Dynamic and Incapsulating Processes in the Generation of the World Demand*

1. Introduction

Forces acting on the generation of world income from the demand side can be studied with reference to the determination of agents' stock and flow positions and to expenditure reactions to these positions. Agents' reactions interact continuously and result in the actual flow of funds.

The flow of funds in the international economy is central to the present article. By focusing on the flow patterns, I propose to identify some of the macroeconomic forces underlying the satisfaction of accounting identities and infer from them the sequence of adjustments which can explain both the cyclical behaviour and the slackening of the growth rate of world demand and production from the seventies on.[1]

In this paper, I argue that, since the seventies, the international economy has oscillated between two kinds of flow structures, one reflected in the upswing and the other in the downswing. In both cases, the international economy suffered, although in different ways, from the disappearance of some of the "safety valves" that had made it possible during the fifties and sixties for *ex ante* incongruities to be resolved without impeding the generation and transmission of output and income growth.

I shall be dealing with stylized facts, and hence bring out similarities in flow structures and in the corresponding adjustment

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[1] Those *ex post* identities in the pattern of flows are a synthesis (no matter how stable) of various factors, especially real and financial interactions, and intended or unintended adjustments, which result from changes in prices and/or in quantities, and the dominance of stock over flow reactions or *vice versa*.

problems recurring in the cycle. But similarities do not imply that either the processes or the initial conditions have been reproduced in complete successive cycles in a sufficiently identical form to justify the use of a single model of standardized reactions, constraints and the formation of expectations. The generation of income in a disequilibrium process has no deterministic outcomes; in that process we can only identify what kind of *ex ante* inconsistencies in operators' plans and actions play a major role, in which section of the economy the resolutions of incompatibilities are absorbed, and what range of possible reactions they elicit. From the first impact generated by the resolution of incongruities, it is analytically illegitimate — as Lindahl (1939) warns us — to infer a complete long-term dynamics,[2] and especially a dynamics determined by constant parameters and patterns of behaviour.

This analytical approach leads to a "stage by stage" procedure of analysing separately in various phases the specific source of disequilibrium and the ensuing processes.

The paper avoids the use of formal analysis[3], but the procedure does not prevent a presentation of a compact and homogeneous picture; within it, we can describe a sort of financial business cycle, and follow different evolving features of the international system, paying attention to a limited range of data.[4]

"The interest in the system (of flow of funds) is not in the qualitative description of disequilibria and their financing; it is rather in the presentation of the dynamic interrelationship between the changes in various items" (Duesenberry, 1962, p. 85).[5]

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[2] In a disequilibrium process, we do not know how unfulfilled expectations due to unintended results change operators' plans and reactions and what kind of further incompatibilities these engender in the picture. "Only if anticipations turn out to be correct and if the valuation-attitude is unaltered, will the original plan retain its relevance for the succeeding periods" (p. 44). "Strictly speaking, it is only in the initial period that these theoretical models [of income generation] are of particular interest, for it is difficult to imagine that a model remains unchanged for any period of time... We should come as close as possible to real conditions and gradually modify, as necessary, the assumptions and hence the models" (Lindhal, 1953, p. 27; my translation from the Italian). This position is common to the Stockholm School; see Myrdal (1939) and Lundberg (1936). On the sequential method of analysis of the Swedish School, see Hicks (1979), Termini (1981), Hansson (1982), and Cilio (1984).

[3] In the perspective adopted in this article a mathematical treatment would entail serious complexities and problems which would make the essay unreadable. A number of simplifications make the picture more workable but would distort the substance of the paper. In either case, insights would not be improved.

[4] The interpretation of the events can be effected without specific reference to reliable statistical values underpinning the aggregates selected. But here I am concerned with the direction in which the aggregates have changed over time, and, on some occasions, with whether their absolute values are positive or negative. This kind of information is fairly reliable.

[5] See also Bosworth and Duesenberry (1973).

Here, I will focus on the different causal sequences which permeate these "dynamic interrelationships" in the different phases, without necessarily following the complete course of the individual links. These links are characterized by the way in which autonomous and induced changes interact: they can therefore proceed in different causal sequences, set out, for convenience of reference, in Framework Table A. 1) Autonomous changes in the real variables can induce changes in the financial variables and be accommodated by the latter. 2) The process may go in the same direction, and may possibly not find accommodation in the financial variables, thus causing the real sector to diverge from *ex ante* values in a process of mutual feedback between financial and income-generating systems. 3) Causation may go the other way round, when the initial autonomous impulse comes from the financial sector and finds accommodating changes in the real sector. 4) It may happen, however, that there is no accommodating response in the real sector, in which case there will be a lengthening of the chain, which will be prolonged by processes either of type 1 or of type 2. 5) Changes in real variables can have financial determinants when decisions are influenced by balance-sheet considerations or by other relevant financial variables.

