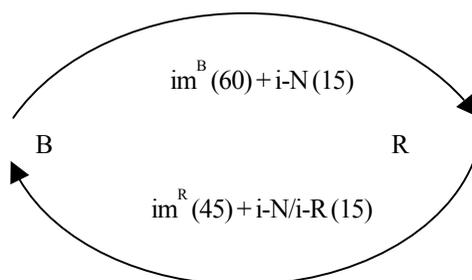


Fig. 8

In Fig. 8, from the point of view of Brazil the total dollar-outflow is equal to 75 while the total dollar-inflow is only equal to 60. The difference between these opposite flows is the *net outflow* of 15, namely the very discrepancy which is constitutive of the *nominal* or *monetary* (in foreign exchange) cost of interest, supplementary to its *real* cost.

Flow $i-N$ is the nominal or monetary payment of interest; flow $i-R$ is the corresponding real payment by which R takes over the ownership of goods

and services produced in the national economy of Brazil and conveyed by the unrequited exports ex_1 .

One would have thought that flows $i-N$ and $i-R$ are the two opposite faces or sides of a single dichotomous flow; in short, is the nominal-real dichotomy in the case of interest any way different from the simple distinction between the real income of a nation and the corresponding monetary income, mainly wages and profits? In period p the domestic product of Brazil is equivalent to \$600; the accounting identity between the national output and the national income then applies: the sum of all incomes generated by Brazil's domestic production is equivalent, in reais, to \$600. Nobody would dare to infer from this that the total value of riches accruing to Brazil in p is equivalent to \$1.200. That would amount to pure nonsense. Incomes formed in reais by the domestic production of B are amounts of "purchasing power" over the real output of Brazil; now, the power to purchase commodities cannot in any sense be added on to their value; the total value of the newly produced commodities (600) and the value of the corresponding total income (600) is no more than 600; surely there is no need to explain this point in any greater detail.

Now, it is legitimate to claim that the interest payments effected by Brazil form an "external" income in the rest of the world; $i-N$ can be described as a "purchasing power" over equivalent goods and services produced by Brazil. By spending this income, R converts $i-N$ into $i-R$, a transaction noted $i-N/i-R$ in Fig. 8.

The conversion of $i-N$ into $i-R$ poses the following question in this particular case: what value does logic assign to the result of the addition of these terms? In short, is

$$i-N (15) + i-R (15) \text{ equal to } 15 \text{ or to } 30?$$

The preceding analysis should invite extreme caution on this issue.

One is strongly tempted to engage this question on the basis of the general principle, no *monetary* income being "additive" to the corresponding *real* income. It would then follow that R is paid *either* in dollars *or* in kind but not in one way *on top* of the other.

We have offered two distinct proofs *to the contrary*, neither of which is a twist of the argument or a sleight of hand.

The second proof is represented in Fig. 8; it consists in the combination of two propositions that are self-evident, each one of them.

tautology number 1

The sum of payments incurred by Brazil is 60 for imports PLUS 15 in interest.

tautology number 2

The conversion of $i-N$ into $i-R$ effected by the rest of the world defines an equal measure of R 's imports; the sum of payments incurred by R is therefore 60 for imports INCLUDING *the expenditure of $i-N$* .

The end result is stunning, yet logical certain.

By setting up the argument in this manner we are led to consider all possible "couples" of real and nominal payments made by any country X ; the aim is to verify if the conjunction AND applies more generally or if its strictly confined to the payment of interests. It hardly comes as a surprise when we find out that in all cases but this single one, namely the interest payments, $i-N$ and $i-R$ are two successive and alternate forms of one and the same magnitude.

In any period when the commercial account of X is exactly balanced, say 60 in exports and 60 in imports, the rest of the world, Y , is paid for its own exports (60); this nominal or monetary gain is expended on Y 's imports; the only remaining payment is a quantity of goods or services.

In a period when Y is a deficit country, its excess imports are financed by the new loan disbursements granted by X ; the financial net resources accruing to Y constitute a borrowed sum of "foreign income"; as soon as Y finances its net imports, it surrenders the purchasing power initially lent by X ; in the end, Y adds foreign products to its domestic output but retains (in its private or official reserves) no positive fraction of the relevant loan disbursements. Again, the real payment replaces the nominal payment and never is it possible for these two forms of income to coexist.

Finally, in a period when the commercial account of Y is positive, say by 15, Y pays out 45 for its imports while its export-receipts amount to 60; even then Y can convert its net external gain into real financial assets imported from abroad only if it chooses to give up its monetary intake.

The payment of interest is indeed the only exception. In period p the rest of the world acquires the "internal" income (in reais later changed into dollars) spent by DI out of the domestic income created by Brazil's current production; eventually the rest of the world converts its income $i-N$ into an equivalent *real* income, $i-R$, a fraction of Brazil's real output. The generally valid principle should then apply, according to which R is finally paid *in kind*, and *in kind only*. But, by rigorous analysis we have attained an entirely different viewpoint. In fact, Brazil utterly fails to recoup even the tiniest fraction of its national income transferred in interest, not a cent. The reason for this truly disconcerting conclusion is well known by now. It is clearly set out in Fig. 8. When we add the conversion of $i-N$ into $i-R$ – an expenditure equal to 15 – to the payment for R 's

imports (60), the correct arithmetic is

$$\text{import payments (60) + the expenditure of } i\text{-N (15) = 60.}$$

We are in no danger of being suffused with any doubt on this matter provided we realize the obvious, viz. that the expenditure of $i\text{-N}$ is nothing by the payment for an equivalent value of R 's imports. Therefore, the factual status of the subject is that the equality of exports (60) and imports (60) is subjected to a "pair" of disturbances due to the interest payments (15) carried out by Brazil: The rest of the world gets an equivalent amount of its imports for free whereas Brazil's dollar-outlays are increased by 15.

If the conversion of $i\text{-N}$ into $i\text{-R}$ by R injected a supplementary receipt into Brazil's economy, equal to 15, the cost of interest would be "simple", not *double* as it actually is. The corresponding circular flow would then look like this:

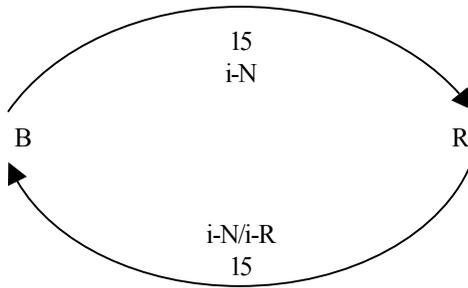


Fig. 9

In fact, however, the correct circular flow is as follows:

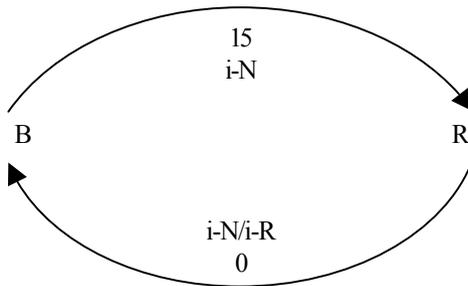


Fig. 10

The dollars spent by R for the conversion of $i-N$ are lost to Brazil for the obvious reason that they are merged or fused into the payment of an equivalent measure of R's imports. In the end Brazil's dollar-receipts remain stuck at the level of 60 since the "repatriation" of the dollars spent on interest (conversion of $i-N$ into $i-R$) add absolutely nothing, not a penny, to the inflow of dollars into the Brazilian economy. It would still be formally permitted to claim that the total cost of an interest of 15 is "merely" 15 if the interest payments were likewise merged or fused into the import-payments effected by Brazil, as shown below.

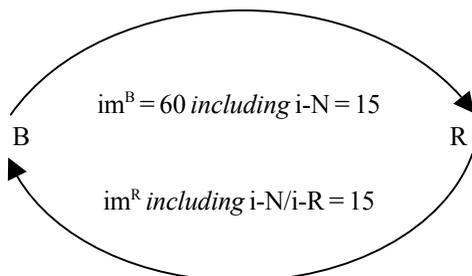


Fig. 11

This brings us to the nub of the correct objection. It is outright *inconceivable* that when serving the interest it owes to the rest of the world Brazil thereby settles an equivalent measure of *its own imports*; the payment of interests (15) *in no way diminishes* the debt owed for imports by the indebted country, whose commercial debt remains outstanding at its full initial level (60). Fig. 11 contains a crucially false information since im^B cannot possibly include interest payments, which can only be construed, in logic, as *additional outlays*.

By settling a debt in interest, far from paying off some of *its own imports*, Brazil pays for an equivalent measure of the *imports of the rest of the world*.

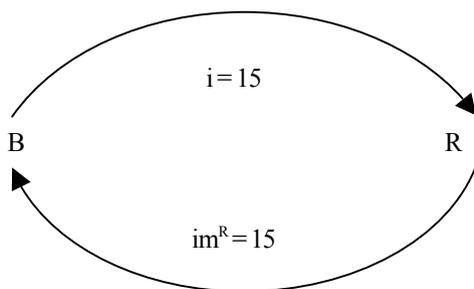


Fig. 12

Fig. 12 reasserts the centrepiece of the transnational interest payments; as we are already aware of, the transfer of interest is characterized by the fact that in lieu and place of the creditor country (R) the debtor country (B) pays for a measure equal to i of R 's – not B's – imports.

The asymmetry leading to the doubling of the cost incurred on behalf of the interest engendered by the principal of the “total debt stocks” (WB) is neutralized when each country (or set of countries) pays for an equal measure of its partner's imports. In Fig. 13 the colour yellow applies to payments effected by Brazil while the payments issuing from R are shown in red. In Fig. 13 Brazil pays for R's imports while the rest of the world equally pays for Brazil's imports; on both sides the measure of the relevant payments is 15.

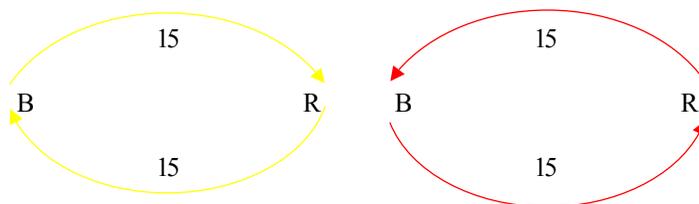


Fig. 13

The transnational payment of interests is the only instance where a country (namely the debtor country) takes it upon itself to pay for its partner's imports. Clearly, if B and R both assume an equal charge in this way, the two asymmetries thus created stand in a relation of symmetry with respect to each other. As a result, each country then pays for the totality of its *own imports*. Transnational interest payments *invariably carry a double cost*; but this “cost multiplier” is of no consequence when the sum of interest credited to the current account of B offsets the interest “earned” by R. The crucial and “unbearable” inequity inherent in the payments of interest between nations is “limited” to the payments of *net interest*. Concerning interest, the current account of Brazil is debited by huge sums in excess of its credits; the interests due to Brazil by R are practically negligible; the bulk of financial capital held by Brazil with respect to the rest of the world resides in its official reserves; but their value is meagre indeed.

A summary of the argument

We have expressed the double cost of interest in two basic modes.

1. Mode 2 of the proof

Brazil spends 60 on its imports and pays for a measure equal to 15 ($i = 15$) of R's imports.

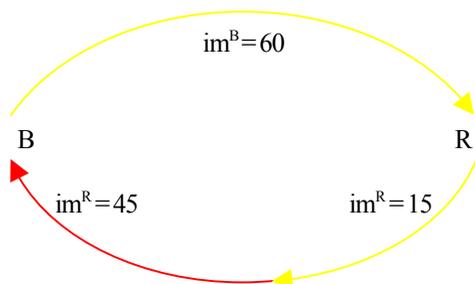


Fig. 14

(We still use the colours yellow and red respectively for B's and R's expenditures.)

The main information contained in Fig. 14 is the inequality between Brazil's dollar outflows (60) and dollar inflows (45). To find the logical consequence of this shortfall we must pay prior attention to the very important fact that the value of the goods and services imported into B is necessarily curtailed to the exact extent by which Brazil pays for R's, instead of its own, imports. By means of the yellow flow in Fig. 14 Brazil reduces to 45 out of 60 the payment for its *own* imports. The benefit to B of this loss in imports is obvious for it consists in the *real* payment of interest. In the end, though, we should not forget that the loss in imports initially suffered by B is repaired. If analysis failed to consider the restoration of imports to their initial level (60), it would openly contradict the premise on which it is based, namely the balanced trade account. How, then, are B's imports raised from 45 to 60? No economist is unaware of the correct answer: New "loan disbursements" (WB) fill in the deficit. The "unrequited" exports (WB) have a negative impact on imports; the "net resources" (WB) derived from the loan disbursements finance the missing imports, thus restored to their initial value (60).

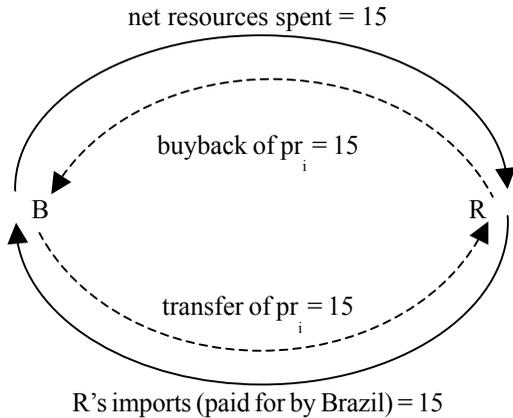


Fig. 15

If the net resources derived from $LD_i = 15$ were not spent on an equivalent amount of B's imports, the constraint of the balanced trade account would be circumvented. As soon as exports and imports are again the terms of an equality or "equilibrium", their value being 60 on either side, we can be certain that the net resources newly borrowed abroad ($LD_i = 15$) have been spent.

We can now safely proceed to uncover the true meaning of Fig. 14.

The net outflow of dollars from the domestic economy of Brazil is equal to 15. Since the newly borrowed net resources have already been spent (for the buyback of pr_i), Brazil's official reserves are called upon to help out.

Clearly described by the World Bank, the three accounts in which each country registers its international transactions is a classification that shelters theory from equivocation.

In our example, the current account of Brazil incurs a deficit, the sum of imports (60) + interest (15) exceeding the sum of exports (60); an equal, but positive, "excess" is formed in the capital account due to the inflow of the sum of dollars newly "disbursed" by foreign lenders, $LD_i = 15$. Taken together, the current account and the capital account are at an equilibrium, the total dollar-inflow and the total dollar-outflow being each equal to 75. It stands to reason, or does it? that the domestic economy of Brazil, as defined by these two accounts, is not impelled to having recourse to the official reserves, trove of the country as a whole, kept in its reserve account. We have just given way to a serious illogicality. Remember that the net dollar-receipts of the capital account

are no longer available. Having been drained by the buyback of the product transferred from Brazil to the rest of the world (pr_i handed over by the real payment of interests), the net resources are henceforth reduced to zero. It necessarily follows that the remaining deficit in the two accounts taken together can only be covered by the reserve account.

2. Mode 1 of the proof

If we linearize the two relevant circular flows, we see at a glance all the difference that paying the interest makes on the balanced trade account.

flows as they stand before the interest payments

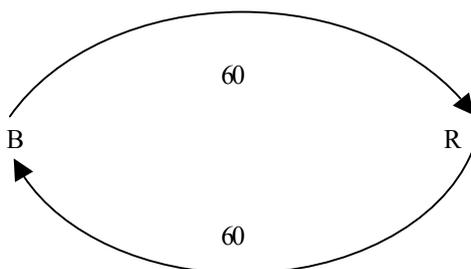


Fig. 16

Both Brazil and the rest of the world spend 60 on their imports.

Even in the absence of any prior analysis, the “observer” immediately grasps two obvious facts: To the value of the interests actually served (15):

- B pays for R’s imports;
- tautologically, R imports goods and services with a total worth of 60 but spends only 45 for these purchases.

R’s imports and their payment by R



Fig. 17

Let us now apply a tautology to B. For its exports equal to 60 Brazil gets 45 from the rest of the world; no wonder since the part of R's imports whose payment falls on B, 15 out of 60, yields a "zero-gain" for Brazil.

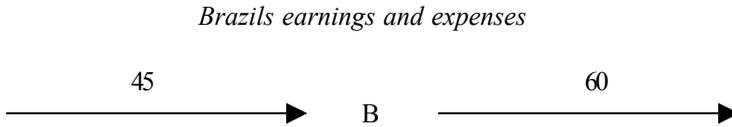


Fig. 18

The reader may now turn his attention to the *real* interest payments. Brazil's exports include a measure of exports that are *unrequited* (WB). The latter proposition is a third tautology; B could not conceivably assume the payment of a positive fraction (15 out of 60) of R's imports if Brazil were credited up to the *full value* of its exports.

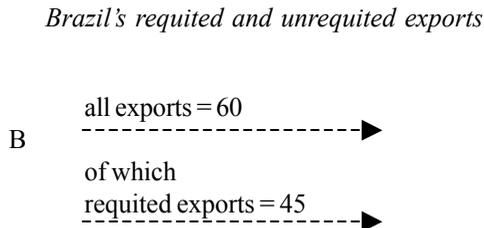
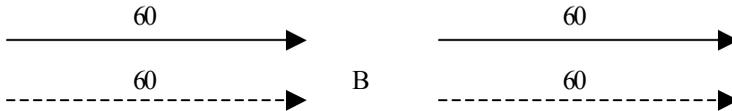


Fig. 19

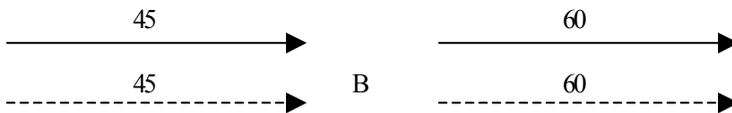
If we now piece together all of these items of information we come up with an exceedingly interesting truth, however implausible it may still sound: the two flows involved in the payment of interest between nations, monetary and real, are a double whammy to the detriment of the debtor country as it is obliged by the highest binding force, namely formal logic, to pay the interest on its foreign debt both in units of foreign exchange and by surrendering goods and services taken out of its domestic output.

The total difference wrought by the interest payments

1: trade balance “without” interest



2: trade balance “with” interest



the double whammy once again

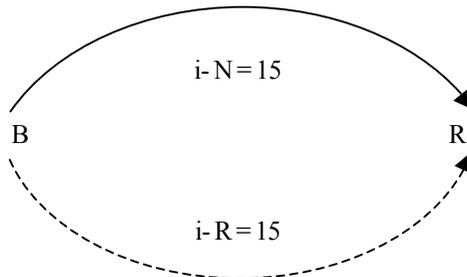


Fig. 20

Admittedly, one of these so-called whammies is a misnomer for it cannot rank as a woe at all; nothing whatever is awry when Brazil is requested to honour its rightful debts, including the interest on its external liabilities. It is absolutely “normal” therefore that Brazil should transfer, in each period, a fresh interest-annuity. The whammy that fully deserves its name is the *redoubled weight* of interest, the debtor country being obliged (due to a pathology) to pay up beyond its legal or contractual obligations.

- If interest is conveyed at 100% of its value in units of money (foreign

- exchange), no extra cost should supervene with respect to interest.
- If interest is transmitted at 100% of its value in the form of exported goods and services, the slate should be clean.
 - Since, in the real and observable world as it exists to-day, the payment of interest between the debtor countries and the creditor countries is a *double transfer*, in dollars AND in exports, at the rate of 100% in both respects, the total cost is raised to the level of 200% of the value of interest; the burden is thus *multiplied by 2*, from $i = 15$ to $i = 30$.

In period p the domestic output of Brazil's economy is equivalent (in reais) to \$600.