Framework table A

CAUSAL SEQUENCES OF AUTONOMOUS-INDUCED CHANGES

1)	real → financial	*with* (financial) accommodation
2)	real → financial	*without* (financial) accommodation
3)	financial → real	*with* (real) accommodation { transfer problem
4)	financial → real	*without* (real) accommodation { transfer problem / portfolio adjustment
5)	real decisions influenced by financial considerations	

In international economics, sequences of type 3 and 4 have been analysed as transfer problems. They must be kept separate from case 5 conditions, where the real sector remains the autonomous initiator of

the processes, even if the strength of the impulses it generates is influenced by endogenous financial features.[6]

The sequences which are predominant in any specific period define the features of the dynamic process of that period. From within that process, the predominance of some other sequence may eventually emerge, thus changing the structure of *ex ante* and *ex post* flows and the nature of their adjustment.

Since the way financial circuits intersect with real circuits from an *ex ante* point of view has direct effects on demand, the emphasis in the approach is necessarily on the demand side. In general, any tension in the factors binding the world system together will make itself felt primarily on demand, which exerts a uniform impact on all the countries in it.

Although leaving supply factors in the background, this approach is sufficient by itself to account for the unfavourable bias in the growth of income and for the cyclical path followed by that growth. It would not in any case be possible to produce an equally self-sufficient explanation by proceeding in the reverse order. When the long-term factors acting (independently of demand) within individual economies on the propensity to produce and to expand productive capacity are seen as the autonomous driving force behind the events of recent years (and the aggregate demand is left in the background simply as a consequence of these factors), there is no obvious explanation of the frequent radical changes of scene we have been observing in the international processes. In this perspective, all we can do is to work out a list of influences on supply, which, however, do not by themselves make it possible to indicate some connecting mechanism in the world economy. Hence we end up by considering the international system as the sum of total individual economies. But the extraordinary coincidences in ups and downs of production in different countries can certainly not be attributed to uniformities in the strength and mode of operations of autonomous supply factors.

The perspective adopted here, on the contrary, is to treat the system as a whole, which can not merely be broken down into its

[6] It is worth noticing, in passing, that the financial business cycle (of a closed economy) has been studied mainly in the framework of sequence 5, although a process of type 2 appears in MINSKY (1957).

component parts, and focus on the network of interconnections running through it. That network may assume coordinated features which free forces sustaining an uninterrupted expansion in the generation of income and demand, but it may also assume anarchistic features which, in a market with numerous (and independent) decision-makers, keep those forces in check. In the latter case, I will talk of "bridling phenomena" being at work.[7]

An international system can run into these phenomena because of previously existing factors (originating in some real-financial interaction), which give rise to perverse responses. These outcomes are not resolved spontaneously, because they are blocked by the reciprocal interdependence of the economic agents and because they are self-reinforcing. When these "bridling phenomena" appear, they are bound to have important consequences: the international cycle reappears, the pace of investment slows down, growth decelerates, and the system turns in on itself. Numerous determining factors affecting the actual and the potential supply are thus negatively affected and give the impression of being independent causes.

In this paper, I will concentrate on relationships which have influenced the industrial part of the world, and will examine them in a systemic approach covering the entire network of world connections.

The plan of the paper is as follows. In Section 2, I will discuss what is relevant to the articulation of the problems of the seventies and eighties in the pioneering work carried out in the thirties and forties on the "network of world trade and finance". In the same Section, I shall present the facts in schematic form. In Section 3, I will discuss the "safety valves" which operated during the two-and-a-half decades following the Second World War and which prevented the *ex ante* inconsistencies from producing deflation. This discussion will help, in Sections 4 to 6, to explain "what has failed to function" in more recent years.

[7] I will also call them "incapsulating phenomena" in honour of the terminology introduced by FRISCH (1934). Frisch referred to processes possessing an inherent deflationary bias because of certain specific features analysed by him. The term here refers to those adverse consequences of unaccommodated circuits in Framework Table A that prevent a process of demand growth from gathering momentum.

2. Some preliminary remarks

Economic literature provides fascinating examples of how the *ex post* properties of the multilateral system can be explored to deduce both processes at work in the international economy and the conditions for their stability. Some studies produced by the League of Nations during the thirties and forties are of particular interest in that connection.[8] These studies showed the kind of cohesive forces governing the multilateral mechanism of trade and finance before World War I and used that mechanism as a point of reference for explaining the crisis of the interwar period in terms of destructuralization of the cohesion.

Their analysis focuses on the *ex post* multilateral regulation of bilateral trade imbalances. When the latter cannot be cleared completely through the multilateral system, trade circuits do not close completely. We can then "order the countries of the group in such a way that all bilateral surpluses run through the system in a one-direction flow, in other words, in such a way that each country has import surpluses only from the countries preceding it in the sequence, and export surpluses only on the following countries" (Ekker, 1950, p. 208).

In the present study, I am mainly interested in two conceptual consequences of this point: (i) the importance of the purely intermediatory role which, on a consolidated basis, some regions (or countries) play in trade chains as well as finance sequences; (ii) the implication that a compensating financial circuit of transfers must have matched the trade circuit in reverse unidirectional order. *Ex post* it must necessarily occur, but it need not occur *ex ante*.[9]

Even if, in this kind of literature, the international system was examined from an angle which emphasized causal sequences of types 1 and 3 (in Framework Table A), relationships of types 2 and 4 were always an implied (and often actual) possibility.