- The current *real* payment of the interest falling due in p (dotted line) reduces the domestic product available in Brazil from 600 to 585.
- In p the current *monetary* payment of the *same interest* (plain line) is an *unrequited outflow* of foreign exchange.
- In short, *two distinct and separate flows remain unrequited*, namely (i) the transfer of a product, $pr_i = 15$, in exchange for which Brazil acquires no assets whatsoever, commercial or financial, and (ii) the transfer of a sum of foreign exchange, 15 billion dollars.
- One of these transfers is fully justified; in this respect logic permits reasoning along the line of "either or"; no malfunction would occur if Brazil transferred *either* $pr_i = 15$ *or* \$15; after all, interest is a due. The determining moment when payments become dysfunctional is the *addition* of the monetary transfer to the real transfer; the total transfer then rises to 30 with the consequence that the interest multiplier is equal to 2.

3. Injection of the central feature of mode 2 into mode 1 of the proof

Consider again the simple graph symbolizing the logical (and therefore inevitable) pairing of the two payments of i , nominal (in foreign exchange) and real.

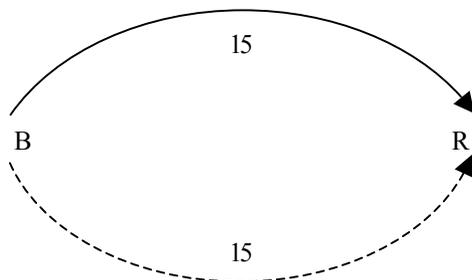


Fig. 21

To grasp this necessary duality, it is crucial to resist a seemingly strong, even determining, argument that turns out to be an arrant error of the worst possible type, namely an inconsistency in logic.

Prima facie, one of the paired flows is redundant

Payments are *either* nominal *or* real ; they cannot possibly be *the one and the other at the same time* (in the same period). If this tenet is valid, a single flow – not a pair or tandem of flows – exhausts the payment of interests.

Mode 2 of the proof is a clear and definitive contradiction to current “scientific” belief : In the case of the interest served from one nation to another, the monetary and the real payments are two distinct and separate flows that logic compels us to grasp in an addition instead of an alternation.

The proof to this effect is simple and convincing ; let us state it again ; true, i-N flows back to the debtor country when converted into i-R ; but the main thrust of the correct argument points to the fact that the conversion by the creditor country (R) of the interest received from abroad into foreign goods and services is nothing if not an equivalent measure of R’s imports ; a fundamental asymmetry then takes hold ; the outflow of i-N is a *supplementary expenditure* of the debtor country whereas the outflow of i-N is literally *costless* for the creditor country.

In our numerical example, in their mutual exchanges Brazil and the rest of the world balance their trade, the value of imports being 60 on either side. On this factual foundation Brazil pays 15 over and above the interest paid by R. This dissymmetry appears to be trivial. It is so at this first stage of analysis. But it is soon to be replaced by an asymmetry that is truly nefarious. Although we take into account the final expenditure by R of its interest-revenue or interest-income, initially received from abroad, Brazil spends a total of 75 billion dollars

– imports (60) + interest (15) - while R's expenditures remain equal to 60 – the sum of R's import payments (60) *plus* the conversion of i-N into i-R (15) being equal to 60 and not to 75. It is thus absolutely clear that R only spends 60 out of its receipts of 75 from abroad; the difference (15) is a net monetary gain, *a gain remaining within R in the form of a monetary income* even after interest is finally settled in goods and services; R is blessed with two distinct and separate interest payments on the part of Brazil, in dollars and, *furthermore, on top of this already full compensation*, in imported goods and services. As an end result, it bears repeating that the interests paid from nation to nation are handed over *both in money and in kind*.

The double lesson taught by the two modes of proof

The interest payments open up two gaps within the circular flows of the balanced trade between Brazil and the rest of the world. These gaps may be considered in turn.

1. The real gap

Included in Brazil's total exports for period p (60) there is a measure equal to 15 of *unrequited* exports, ex_1 .

It would be misguided to cry foul at this stage; no benefit accrues without a price; R cancels its claim and B transfers pr_1 , a perfect quid pro quo.

The fact remains, all the same, that ex_1 is now missing from Brazil's exports. The consequence thereof is that the "importing power" of Brazil is reduced from 60 to 45. Initially the potential purchasing power or "importing power" of Brazil's exports is equal to 60. But then exports $ex_1 = 15$ are diverted to another end; OED: they "provide a fund for the regular payment of the interest" on external debt (in the present context). The value of the remaining exports is no more than 45.

A further question now arises: Are the missing exports (ex_1) merely a shortfall or genuinely a *gap* ?

If it were formally permissible to be content with imports reduced to 45 on the part of Brazil, the reduced "importing power" of its remaining exports would not qualify as a gap. Nothing would be left "gaping" or open.

But we should never lose sight of the initial and final state of Brazil's trade account; it is balanced in the first place and it is balanced in the end; thus the whole problem is to discover exactly how logic allows the interest payments to be integrated into the balanced trade account.

The correct concept is now rigorously rendered by the word "gap".

When its trade is at an equilibrium, the purchasing power, *assessed in imports*, of Brazil's exports is by definition equal to the exact value of its imports.

Now we are in a position to identify the true problem posed by the real interest payments. Two conflicting constraints are, as it were, on a collision course. On the one side we cannot allow the sum of Brazil's exports to shed a positive fraction of their total purchasing power over imported goods and services; on the other side "the regular payment of the interest" deflects equivalent exports (ex_i) from financing imports.

We already know how this conundrum meets its end: the net resources issuing from foreign lenders (net "loan disbursements") replace the "importing power" spent on the real payment of the interest.

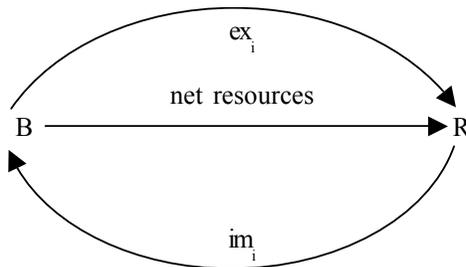


Fig. 22

Within the balanced trade account, the imports im_i correspond to the exports ex_i ; at the moment when ex_i funds the interest, im_i is left unattended; the purchasing power of the net resources derived from LD_i then replaces the purchasing power of ex_i absorbed by the interest. In the end, ex_i is restored in its purchasing power over im_i and the equilibrium of exports and imports is fully heeded.

As a conclusion, the real gap created in the circular flow of exports and imports is covered by the "net resources" as defined by the World Bank: "Loan disbursements *minus* Principal repayments *equals* Net resource flows on debt."

1. *The root-cause of the real gap*

The real payment of interest is the outflow of goods and services relinquished by the debtor country.

Suppose the *primum mobile* in this context were to be found in the new loan disbursements. There is no need in that case for Brazil to remove a measure of its own domestic product since the interest payment is then financed by the net financial resources obtained from foreign lenders. If the value of Brazil's current output (in p) is 600, the corresponding purchasing power (in reais) is equivalent to 600. Equal to 15, the fresh net financial resources, lent to Brazil from abroad, raise to 615 the value of the total purchasing power available in its economy. The payment of the interest (15) then reduces the latter figure to 600, its initial value. Imports (60) replace exports (60) in a "continuous" circular flow of goods and services where no gap appears.

The World Bank explicitly rejects – and rightly so – the above hypothesis. In fact, the interest payments are not directly financed by any funds transferred from abroad (by loan disbursements). The determining reason why the interest paid by Brazil cannot be financed by R is simply that the interest is invariably debited in the *current account*.

In its chart page xxii (*Global Development Finance*) The WB distinguishes three accounts, namely the current account, the capital account and the reserve account; all economists know that the interests served between nations flow into and out of the current account; the WB agrees, of course.

Now, the fact that (like any other country) Brazil pays the interest it owes *out of its current account* entails a logical consequence of the first order: *commercial exports – not the new loan disbursements* - do the job. Exports ex_i are *unrequited* for the compelling reason that they finance the interest instead of equivalent imports.

We now fully understand the reason why the circular flow of imports and exports is "interrupted" or "ruptured". The incidence of a positive measure of unrequited exports, $ex_i = i = 15$, prevents imports from being equal to exports. Only "*requited*" exports (45) are replaced by imports (thus reduced to 45). Thus, the formation of a *gap* between exports (60) and imports (45) is inevitable.

The real payment of interest, *out of the current account*, reduces the volume of imports by an equivalent amount. We can, therefore, safely conclude that the circular flow of exports and imports is indeed "ruptured", the gap between exports (60) and imports (45) being equivalent to the interest payments (15).

But how can an analysis founded on the circular flow of exports and

imports, as defined by the balanced trade account, also explain the deficiency of imports relative to exports? A positive gap in a circular flow is a contradiction in terms; if the second leg of a circle shrinks relative to its first leg, how could we claim that the circle is still there? Is it not necessary to reject the very idea of the formation of a positive gap for analysis to retain its consistency?

Certainly not. The received orthodoxy acknowledges the fact that the real payment of interests is debited in the current account; there is no need to challenge this common wisdom; on the contrary it would be seriously erroneous to claim that interests are a direct burden on the capital account. The real interests are a fraction of the national output. Foreign capital “at work” in the economy of Brazil increases its domestic product; in period p the value of Brazil’s production, 600, includes the return or yield of the “principal” of the country’s external debt. The real payment of interest, 15, to the foreign creditors thus diminishes the volume of the domestic output that remains available in Brazil from 600 to 585 in value. Even if a part of the financial means contributed by the rest of the world had been squandered, Brazil would still be owing an interest of 15 since “loan investments”, in contradistinction to “direct investments”, place the responsibility on the shoulders of the receiving country.

In short, the real interest payments unavoidably cut into the domestic product of the debtor country.

However, the circular flow of exports and imports would remain unaffected, intact, if it were not for the fact that the real interests are conveyed by exports, by the *unrequited* exports, ex_p , to be precise.

The aforementioned contradiction thus remains in place: Exports and imports flow in a circle comprised of two *unequal* semi-circles!

A solution does exist, respectful of both contradictory terms; there is no breach in the circular flow of exports and imports; nevertheless, the real payment of interests is conveyed by *unrequited* exports. That sounds like squaring the circle; in fact, it is simple logic.

The determining factor working towards the implausible conciliation lies in the distinction between a flow and a “counter-flow”; when added to one another these flows reduce to zero the real payment of interests. At this point we are tempted to jump to an incorrect conclusion; if *unrequited* exports are wiped out, is it not safe to say that the real interest payments are finally voided? By no means. The correct inference is a shade more subtle: Unrequited exports are positive (their value is 15 in our example) but they are *replaced* by an equivalent flow, *viz.* the *positive variation in the total stock of external liabilities borne by the debtor country*.

No doubt the World Bank endorses the following proposition: Starting from the balanced trade account, the real interest payments increase the total

debt stocks. Now, there cannot be a single logician who would not readily subscribe to the idea that one and the same payment of 15 in interest cannot conceivably augment the total debt stocks while at the same time diminishing by 15 the sum of “required” exports. In other words, given that the total debt stocks are inevitably increased by the value of the real interest payments (15), no difference can arise, in the final count, between the sum of all exports (60) and the sum of “*required*” exports (60).

Nor is in any way difficult to explain how the value allotted to unrequited exports (15) is eventually withdrawn, reduced to zero.

The charts set up by the World Bank, pages xxii and xiii of the *Global Development finance*, adumbrate the solution. (We continue to apply our numerical example.)

Brazil’s trade account registers equal exports and imports (60 on each side). Suppose that B’s current account coincides with its trade account except for interest payments (15). In the current account of Brazil, $ex_i = 15$ are the unrequited exports. It is understood that exports ex_i convey the goods and services $pr_i = 15$ produced in the domestic economy of Brazil. The rest of the world supplies nothing in exchange for pr_i , the obvious reason being that pr_i is not *exchanged* but *transferred*.

The domestic product still available within Brazil’s economy is now reduced to a measure of 585 out of 600. The missing product is none other than $pr_i = 15$.

If no further flows were involved in the whole process, the cost of the interest would be “*simple*” rather than *double*; the interest multiplier would be equal to 1.

The method advocated by the World Bank points to another conclusion. Under the Bank’s recommendation, it is important to pay attention to the “loan disbursements” occurring in the same period, p , when the interest payments take place. If, in p , the rest of the world grants a new loan of \$35 billion to Brazil, the Bank first deducts the “principal repayments” (say 20); the net (financial) resources remain (15).

The “net resources” as they are defined by the Bank are a purchasing power over goods and services produced abroad.

The relevant financial transaction is the exchange between commodities which Brazil will produce in a *future* period (when the new loans fall due) for equivalent commodities produced in period p by the rest of the world.

In this manner, by adding the *purchasing power* of the new net disbursements to its domestic output, Brazil increases its disposable real income, from 600 to 615.

We can see now that the total product (domestic or foreign) available in

Brazil's economy is subjected to two opposite variations:

- the transfer of $pr_i = 15$ via equivalent unrequited exports, ex_p , reduces the domestic product from 600 to 585 ;
- the *purchasing power* of the net financial resources derived from the new loan disbursements adds a measure of *R's current output*, equal to 15, now in the possession of Brazil - in exchange for equivalent *future* products of the Brazilian economy - to the commodities, in goods and services, available in B.

Put together these two effects ($- 15 + 15$) define a *zero-sum set of variations*.

The transfer of pr_i from B to R meets its countervailing force, that is the net transfer of financial resources from R to B.

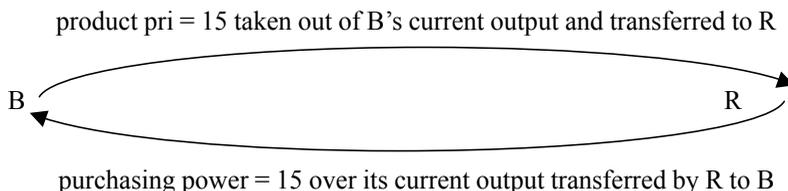


Fig. 23

The awaited reconciliation between the terms of the alleged contradiction can now be offered. The expenditure by Brazil of the net purchasing power over R's current output provided by R's new loan disbursements – a real income equal to 35 in total and to 15 once the principal repayments are subtracted – *thwarts the transfer of $pr_i = 15$* . The net resources are handed over as a substitute for pr_i .

Up to this point in analysis, the method expounded by the World Bank is strictly adhered to. “Net resource flows on debt” are set against “interest payments”, the “net transfers on debt” being the difference between these opposite flows.

Obviously, when the real interest payments are equivalent to the net resource flows on debt, the two opposite flows cancel out; then *the circular flow of exports and imports is unaffected by the real interest payments..*

3. *The monetary gap*

In our numerical example, Brazil spends \$75 (imports (60) + interest (15)) while its dollar-receipts are equally 75: commercial exports yield 60 and financial exports (IOUs issued as a counterpoise to the new net “loan disbursements” granted by R) bring in 15.

The equality between the dollar-inflows (75) and the dollar-outflows (75) seems to preclude the formation of any gap in the circular flow of foreign exchange. But logic judges otherwise. At this precise point analysis parts company with the method used by the World Bank and ventures into an uncharted territory.

This is not to say that the argument is now bound to become more difficult and less certain. In fact, the easier part comes now; it has been universally overlooked precisely because it is exceedingly simple and even self-evident.

The method laid out by the World Bank is valid over the whole spectrum of the possible states of trade accounts, irrespective of whether they are positive, negative or at an equilibrium. The case considered in this paper is the equality of exports and imports in any given period, p . This assumption is consonant with Brazil’s factual “experience” for the whole duration of 28 years, period P from 1975 to 2.002. Under these circumstances, the trade balance is immediately encapsulated by the circular flow of the payments (in dollars) of exports and imports.

Then the interest payments butt in.

The received doctrine (shared by the entire community of economists, not only by the World Bank and the IMF) pays scant attention to the intrusion of the interest payments. Surely, these flows are hardly earth-shattering.

Indeed, the graph below is highly credible although it deals with the interest payments in a most trivial manner.

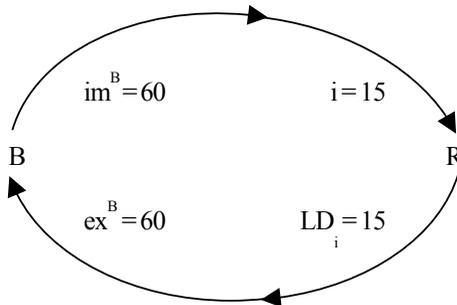


Fig. 24

In short, imports are covered by exports whereas the interest payments are financed by a sum of newly borrowed foreign exchange (loan disbursements). That is the end of the matter; nothing of any substance needs to be added and nobody should give the issue another thought.

But logic must prevail. We all know that the interest is debited in the current account. It immediately follows that no loan disbursements whatever can possibly finance the interest payments. Fig. 24 is therefore fundamentally flawed.

As soon as the error is uprooted, it is no longer certain that the interest payments (equal to 15) raise *each leg* (semi-circle) of the monetary circular flow from 60 to 75. The question is still undecided and looming.

Consistency is the mother of all sciences. In period p the trade account is exactly balanced, 60 in exports, 60 in imports. Since the interest payments flow out of the current account, more precisely still they flow out of the trade account; that would be the case even if the trade account produced a surplus; the fact that the trade account is at an equilibrium adds a further constraint; export dollar-receipts which settle the debt in interest deprive equivalent imports of their normal funding. If the dollar-receipts derived from ex_i are spent to cancel the interest-debt, the corresponding imports, imi^B , put the debtor country in the red.

By virtue of its very definition, the *real* payment of interest consist of a quantity of goods and services produced by the domestic economy of Brazil and ceded without charge, for free, to the rest of the world.

The relevant goods and services are conveyed by an equivalent sum of unrequited exports (ex_i).

Since exports ex_i fail to be replaced by any imports, the domestic product of Brazil is downsized from 600 (its initial value) to 585.

At this point in analysis it is already certain that the interest multiplier is equal to 2.

- Brazil receives from abroad a sum of fresh financial resources; the corresponding loan disbursements (LD_i) granted by the rest of the world *augment* its claims on Brazil.
- Brazil's domestic product *shrinks* by the value of its unrequited exports.
- If only one of these effects were in existence, the interest multiplier would be equal to 1.
- In reality, these effects exist simultaneously; *both* of them doubtlessly exist; the fact that they coexist raises the interest multiplier from 1 to 2.
- As a first consequence of the interest payments equal to 15, Brazil suffers the loss of a sum equal to 15 of goods and services taken out

of its domestic product, thereby reduced from 600 to 585; as a further consequence of the interest payments equal to 15, Brazil incurs an additional financial debt equal to 15 vis-à-vis the rest of the world; if Brazil's total debt stocks stood at 200 their measure is now 215.

We are fast approaching the correct interpretation of magnitude im_1^B .

The equality between imports and *requited* exports should never be allowed to drop out of sight. Now, it is tautological to assert that since trade is exactly balanced, the domestic product given up by Brazil, pr_i , is promptly recovered by Brazil; the *buyback of pr_i* is therefore prescribed by elementary logic; the transfer of pr_i does not stand well with the balanced trade; in fact, the one flatly contradicts the other.

The only way in which we may hope to get at the truth is by making room for the flow whose specificity is to neutralize the transfer of pr_i .

In this respect, two errors are equally damaging; if, right from the start, we chose simply to negate pr_i , the argument would run counter to the very definition of the real interest payments; on the other hand, if we decided to rest the case and allowed the transfer of pr_i to stand, our stance would be daring in the extreme: It is really "cool" to claim that for the same period (p) Brazil's trade account is balanced and unbalanced all at once.

We steer clear of both errors simultaneously by predicating the coexistence of two opposite but equal flows:

- the real payment of interest is the transfer of an equivalent amount of goods and services produced in the domestic economy of the debtor country; the existence of the transfer of pr_i by the unrequited exports ex_i is thus vindicated;
- the transfer of pr_i is met without delay by an equal "counter-flow"; nor is this "negative" flow an unknown; it is none other than the expenditure of the financial "net resources" (WB) reaped from the current net "loan disbursements" (WB).