[8] See especially LEAGUE OF NATIONS (1942). The same line of thought is to be found in HILGERDT (1944) — himself a League of Nations economist — and EKKER (1950). All of these writers were strongly influenced by R. Frisch, who at that time was working for the League.

[9] This group of economists was aware of the point: "The injection of any new force into the complex mechanism, if that force is not of a compensatory nature, must render the mechanism more unstable" (LEAGUE OF NATIONS, *cit.*, p. 80). The same class of reasoning also contains the concept of "skewness" of the trade-balance matrix put forward by FRISCH (1947). He is explicit on this point: "The skewness is an expression of liquid transfers of the international lending that is needed. If the trade skewness is not compensated within a reasonable time by a movement in the opposite direction, the tension is, through the credit system, allowed to accumulate, thus intensifying the difficulties" (p. 543).

Frisch (1934) approached the instability of the international system from an angle which emphasized relations of type 5. Focusing on the behaviour of expenditure stemming from endogenously determined stocks of assets and debts, he concluded: "Under the present system, the blind 'economic laws' will, under certain circumstances, create a situation where groups are forced *mutually to undermine each other's position*. Each group is forced to curtail the use of the goods produced and services rendered by the other groups, which, in turn, will cause a still further contraction of the demand for its own products, and so on. This meaningless vicious circle is what I understand by the incapsulating phenomenon" (italics in the text, p. 259).

Though it was originally based on a rather mechanistic view of economic behaviour, the concept of incapsulation of the world economy can be referred to phenomena arising from a lack of *ex ante* market coordination. I shall take the term "incapsulation" in the extended meaning that I have given it in the Introduction.[10]

Tables 1 and 2 show two basic flow structures that I will take as a point of reference for the examination of fluctuations transmitted through the financial system to the growth of world output and income. The first of these structures is derived from a schematization of *ex post* flows, which occurred repeatedly over the period from the beginning of the fifties up to the late sixties. Obviously what is shown is the typical flow pattern and not a year-by-year description.[11] Afterwards, flow structures for the periods of faster growth, in 1970-73, 1976 1/2 - 1979 1/2 and 1983 1/2 to the present, resemble those in Table 1 in many respects.[12] Those differences in the flow structure appearing during these periods will be noted, but for the sake of simplicity, the relevant tables are omitted, thus mantaining the emphasis on Table 1.

Table 2 refers to the period 1974-1976 1/2, which is one of slower growth or indeed of stagnation. A table for the period 1979 1/2 - 1982 would resemble Table 2. (Again, such a table does not appear in the text.)

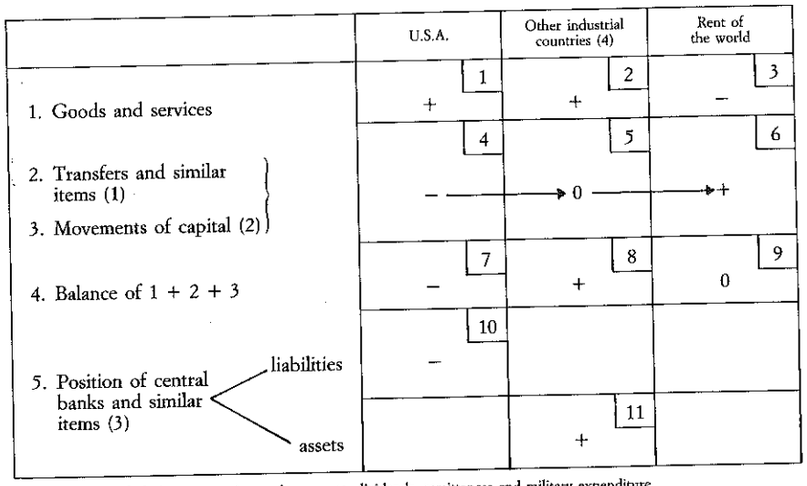
[10] After examining the merits of a typical Frisch problem of *ex ante* coordination in the adjustment of existing trade balances, GOODWIN (1983) concludes: "In many ways the present international situation is analogous to pre-Keynesian 1930s... Each government tries to solve its problem whilst taking the rest of the world as given, which quite simply results in the wrong answers" (p. 43). However true, this it is only part of the story. This kind of behaviour by governments was no less pronounced in the fifties and sixties than in the seventies; nevertheless, the result was not the same.

[11] The period has not been further divided because an analysis of the subperiods is not relevant to the topics of the paper.

[12] It must be kept in mind that here the notion "1/2" stands for events beginning or ending at any point during the year, and not specifically around mid-year.