Imagine a nearly closed cylinder containing \$15 and fitted with an aperture at one of its ends; suppose that the monetary content of the cylinder is susceptible to a physical force applied from the outside; the payment of interests equal to 15 is a flow pushing the dollar-content of the cylinder through its aperture; but at the same time the expenditure of the net financial resources is an equal flow exerted in the opposite direction; taken together, the flow (+ 15) and the counter-flow (- 15) form a zero-sum impulse: The \$15 contained in the cylinder simply remain still, undisturbed; not a penny is forced through the aperture.

The transfer of pr_i is recalled at a cost; it is thwarted by the sacrifice of the net resources.

The *bona fide* reader is by now fully knowledgeable of the double weight of interest exerted on the debtor country. But some doubts concerning a further question may well have been lingering in his mind: What is the exact form taken by the extra cost? It is immediately clear that the real payment of the interest is defined by a quantity of goods and services scooped out of the debtor country; Brazil's domestic output is correspondingly reduced. But World Bank Statistics show that the paying of interest out the balanced trade account is the most frequent occurrence in the real world. This is particularly striking in the case of Brazil. Now, when imports equal exports, it is simply impossible to see how the domestic product could be curtailed as a result of international transactions, including the interest payments.

In a situation where the balance of trade is at an equilibrium, the interest payments induce an equal measure of "excess expenditures". In period p , for instance, in units of foreign exchange Brazil spends 60 for its imports and 15 in interest; at first the dollar-receipts of Brazil are no more than 60 (the value of its exports). Financial exports (the transnational sale of IOUs) supplement the inflow of dollars; the exported financial claims are exchanged against the net dollar-resources. The deficit incurred in Brazil's current account is now covered. Brazil spends 60 (imports) + 15 (interest) and its receipts are 60 (commercial exports) + 15 (financial exports).

Analysis would thus be complete if it were not for the fact that the impact of the *real* interest payments is still left in the dark.

Nolens volens the meaning of the real interest payments is unambiguous for it admits of no equivocation; may the reader accept yet another reiteration of the too familiar refrain: A measure equivalent to i of domestically produced goods and services is handed over, for free, to the debtor country. True, as we have advised already several times before, the transaction is still an exchange of sorts; the asset accruing to the debtor country is a "quittance". The central fact remains all the same. In the debtor country the available domestic product is eroded in proportion to the real interest payments. A fraction equal to 15 of Brazil's current output (in p) is transferred to the ownership of the creditor country; as a consequence, Brazil is left with the possession of its own domestic product only in the proportion of 585 to 600.

The crux can now be stated again: In the final analysis the amount by which Brazil is deprived of its own product cannot be positive. Why not? It is simply because, when imports are at a level with exports (balanced trade account), the exported goods and services are fully replaced, at a 100%, by the imported goods and services.

It may be worthwhile to stress, indefatigably, the fact that the question would lose all of its complexity (and scientific curiosity) if the interest payments

were debited in the capital account.

The payment of the interest by the current account truly makes a world of difference.

Compare the next graphs to one another.

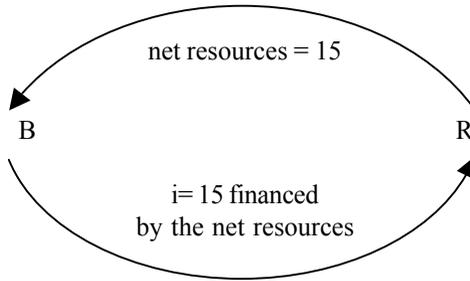


Fig. 25

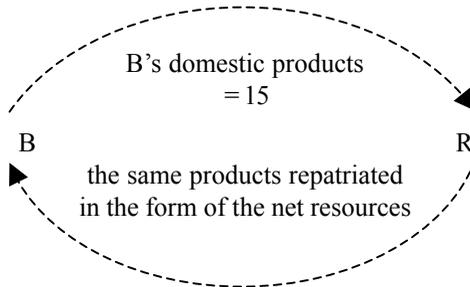


Fig. 26

The flows of Fig. 25 are purely imaginary and, worse still, they are contrary to logic, in particular to the logic of accounting. In reality, the interest paid out to the creditor country, Y, is by no means financed by Y itself. Real interest is a fraction of the output produced in the country, X, where the corresponding capital (or "principal") is invested. In one word, real interest is served out of *the domestic product of the debtor country*. Fig. 26 is therefore both factually and formally correct. Accordingly, Brazil bestows – in units of purchasing

power - a measure of its *own* products on the foreign creditors (CI). In the form of the net resources disbursed by R, the equivalent of the purchasing power spent by Brazil is “repatriated”. “At the end of the day”, Brazil exports financial obligations (IOUs) and keeps “at home” its entire domestic product, 600 out of 600.

We are now fairly well equipped, sufficiently at least to tackle the deepest problem in the present context. Logic being the only umpire in the field, is it true or false to assert that the sum of dollar-expenditures is greater than the sum of dollar-inflows *even when the new loan disbursements are considered*? It all depends on whether the sum

conversion of $i-N$ into $i-R$ ($i-N/i-R$) + im^R is equal to 75 or to 60.

On this question it may be wise to proceed step by step on the basis of the previous analysis.

- (i) Brazil pays out the interest, a dollar-expenditure added on to the payment of B’s imports.

$$im^B(60) + i-N(15) = 75$$

- (ii) The rest of the world converts $i-N$ into real imports.

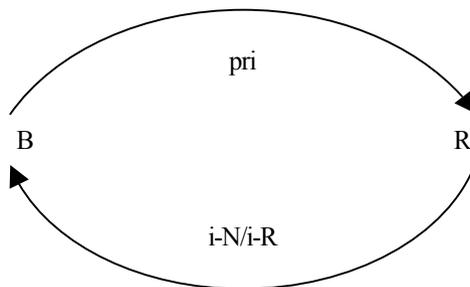


Fig. 27

- (i) Through the expenditure of $i-N$ (15), R gets pri (= 15) for free; this is common knowledge since the *real* payment of interest ($i-R$) is an *unrequited* export; the domestic product given up in this way by Brazil is pri . By definition, R gives a zero-value of its own products in

“exchange” for pr_1 .

- (ii) The fact remains that the conversion of i -N into i -R is an expenditure carried out by R. We must now decide whether this expenditure is to be added to the payment of R’s imports. Is the sum

$$\text{expenditure of } i\text{-N (15) + } im^R \text{ (60)}$$

equal to 75 or to 60?

- (iii) The correct answer to the question in (iv) is **60**. Why not 75? Well, by the conversion of i -N into i -R, Brazil’s partner (or set of partners among the countries) pays for an equal value of its imports. When the transaction is considered in its entirety, it signifies the payment by Brazil (i -N) of equivalent imports (i -R) effected by R.
- (iv) We have just seen in section (v) that the expenditure of i -N (by R) is a “telescopic” part of R’s import payments; expenditure i -N/ i -R “collapses” into the sum of R’s import payments. In short, R expends a total sum of $60 + 15$ where the 15 glide into the 60.
- (v) On the information gathered so far, Brazil spends \$75 whereas its dollar-receipts are a mere 60.
- (vi) A complication then arises by way of the inflow of the financial “net resources” into Brazil’s economy.

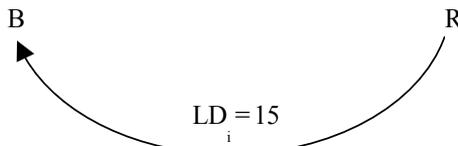


Fig. 28

- (i) The question arising next puts the analysis in harm’s way. The hazard is immediately apparent. If we add LD_i to the sum of dollars flowing in on behalf of Brazil’s exports, we end up with the equality between the sum of dollar-inflows (75) and the sum of dollar-outflows (75).
- (ii) A very simple argument keeps us on the right track. Not a single economist would claim that in the given circumstances the net financial resources derived from the new loan disbursements remain available in Brazil’s economy, in its private or official reserves. That

is out of the question, inconceivable. If its commercial exports (60) were not supplemented by financial exports (transnational sales of IOUs), Brazil's domestic economy would be unable to exhaust the cost of its imports (60) *plus interest* (15). It follows, then, that the net financial resources are in no way a "luxury"; the \$15 provided by the net loan disbursements are not a sum of foreign exchange that the national economy of Brazil could do without; to the contrary, they are indispensable. Again, no economist would even dream of disputing this obvious fact. When the interest payments are taken out of the balanced trade account, an equal deficit is generated in the current account, a deficit that can only be met by the expenditure of equivalent financial resources. As a direct consequence, the inflow of the net resources is balanced by their outflow. The sum of *all* dollar-outflows from Brazil's economy is given below.

$$\text{im}^B (60) + i-N (15) + \text{expenditure of the net financial resources} (15) = 90$$

Correlatively, the sum of *all* dollar-inflows into the economy of Brazil is the following one.

$$\text{commercial exports} (60) + \text{net financial exports} (15) = 75$$

The gap already detected in sections (iv) and (v), a deficit of 15, is fully confirmed in its existence; adding the inflow of the net resources makes no "absolute" difference since the expenditure of those resources must then also be taken into account.

- (iii) There is no need to pursue the issue any further considering that we have just reached the core of the argument. The expenditure of the net *financial* resources derived from loan disbursements $LD_i = 15$, induces an equal increase in the "total debt stocks" (WB) weighing on the debtor country. Not is this all. Even though the debtor country (Brazil) supplements its dollar receipts by the accruing net financial resources (+ 15), its national economy is thrown into a global deficit (see section x) defined by the sum of dollars served in interest (15). In a word, the nominal or monetary payment of the interest ($i-N = 15$) constitutes an *excess expenditure* of Brazil's national economy, a deficit that remains absolutely intact even after the inflow of the financial net resources (+ 15) has been taken account of.

As a conclusion, a few diagrams can be unfolded, containing all the relevant pieces of information. Concerning its relation with the rest of the world, the national economy registers its transactions in two accounts, the current account and the capital account. On the advice of the World Bank, we set the reserve account apart. The reserve account (restricted to the *official* or *international* reserves) is kept by the *country as a whole* in contradistinction with its *domestic* economy.

The relevant country is Brazil.

A. In the current account expenditures are 60 in imports and 60 in exports

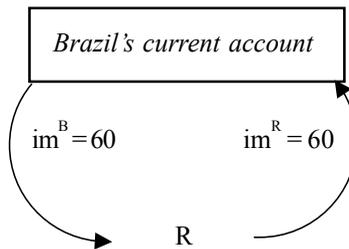


Fig.29

The current account is debited by the interest payment.

B. The interest payment in the current account

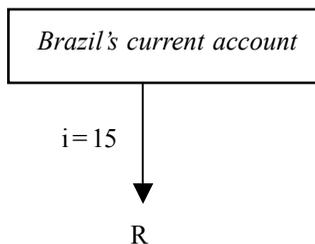


Fig. 30

A deficit is thus cast upon the current account.

It is a universally held belief that the capital account then comes to the rescue of the current account.

Apparently this conjecture is well-founded given that the capital account is credited by the sum of dollars flowing from the net loan disbursements, $LD_i = 15$.

C. The net credit of the capital account

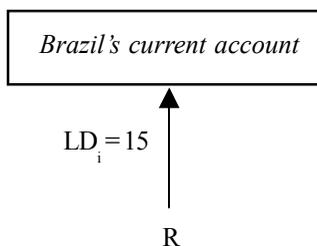


Fig. 31

Why should it in any respect be reprehensible to offset the net debit (-15) occurring in the current account by the net credit (+15) accruing to the capital account?

D. The suggested bringing together of the deficit in the current account with the surplus in the capital account

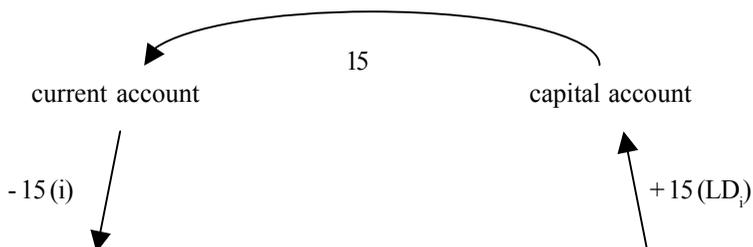


Fig. 32

The scientific community pays full allegiance to this way of thinking. The issue has never been openly discussed. But doctrines and opinions are all the more stubborn and entrenched for being implicit.

When *unrequited*, exports engender enormous confusion; the analysis developed in this short paper should help us get out of the quagmire.

Requited exports are exchanged for imports ; but *unrequited* exports have nothing to do with the general principle of “give and take”. The indebted country “gives” (spends) but “takes” nothing, for it receives nothing in exchange for its transfers of goods and services, conveyed by exports that are “decoupled” from the corresponding imports. Still, it would be a serious mistake to conclude that the creditor country gives nothing at all in exchange for the imports it gets “for free”. We have said it over and over again: Unrequited exports command an equivalent “counter-value”, namely the extinction of an equal debt in interest. So, what could possibly be wrong? No pathology is in sight; Brazil imports goods and services to a value of 60 in exchange for its equivalent exports; the country’s complementary exports finance the payment of interests; not a penny is lost along the way. Of course, a measure of imports is still missing. To balance its trade account, Brazil must raise equivalent funds from abroad. At this point the new loan disbursements come in just when needed; the commercial exports $ex_1 = 15$ are replaced by equivalent financial exports.

The domestic economy of Brazil

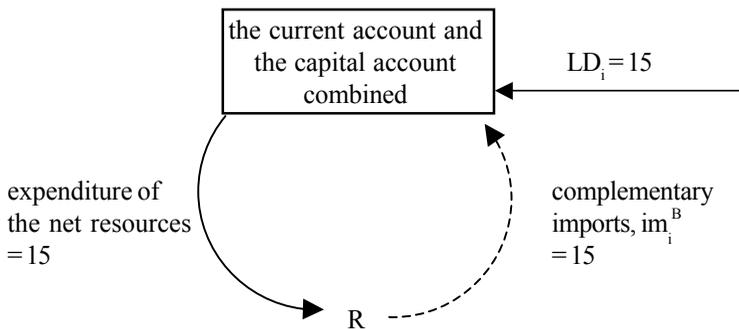


Fig. 33

We are nearly done ; but this is a chance, from here on and for the rest of the analysis, to review the central difficulty of the issue. If the reader is not yet (fully) convinced but accepts to weigh the merit or otherwise of these three remaining pages, he should be able to judge for himself if the interest multiplier is really equal to 2 or if the present paper is nothing but an unwelcome joke.

The primacy of place is held by the undisputed fact that the surplus accruing to the capital account is made over to the current account.

It does not follow from this statement, however, that the expenditures incurred by the current account are then fully financed.

The current account spends 60 on imports and 15 on interest; the sum of dollars flowing into the current account is comprised of two parts; the sum of \$60 is brought in by the exports and the sum of \$15 originated in the capital account.

The scientific community holds strongly to the view that nothing more is to be said on this matter.

We beg to differ and venture to offer a turnabout from the conventional view that no pathology whatever inheres in the interest payments.

We argue that the orthodox point of view errs by *omission*, not by *commission*.

We trust that there is nothing that cannot be comprehended by the attentive reader who, in but a few minutes of active thinking, will be able to make up his own mind, once and for all; is it justified or utterly unfounded, not to say laughable, to claim that in international relations the interest payments weigh double on the debtors countries?

Again, we are all agreed to begin with; in period *p* the new “loan disbursements” (WB) flowing into the capital account of Brazil (our chosen example) are absorbed by the current account which incurs a net deficit considering that the interest payments generate a negative gap between the inflow (exports = 60) and the outflow (imports = 60 *plus* interests = 15) of foreign exchange. Starting from the balanced trade account, when the interest payments are brought to bear, the current account is thrown into a deficit; the capital account is then called to step in.

The new analytical move brings us to the nub of the whole question.

A priori, the funds derived by the current account from the capital account are either:

- . both *necessary and sufficient* for restoring equilibrium;
- . or indeed necessary but *by no means sufficient* to this end.

If we are to draw the line sharply between orthodoxy and heterodoxy in this context, we may perhaps be forgiven to state that the impending conflict could not be put into a clearer light than by the following proposition:

Given that, taken together, the current account and the capital account register the outflow of 75 billion dollars, economists:

- belong to the school of received orthodoxy if they hold the express or implicit view that the reserve account remains inviolate as long as a sum of (at least) 75 billion dollars flows into the combined current and capital accounts;
- are dangerous “revolutionists” if they dare to advance the odd claim – surely to be haughtily dismissed – that the official or international foreign currency reserves of the debtor country (Brazil) are inevitably called upon to foot the interest bill, at a 100% of its value, in the face of the equality between the dollar-receipts (75) and the dollar-expenses (75) of the combined current and capital accounts.

The orthodox view

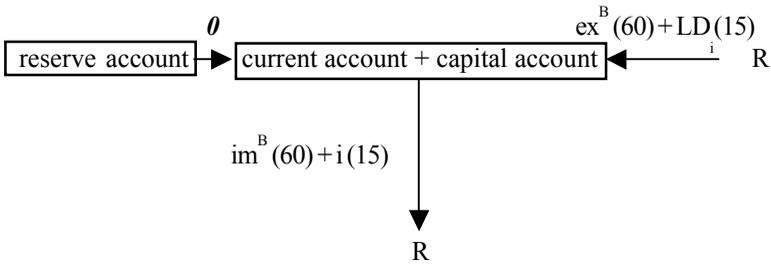


Fig. 34

The unorthodox view

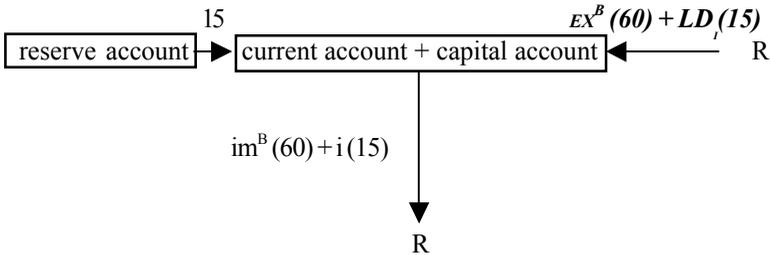


Fig. 35

Now that the core of the issue is reduced to the sharpness of a pinpoint, we are in a position to formulate the exact criterion on which to cripple one side or the other of the argument. If the correct figure expressing the involvement of the reserve account is θ , the alleged double cost of the interest is an unsavoury mirage; on the other hand, if the trove of the sum of foreign exchange units held by the Central Bank on behalf of the country as a whole is “bled” by 15 even as the interest is already paid for, at 100%, by the set of the current account and the capital account, the “*interest theorem*” is fully vindicated, for then the “interest multiplier” is equal to 2 to the detriment of the debtor country.

One of the stated opinions, either the orthodox or the unorthodox view, parts company with elementary logic. *Which one?*

It is ironic that the problem is easily solved to the satisfaction of the *undivided* scientific community. We shall promptly discover where the objective truth of the matter lies.

The impression caught at first sight is strongly inimical to our “dualistic” thesis; when the nominal interest (i-N) is converted into the final real interest (i-R), the sum of dollars spent is never recovered by the creditor country; it is lost for good; therefore it would seem that the correct inference is simply that the nominal interest is *replaced* by the real interest. We have carefully pondered this question and we came up with the opposite conclusion; in fact and in logic, the two interests, nominal and real, are not merely two distinct forms of one and the same magnitude; actually, they are two distinct and separate entities.

The monetary interest is a sum of dollars (or any other “hard currency”); on the other hand, the real interest is a quantity of goods and services that the creditor country imports for free.