TABLE 1

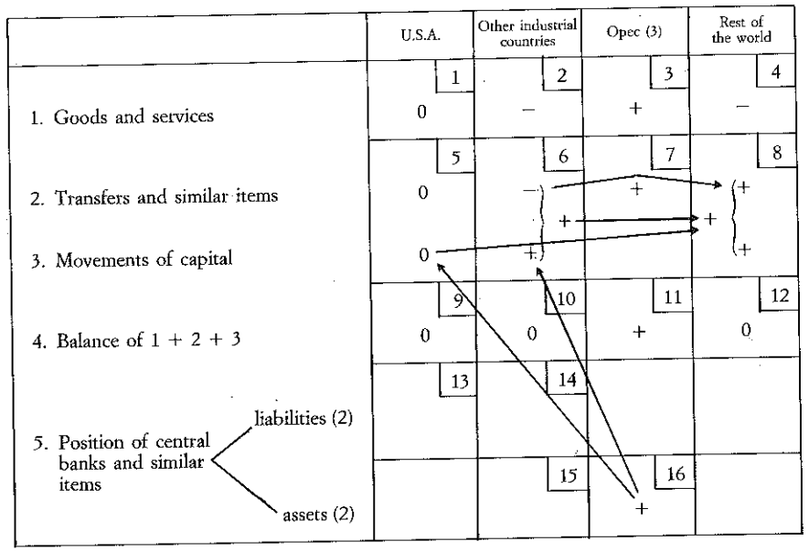
FLOW OF PAYMENTS 1950-1969



(1) These include interest receipts and payments, dividends, remittances and military expenditure.
(2) These include all capital movement not shown in line 5, including errors and omissions. Net inflows are indicated by a +, net outflows by a − sign.
(3) These include foreign reserves (as well as compensatory loans stipulated by public agencies of industrialized countries). Increase in assets is indicated by a + sign, that of liabilities by a − sign (*vice versa* for diminution).
(4) This refers to OECD countries excluding USA, Greece, Iceland, Portugal, Turkey and Yugoslavia.

TABLE 2

FLOW OF PAYMENTS 1974-1976½ (1)



(1) All notes to Table 1 hold for this table too.
(2) Assets and liabilities of the "Other Industrialized Countries" increase in parallel, in the sense that the − sign in square 14 cancels out with the + sign in square 15.
(3) All the assets of the OPEC countries are taken as official; the corresponding liabilities are considered as capital inflow in the countries which issue them (on consolidated basis).

The main features of these tables will be discussed at a later stage. For the sake of simplicity, I have divided the world into only three regions: the United States, Other Industrial Countries (O.I.C.),[13] and the Rest of the World (R.o.W.). When the dynamics of the system cannot be grasped without reference to the operation of the process within one of these regions, a distinction will be made among single countries or groups of countries belonging to that region.

There is a rather free use of zeros in the Tables to indicate weak flows or flows of no explanatory importance. In the first approximation, a zero flow also indicates that an intermediatory role has been played by the area concerned, inflows being equal to outflows or receipts equal to payments.

The division of current account between rows 1 and 2 goes back to Machlup (1968).[14] This division is meant to distinguish between problems concerning the output and the real transfer of goods and services from one country to another, and problems of a financial nature.

Row 1 aggregates the balances of the domestic sector (public and private) for each area, showing the counterpart in the area's foreign financial transactions. I will refer to the outcomes in row 1 as if they depended solely on the behaviour of the economic authorities. This implies that private expenditure has conformed to economic policy aims, or that the economic authorities are in any case responsible for these balances because they dispose of economic policy instruments to correct them. The reactions implied by row 1 thus refer only to policy responses.

This restriction does not hold for the financial sector, and so we must distinguish between public and private positions. No further distinctions have been made between holdings of different types of assets and liabilities.

As speculations about adjustments and reactions aim to give explanations of ups and downs in the rate of growth of world demand, the subjects tackled always come — even if only implicitly — within the context of Goodwin's "World Matrix Multiplier" (1983).[15] My aim

[13] This corresponds to OECD countries, except for the U.S. and member countries of Southern Europe.
[14] For the items included in the two aggregates, see notes to the Tables.
[15] Goodwin uses this analytical tool in a formal static context. However, on pp. 38-9, he gives an idea of how the "world trade multiplier" can be used to explore some dynamic (though deterministic) relationships, linking changes in autonomous expenditure to surpluses or deficits in trade accounts.

here is to draw inferences regarding the qualitative features of dynamic relations; this means that the multiplier process, to which all the aspects examined in this article lead back, must be thought of as a continuous process with initial injections of demand endogenously determined in reaction to changes in the variables occurring as the process develops. These changes concern real as well as financial balances and other variables influenced by the process of adjustment (rates of interest, prices, and exchange rates).

As a first approximation, we can refer to a simplified mechanism such as the internal-external demand circle in the figure in Framework Table B, a sort of multiplier-accelerator process which was decisive in unleashing supply factors, removing uncertainty about the future, and making market economies investment-prone, in a self fulfilling process. Here I am mainly interested in the *ex ante* aspects of this figure. In it, the permissive factors are central. Those factors that kept that circle going and later developments that "bridled" it will be examined against the background of the flow of funds in the international economy referred to above.[16]

3. The golden age of the fifties and sixties

A stylized account of the flow of funds in the fifties and sixties is given in Table 1.