The matter is settled once and for all once it is recognized that Brazil *never recovers* the sum of dollars served in interest. Suppose that we did not already know this for a fact. Starting from scratch, it is easy to reach the same truth again.

The “import flows” are symmetrical.

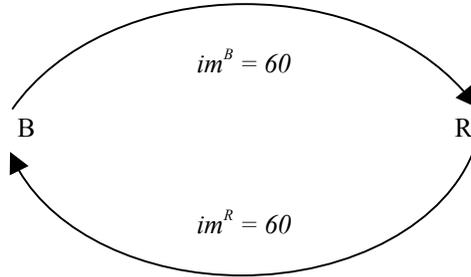


Fig. 36

Since we are on the lookout for the possible (disturbing) existence of an asymmetry, we can sideline the reciprocal import payments.

We are then landed with the interest payments alone. Even though, considering the *net* interest payments, the rest of the world serves no interest to Brazil, we can still observe the presence of two opposite and equal “interest flows”:

- Brazil serves $i-N = 15$ to R;
- R converts $i-N$ into $i-R = 15$.

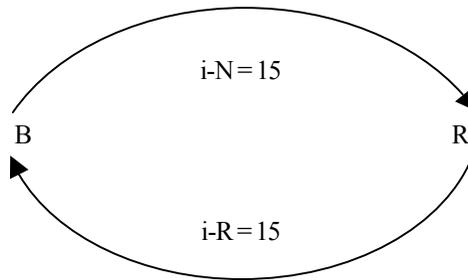


Fig. 37

We may then jump to the conclusion that the relevant payments again form a perfect symmetry.

If that were the case, the interest multiplier would be equal to 1.

But we would show poor judgement if we ruled that flows $i-N$ and $i-R$ are genuinely symmetrical terms.

Basic logic will not let us get away with it. A moment ago we decided to set aside the symmetry formed by the reciprocal payments for imports. If we

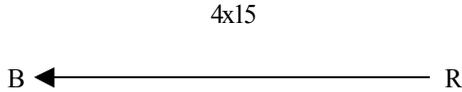


Fig. 39

For its part, Brazil also “sends” out the ship 4 times to collect its own imports.

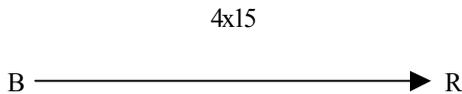


Fig. 40

In total:

- Brazil launches the ship *5 times, including the monetary interest payments*;
- whereas the rest of the world launches the ship *only 4 times including the expenditure of $i-N$* .

As a result, Brazil suffers the loss of the ship.

The general conclusion is that the payment of an interest to the value of 15 costs Brazil both an equivalent shipment and a ship worth 15 :

$$\mathbf{ship (15) + shipment (15) = 30.}$$

The simple chart which we have produced several times “says it all” ; it is the indissoluble association of the monetary interest payment with the corresponding real interest payment.

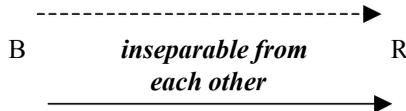


Fig. 41

The nominal flow involves money as a *vehicle*; the real flow applies to the *payload* of the vehicle. Absent the interest payments, it could never happen that a country should be forced to surrender the vehicle together with its payload; if the value of the commercial debt of a country is \$15, the shipment of equivalent goods and services fully settles the debt; it would be absurd to rule that the creditor country also holds claim to the ship itself.

The pathology attached to the interest payments affects the function of money as a *vehicle* used to convey real goods and services forwarded by exports and imports. As a rule, the creditor country returns the vehicle and retains only its payload. The interest payments are the only exception: the creditor country keeps both the payload **and the vehicle**.

The double payment of the interest is comprised in *equal parts* of a “normal” flow and of a “pathological” one.

In Fig. 43 we adopt the statistical figures published by the World Bank for Brazil over the period (P) of 28 years, from 1975 to 2.002.

The “normal” flow occurs when the interest debtors (ID) pay the interest creditors (IC). This flow is shown in yellow below. The “pathological” flow, depicted in red, is the alleged malfunction of money as a vehicle.

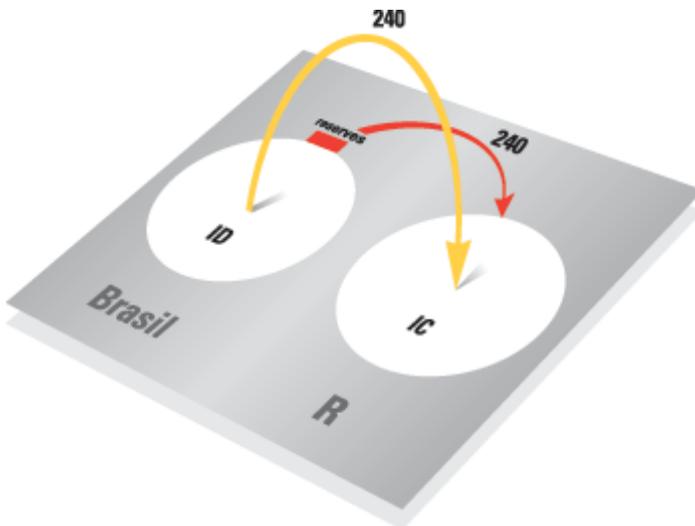


Fig. 42

To our knowledge, nobody ventures to make the absurd claim that the interest debtors (ID) spend 2 dollars for each dollar they owe; neither do the interest creditors (IC) get more than their due; in the entire world, all the interest payments between residents and non-residents of any given country are submitted to a multiplier equal to 1 – never ever – that would be unthinkable – to a multiplier equal to 2; nothing is different in this respect from the interest payments effected between residents of one and the same country.

No pathology whatever is attached to the yellow payment; the sum total of interests paid in this way reflects the contractual obligations and claims, as subscribed by the borrowers (in Brazil) and the lenders (in the rest of the world).

It is easy to see that the yellow flow coincides with the *real* interest payments; ID changes a sum of reais into the dollars then transferred to IC; the purchasing power spent by ID is equivalent to the *unrequited* exports of goods and services made in Brazil.

That would be the end of the story if the transnational interest payments did not distort the function of currency as a medium of exchange. Again, it is essential to note right at the outset that the malfunction imprinted on the currency units used in the transnational interest payments in no way affects either the debtor (ID) or the creditor (IC); as far as the residents of Brazil and of the rest of the world are concerned, money functions in a perfectly normal and faultless way.

The severe pathology that we have brought to light breaks out exclusively on the *macro-level*, between the debtor country taken *as a whole*, namely the set of its residents (including the residents of the public sector - even the federated States and the federal State are residents in this sense), and the *set of all agents* residing in the domestic economies of the rest of the world.

The sum of foreign currencies flowing out of Brazil for the interest payments are thrown into a state of dysfunction owing to the fact that they *usurp the status of real assets*; if order, justice and logic prevailed, no monetary unit could ever intrude into the category of real assets, comprised of goods and services, bonds and securities. In the present sorry state of affairs, each and every unit of (foreign) currency thrown into the transnational interest payments assumes two fundamentally distinct and separate predicates all at once: it “functions” as a medium of exchange and, simultaneously, it equally “malfunctions”, the exact pathology lying in the fact that when the interest payments are taken into account, the logical equality between the inflow and the outflow of foreign currency is adversely affected.

There should be no need to push the demonstration any further; it may suffice here to sum up the gist of the argument. The unit is \$1 billion. In a given

period p included in period P stretching from 1975 to 2002, the dollars flowing into the domestic economy of Brazil total 75 (60 for the commercial exports and 15 for the financial exports (new “loan disbursements”); in the same period Brazil’s economy spends 60 for its imports and serves 15 in interest. If nothing went awry in this context, the sum of the transnational transactions would be “reserve-neutral”. The official reserves of Brazil would remain untouched. In fact, however, in the given circumstances the *logical equality*, in dollars, between the sum of inflows and the sum of outflows with respect to the national economy of Brazil, is *upset*, the outflow outdoing the inflow by the whole value of the paid interests. As a consequence, the stated transactions are “*reserve-negative*” or “*reserve-consuming*” even though the whole scientific community of economists, seconded by the entire staff of the World Bank and the IMF combined (not to mention many other highly respected international institutions), could not be harbouring a stronger conviction to the effect that the interest multiplier is the number 1.

Even this late in analysis, the undecided reader may still choose to come on board.

Following a different method of analysis, we begin by debiting the interest on the reserve account.

To be more accurate, the interest is still debited on the current account; but the resulting deficit is made good by the reserve account.

In this new context the determining question is the following one: Is it *formally possible* for Brazil to pour the newly borrowed net resources into its official reserves? If so, then the reserves are finally replenished and the interest theorem is rebutted. But if it should prove *logically impossible* to inject the net financial resources into the reserves, then the interest theorem is corroborated.

The first move remains the payment of the interest by the current account. Since the dollar-receipts of the current account are restricted to the payments by R of Brazil’s *commercial exports* (60), the commercial *imports*, $im^B = 60$, fully absorb the “earnings” (in foreign exchange) of the current account. The deficit generated by the payment of an interest equal to 15 is compensated for by an equal withdrawal of reserves.

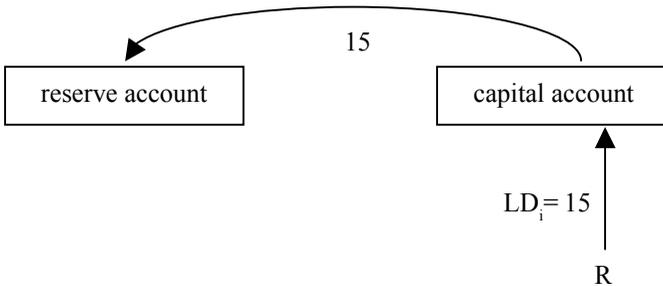
15

 $i = 15$

R

Fig. 43

Meanwhile, the capital account registers a surplus due to the net loan disbursements. The excess “dollar-receipts” (15) are no longer required for paying the interest, a debt already discharged by the reserve account. It would appear, therefore, the sum of \$15 (billion) can freely be deposited into the reserve account.