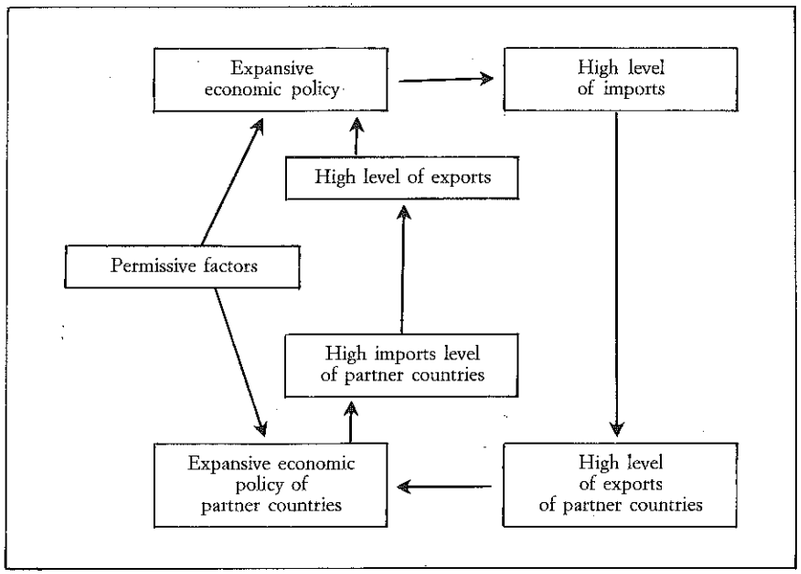
From an *ex ante* point of view, there is no doubt that the U.S. and the Other Industrialized Countries as a whole were aiming to achieve higher surpluses in row 1 (goods and services) than those actually recorded.

For the U.S., in column 1, higher net receipts from goods and services would have made it possible to compensate for the net outflow of financial and other transfers from the country to the rest of the world (square 4) during those years. The external situation of the USA can be interpreted in terms of a transfer gap (as analysed by Machlup, 1968).

[16] The figure of Framework Table B does not refer to developing countries (and, for opposite reasons, does not refer to the U.S.A. either). The role of the R.o.W. as generators of demand is obviously secondary, but the place assumed by this area collectively in the trade network and "organization" (in the sense of HILGERDT, 1944; and the LEAGUE OF NATIONS, 1942) is by no means secondary.

FRAMEWORK TABLE B

INTERNAL-INTERNATIONAL DEMAND CIRCUIT



The financial transfers shown in square 4 are perhaps the best starting point for interpreting the overall framework. Net outflows were, in a sense, structural, reflecting the economic, political and military hegemony of the U.S. and its need to consolidate and defend this role.[17]

Part of the payments flow was towards the industrialized countries (square 5). These countries, however, played only the part of intermediaries, essentially balancing outflows (above all in the form of trade credits and tied aids) with inflows (mainly direct investments). On a consolidated basis, flows shown in square 4 all ended up in the Rest of the World (square 6).

For the U.S., the full compensation of structural financial transfer would have entailed payments of the same amount in the form of net exports of goods and services: which would in practice have meant a higher income in relation to internal absorption, or lower absorption

[17] On this issue there is an extensive literature; references can be found in YEAGER (1976).

in relation to the income (or both). However, there were not only internal obstacles to this result, but also external ones — the objectives of the Other Industrialized Countries acted in this sense. For these countries, the *ex ante* surplus aimed at (square 2) corresponded to criteria dictated by the internal logic of these countries' development.

It was the growth of exports in the latter countries which ensured the continual growth of the potential output, both because the exports themselves were in sectors with high productivity growth rates, and, above all, because the easing of foreign constraints enabled economic policy to avoid frequent restrictions on growth and created the expectation, and thus led to the attainment, of a high rate of growth of demand, and hence a favourable climate for investment.[18] Within this process, productivity grew rapidly and, as long as this happened, it was possible to absorb rapid wage increases without inflation and — completing the circle for any one country — to reinforce export capacity.[19] It was a consistent mechanism, because the increase in productivity itself created the premises for a full exploitation of a greater supply potential thanks to additional exports and to domestic demand reactions resulting from exports. Such a process, when it occurred, was clearly a virtuous one.[20]

The pursuit of a model of this kind and the protection accorded to it did not mean that there were not temporary difficulties as regards external payments and competitiveness. What was decisive, however, was the fact that obstacles encountered by the process should be short-lived and promptly overcome by an increase in exports. The real requisite for maintaining a country's virtuous circle was that there should be no *recurrent* external constraints on payments and that there should be no repeated recourse to deflationary policies. Otherwise, the

[18] It is assumed that readers are familiar with the literature on export-led growth, which is summarized in BECKERMAN (1965). The main articles on the topics are by BECKERMAN (1962), LAMFALUSSY (1963), and GRAZIANI (1969).

[19] Supply aspects were also present in the background of the circle, and played an important part. But, if the mechanism shown in the figure of Framework Table B had failed to maintain its consistency and continuity, their effect alone could not produce the impressive and prolonged phase of growth enjoyed by the world.

[20] The response of productive capacity to demand pressure is vitally dependent on the continuity of that pressure and on the expectations of its future continuance; demand pressure coming from another type of composition of global demand could not ensure the same result in terms of the expansion of productive capacity, because of the external constraints that the economic policy would have encountered. A great part of the export-led literature does not specify the link through which the increase in exports affects potential and effective supply. The intermediate role played on the one hand by the scope for accommodating economic policy to the expansion of domestic production and on the other by the ensuing validation of expectations on demand is explicit in KALDOR (1966, 1971).

country's virtuous circle would be turned into a vicious one. The logic of this type of growth explains the *ex ante* objectives in square 2.

The *ex ante* objectives in line 1 of the U.S.A. together with those of the Other Industrialized Countries as a whole could only have been reconciled by deficits in square 3 of the same overall size. However, these deficits were relatively not very high, since they could be sustained by the purchasing power provided by the net inflow of capital alone (the size of the flows in square 6 limited and conditioned the flow in square 3). *Ex ante*, the countries of the Rest of the World would certainly have welcomed financial (and real) transfers larger than those that were actually received in square 6 (and 3). If this did not happen, the explanation is to be found both in the attitudes of the transferor countries and — the other side of the medal — in the increasing difficulties encountered by receiving countries in transforming gross financial receipts into goods and services rather than into financial transfers in the opposite sense (debt servicing, profit remittances and illegal outflow of private capital).

Summing up, the limited total of deficits in square 3 meant that the U.S.A. and/or the industrialized countries as a whole (and hence some of those included in this group) failed to achieve their economic policy aims.

There were not many practicable ways of easing the rigidity of the framework.

Greater compensation of U.S. structural transfers by higher net receipts on goods and services would not in any case have succeeded without the cooperation of the industrialized countries, which (as a whole) would have had to accept a reduction in their own trade surplus. It is anyway unlikely that, to this end, they would have agreed to strain their own labour market.

The financial path to the rebalancing of U.S. payments — a reduction of net financial transfers — would, on the other hand, have created problems for the international economy, and was from the outset unacceptable to the U.S., since it would have compromised its economic, political and military objectives. Abstracting from this, it is unlikely that real transfers would have remained unaltered in these circumstances.[21]

[21] MACHLUP (1968) shows that the ups and downs of financial transfers were parallelled by real transfers leaving the uncompensated transfers almost unaltered. This may be attributed to the expenditure reactions of the rest of the world.

If, for the U.S., rebalancing depended essentially on aggregate changes in the real sector, for the O.I.C., the simultaneous achievement of their *ex ante* objectives depended either on greater financial transfers (whatever their source) or on larger U.S. deficits in square 7. The fact that higher financial transfers by these countries would have led to a rise in the (net) export level of the area is only an aggregate result, and one that could not, for them, represent a criterion for action; from the individual perspective of any of the transferor countries there was no guarantee of additional exports unless financial transfer were implemented on a bilateral basis.

The expansion that took place, notwithstanding the rigidity of the flow framework, was not at all a matter of course, and can be more satisfactorily explained by starting from the very threats to the generation and spread of rapid growth, threats which existed potentially in the conditions in this framework.

One danger would certainly have been constituted by a possible limitation of the U.S.'s freedom of action if that country had been led to balance financial and real transfers by a deflationary condition imposed on the economy, or — a seemingly remote possibility at the time — through a devaluation of the dollar.

Another danger lay in the mutual incompatibility between the O.I.C.'s models of growth and also between their economic policies. There was, in fact, a potential contradiction in the spread of export-led growth processes. If a single process is kept going by a certain continuity in the expansion of overall demand, and that continuity is guaranteed by freedom from the external constraint, that freedom cannot be simultaneously maintained in all the industrial economies, even if the rest of the world is running a deficit.[22] An overall curbing effect may occur when a fair number of industrial economies is led to apply deflationary policies at the same time with the aim of correcting a trade deficit or of protecting a surplus. This is all the more likely, the smaller the joint *ex post* surplus which these countries can dispose of, and the more it is regarded as difficult to overcome a negative balance which each country may incur. The result is also the more likely, the more difficult it is for countries in deficit to attract capital.

[22] CAVES (1970) is, to my knowledge, the only author to perceive the possibility of potential inconsistencies in simultaneously pursued export-led processes.