*Fig. 44*

If Fig. 44 is correct it then follows that the interest payments are reserve-neutral. In the final analysis, the official reserves are replenished; the only effect of the interest payments is the net increase in the total debt stocks (on the basis of the balanced trade account).

But Fig. 44 is seriously flawed.

It is illogical to claim that under the given circumstances the net resources remain available; in fact, they are absorbed by the current account.

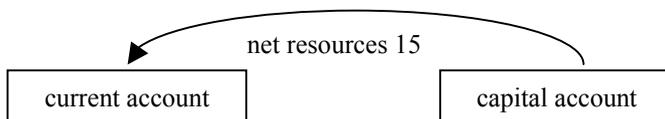


Fig. 45

The current account is credited by both the reserve account and the capital account, *twice* to the amount of \$15.

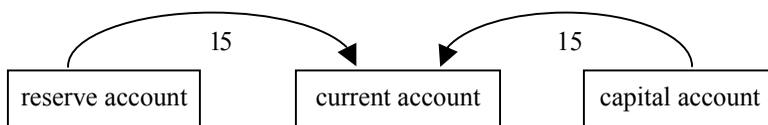


Fig. 46

Again the entire community of economists, speaking with one voice, would rule that the receipts of the current account thus exceed, by 15, its expenditures.

To all appearances, the sum of dollars spent by the current account (on top of imports) is 15, no more.

The economists are thus in denial of the crux of the whole matter. **Unrequited exports** are of the essence. To omit unrequited exports when the interest payments are the matter under investigation can be likened to examining the kernel of a seedless fruit.

If *all exports* were requited by (equal) imports, the payment of $i = 15$ would weigh once only on the current account.

Before concluding the argument, it may be appropriate to make sure that the economists do not reject the concept of unrequited exports. How could they? The World Bank expressly applies this concept. Anyway, unrequited exports are the very definition of the *real* interest payments.

In the end, though, unrequited exports must be changed into requited exports. For what reason? Simply because the trade account is exactly balanced.

But how is the morphing of the unrequited exports into *requited* exports achieved? This transformation is brought about by the *expenditure of the net resources*.

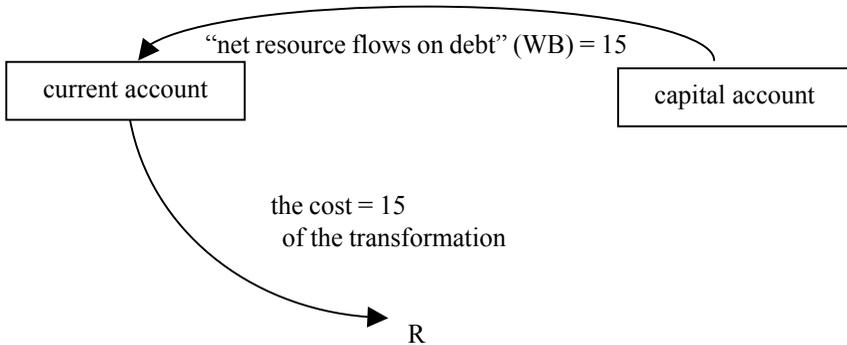


Fig. 47

The cost incurred for the transformation of the *unrequited* exports into “ordinary”, *requited* exports, holds no secret; it is simply what it costs Brazil to pay for imports $im^B = 15$ that are left unfunded in the current account due to the fact that the corresponding exports, ex^B , finance the interest in lieu of imports.

It is absolutely clear now that the net resource flow is a spent force. Not a single cent is left over that could be poured back into the pool of official reserves.

The debit suffered in the reserve account is beyond repair.

A slight modification seals the case and greatly reduces the credibility gap that may still remain in the reader’s mind. Suppose we still had some difficulty in comprehending the extra cost elicited by the interest payments so far as the transformation of unrequited into requited exports is concerned. In that case it may be preferable, methodologically, to push the said transformation aside and to remain oblivious to its very existence. If we thus choose to negate the supplementary cost involved in the now dubious claim that the *unrequited* exports must be done away with, a suppression that would come with an inevitable extra cost, we must then evidently accept that, to the extent of the *real* interest payments, exports fail to finance any imports at all, commercial or financial. In one word, *unrequited* exports are then there to stay. If, in these changed circumstances, the interest weighs once only – no longer twice – on the debtor country, the reader may be vindicated in his belief that the interest multiplier is equal to 1, a conclusion consonant with the general doctrine equally received by the University and by International Institutions like the World Bank and the IMF. But if the logical conclusion still points to the *double* weight of the interest, the most obdurate reader will be forced to rally around the new flag.

Now, nobody would need to spend much time on the search for the correct and totally unambiguous conclusion. Given that the unrequited exports are now supposed to stay that way, the domestic product of the debtor country is reduced, in real terms, by the real payments of the interest. In our example the national product of Brazil, remaining available in its economy, is reduced in this fashion from 600 to 585. In the same period (*P*) the “total debt stocks” (WB) of Brazil augment by 15. The blow to the doctrine of the “single” cost of the interest is there for all to see. *The interest still weighs double*; the decreased product (- 15) and the increased debt (+ 15) taken together bear witness to that, now indisputable, fact.

The only effect produced when unrequited exports are transformed into requited exports is to bring about the conciliation of the analysis with the *balanced* trade account; nothing is changed in regard to the *double* weight of the interest, which is confirmed in its existence no matter what.

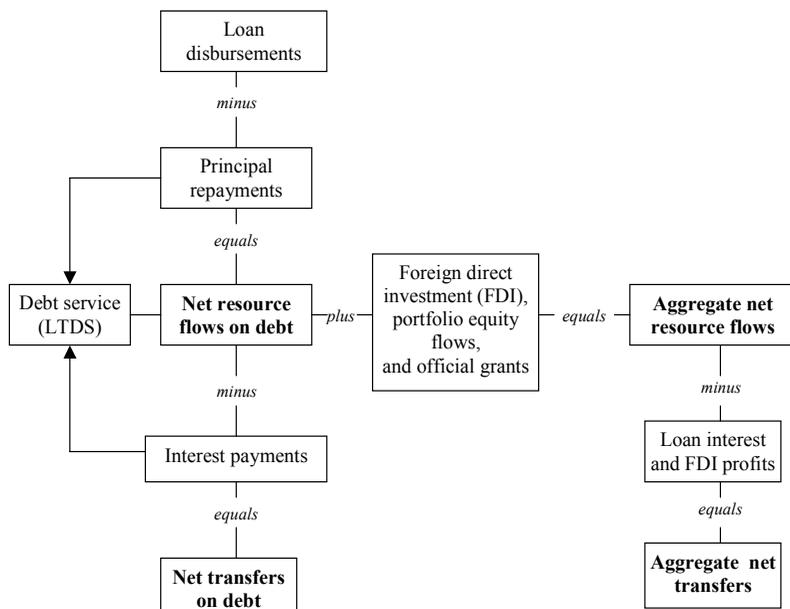
Since there is no point in trying to escape from a “certainty”, however implausible and unsavoury it may be, we had better face the fact that, on the basis of the balanced trade account, the interest payment of 15 increases the total debt stocks by 15 while at the same time depleting, also by 15, the official reserves.

But who exactly is the recipient of the lost reserves? who garners the dollars squeezed out of the reserve account?

Reserves are mostly held in the form of imported financial assets. But at first, at the precise moment when they are formed, reserves are simply deposits with foreign banks. In all countries, banks lend out “their” deposits. When the reserve account of Brazil withdraws deposits from foreign banks, the loans previously granted on the strength of these deposits are no longer “covered”. From here on, analysis is rather easy. Consider the initial formation of the official reserves. In the case of Brazil – our main concern in this paper – reserves stem from “foreign direct investment, portfolio equity flows, and official grants” (WB). Official reserves that Brazil loses to the redundant payment of the interest, *replace* the deposits that were owned, in their banks, by the investors, residents of R. A twofold observation can then be made:

- Savings are *destroyed* in Brazil (reserves *are* savings).
- Abroad, equivalent sums of *spent* incomes – the incomes formed in R that fund the “foreign direct investment” - *are saved (recovered in the relevant bank accounts)* by the rest of the world.

In period *P*, Brazil destroyed savings (reserves) to the value of 240 billion dollars, *quite unrequitedly*, thus providing the rest of the world with the illegitimate and outrageous gain of \$240 billion, in the form of incomes *spent* and *yet saved*.

Table 1**Aggregate net resource flows and net transfers (long-term) to developing countries**

Note: Includes only loans with an original maturity of more than one year (long-term loans). Excludes IMF transactions.

Source : Global Development Finance 2003, II : Summary and Country Tables, The World Bank, p. xxii.

Table 2

Aggregate net resource flows (long-term) and the balance of payments

	<i>Credits</i>	<i>Debits</i>
Current account	<ul style="list-style-type: none"> • Exports of goods and services • Income received • Current transfers Including workers' remittances and private grants 	<ul style="list-style-type: none"> • Imports of goods and services • Income paid • Current transfers
	<ul style="list-style-type: none"> • Official unrequited transfers (by foreign governments) 	<ul style="list-style-type: none"> • Official unrequited transfers (by national government)
Capital and financial account	<ul style="list-style-type: none"> • Official unrequited transfers (by foreign governments) • Foreign direct investment (by nonresidents) (disinvestment shown as negative) <ul style="list-style-type: none"> • Portfolio investment (by nonresidents) (amortizations shown as negative) • Other long-term capital inflows (by nonresidents) (amortizations shown as negative) • Short-term capital inflow 	<ul style="list-style-type: none"> • Official unrequited transfers (by nation government) • Foreign direct investment (by residents) (disinvestment shown as negative) <ul style="list-style-type: none"> • Portfolio investment (abroad by residents) (amortizations shown as negative) • Other long-term capital outflows (by residents) (amortizations shown as negative) • Short-term capital outflow
Reserve account	Net changes in reserves	



Aggregate net resources flows



Net resource flows on debt (long-term)