A third kind of danger was independent of the other two; it was due to a further possible incompatibility between the policies pursued by each of the O.I.C.. It was possible for growth to develop bottlenecks, and to take an inflationary turn, especially if the labour market became strained. Under a stop-go economic policy, aimed at correcting unwanted (and recurrent) developments in the foreign sector, investment growth declines, and this, in its turn, helps to weaken competitiveness and reduce exports. The economy caught up in these processes ends up by being cut out of the external-internal demand circle.[23]

This risk has been widely recognized by economic authorities since the end of the nineteen-fifties. The policy response was almost solely directed at keeping down internal demand and forcing each economy to turn more and more to the external market.[24] The policy was self-perpetuating; by accentuating each economy's dependence on the foreign market, it increased its sensitivity to changes in costs, and increasingly necessitated a subordination of internal expansion to external expansion.

The mutual incompatibilities of these policies were inherent in the fact that export aims of the countries in the area could only, for the most part, be achieved by the creation of foreign demand by these countries via the imports generated by the expansion of their internal market.[25]

The dangers inherent in the situation did not materialize owing to the operation of a number of safety valves, which were the permissive factors allowing an expansive circuit of internal-international demand to keep functioning. Let us briefly review these safety valves.

(a) *Residual financial accommodation*. The net receipts on goods and services account that the U.S.A. did not succeed in obtaining in sufficient quantities to cover its financial expenditure (see negative balance in square 7) were financed in dollars (square 10), which ended up as reserves in the O.I.C. central banks (square 11). The way the interna-

[23] This possibility is what BALASSA (1963) saw as an intrinsic limit on any single export-led growth process.

[24] This was done in order to subject collective bargaining processes to external constraints, maintain a high rate of productivity growth, prevent changes in the distribution of income, and keep inflation under control.

[25] As the source of demand for exports, these countries were important to eacn other. Outside the area of the O.I.C., the U.S. was growing less rapidly, and at the same time the absorption of foreign goods by the Rest of the World was quantitatively limited whilst export capacity was improving.

tional monetary system operated was thus an important element in the framework. It is well known how it worked. It enabled the U.S. to be a "residual country" in terms of the objectives of all the other economies.

(b) *Limited extent of the U.S. transfer gap.* The fact that the transfer gap never reached a critical flow level that would have compelled the U.S. to take external constraints into account also forms part of the safety mechanism. Consequently, it was possible for the injections of demand leaking from the U.S. into the world economy to be dictated by internal developments alone. This amounts to saying that an important country was free from external determinants in its policy reaction functions.

(c) *Ease in rotating imbalances.* All industrialized countries had access to the overall *ex post* surplus of the group in square 2, though not simultaneously. There was a rapid rotation within the group. Those countries in the area left with a negative imbalance could shift it to other countries (the overall value in square 2 being equal). The relative rapid succession of such shifts were taking place in a favourable context which made possible for the cutting back of domestic demand in deficit countries not to have repercussions on the pace of expansion of world demand; indeed, precisely because this pace remained steady, those countries were enabled to rely on exports to eliminate the deficit and remove such restraints at a later date.[26] In no situation did external difficulties crystallize and become chronic for any single country (with the possible exception of Great Britain).

The mechanism was a delicate one, kept going by the very fact of being in operation. World demand was growing because — among other things — the expectation of its growth influenced the economic authorities' behaviour, since they could allow for a certain ease in correcting any unfavourable foreign balance; hence, surplus countries did not take vigorous measures in defence of that surplus, and deficit countries were allowed to implement moderate policies to correct deficits. This would not have happened on either side if imbalances had tended to crystallize and thus given rise to a cyclical growth of world demand.

[26] Each industrialized country found itself in turn in this situation. When one country recovered, the resultant increase in world demand offset restraint on the part of another. World demand showed, not a cycle, but a relatively steady growth, even for individual countries. Hence, in any single country changes in current accounts did in fact reflect the fluctuation of imports.

(d) *Smoothness in capital recycling.* The relative ease with which capital movements within the area of the Other Industrial Countries (or induced from the U.S.) contributed to the financial recycling of international funds between deficit and surplus countries is an integral part of the favourable circumstances which kept deflationary measures within bounds. In a world of fixed — or rather, quasi-rigid — exchange rates, of low inflation and essentially static expectations, small differentials in nominal interest rates engendered by a restrictive economic policy (related to situations examined under (c)) were sufficient to induce the inflow of capital necessary to cover the (brief) period of time required for the adjustment.

(e) *Widening of the world market as a result of specialization.* Policies of any one country aimed at promoting exports from the supply side were parallelled by similar policies in others. However, all these countries were successful simultaneously; thus, instead of the potential incongruity referred to on p. 17, there was a real increase in the share of imports per unit of output in any country concerned, in parallel with an increase in the share of its output going into exports. World demand for exports did not suffer. Changes in relative prices may have facilitated this mechanism, but the reason for it was precisely the wide margin available for deepening the process of productive specialization within the industrial area.

4. The disappearance of permissive factors: the residual country

The switch to a new situation can be represented as a progressive transformation of circuits of types 1 and 3 (in Framework Table A) into circuits of types 2 and 4, and, through a worsening of the financial situation of many of the market participants, a development which has had an impact on real decisions. In the subsequent cyclical conditions, a flow-of-funds framework resembling the one just discussed, and one still associated with the upswing, proved to be unstable. The alternative framework which then appeared can be associated with the downswing. The causes of the rupture of the virtuous circle in Table B — a process involving a sort of world accelerator (determined, however, by the public authorities) and world multiplier (*à la* Goodwin) — must be

sought in the loss of the role played by the factors which had up till then absorbed the incongruities in the picture. Factors (a) and (b) on pp. 193-4 disappeared in the flow structure appearing in the upswing, and gave it a transitory character. Conditions (c) and (d) disappeared in the alternative flow structure. Condition (e) changed its significance throughout.

The adjustment problems connected with the two flow structures will be examined against the background of the changes taking place in the meantime in the institutional and socio-political sphere.[27] Because of these changes, *ex post* flow structures were due much more to price adjustment than to quantity adjustment.

The flow structure most closely resembling the one shown in Table 1 appears in the years 1970-73 and 1976 1/2 - 1979 1/2,[28] *i.e.* the years after the crisis of the Bretton Woods system, during which growth on an international scale was still widespread, although slower than in the '50s and '60s. The main departure from Table 1 is the reversal of sign in square 1, reflecting the negative U.S. goods and services account. Because of this difference, I will now talk of "Table 1 (modified)". There is still an overall similarity in the picture, but this no longer implies an identical adjustment process.

The incongruities in row 1 are greatly attenuated, since, owing to the U.S. deficit in the expansion phases, the collective *ex ante* aims of the O.I.C. do not come up against serious obstacles.[29] And the movements of capital in square 6, by and large, can be regarded as accommodating.[30]

[27] In a sense, these changes are taken as exogenous. They concern fluctuating exchange rates in place of fixed ones; a strong inflationary tendency in any single industrial economy; a qualitative leap in the process of intermediation, especially through the operations of offshore markets in dollars and other currencies. (In the early seventies, the exchange rates were formally fixed, but keep changing pegs.)

Of course, these changes were not accidental, but endogenous consequences of the way in which potential disharmonies inherent in Table 1 were resolved. The events represented in rows 3 to 5 of Table 1 were the major factors in the rise of the European and offshore dollar markets. The latter were the main vehicle for an increasing international mobility of capital, to which we can trace the fall in the pegged exchange rate system. Flows in square 4 had the long-run effect of spreading U.S. technology abroad, thus contributing to the decline in American competitiveness which emerged at the beginning of the '70s. This is reflected in the negative sign that now appears in square 1, and is again being treated as an exogenous feature for the period under examination.

[28] This framework also appears at the present time, starting from approximatively 1983 1/2. This topic will be discussed separately in section 6.

[29] Consequently, the upward cycle in O.I.C. countries became more fully synchronized.

[30] This refers to the overall situation, although many countries of the R.o.W. were limited in their spending by the extent of their access to credit and capital inflows.

In the new context of a monetary system with fluctuating rates of exchange, the U.S. no longer has a role as a residual supplier of finance (through its involuntary debt, which, in Table 1, closed the *ex ante* real-financial circuit). A kind of "residual" role shifts to row 1 (real markets), but there is no financial closure by quantity changes, and the very fact that there is no closure increases the *ex ante* capital outflow from the U.S. (hence it clashes with real developments). The reconciliation through prices (especially of currencies) involves instability.

The analytical focus on the circulation of dollars is no longer sufficient for the interpretation of the flows in Table 1. In rows 2 and 3, the analytical emphasis shifts from a problem of transfer to one of the adjustment of international portfolios; which means that the corresponding flows should be interpreted on the basis of the stock determinants. With an amount of gross outside dollar assets[31] reaching critical levels, it becomes increasingly difficult to absorb additional dollars from the U.S. (or created in the process) in international portfolios by quantity adjustment alone, while leaving unchanged the value of the dollar. But, even abstracting from such an addition to the existing outside stock of dollars, an *ex ante* flow of dollars to be absorbed in the exchange market is created because of the move against dollar assets in portfolios. The emergence of conditions for unchecked speculation were part of the story in the move away from the dollar, since these conditions were regarded by agents as factors in the situation, and were indeed to become an element in actual developments.

Desired portfolios had to be reconciled, rather than in interaction with real markets, within row 3 itself, thus giving rise, starting from that row, to the dynamic adjustment.

The *ex ante* divergences between desired portfolios, reflected in row 3, cannot be grasped from a table of realized net flows, in which any capital outflow from the U.S. must necessarily be matched by an equal capital inflow. Net flows are nil, if we temporarily ignore transactions deriving from trade, as though these balanced out,[32] and rule out official

[31] By "outside dollars" (or "international dollars"), I mean assets held by non-residents in the United States and dollars held outside the United States by residents and non-residents. I refer here to the "gross" stock (that is, one including assets matched by private debt) because that is the relevant aggregate for the arguments which follow.

[32] The net transaction in foreign exchange between real and financial operators which are registered *ex post* in the event of an unbalanced current account, is not of fundamental importance for an understanding of the way in which rates of exchange on the financial markets are determined. What counts are the *gross transactions* within which those for financial investment are

exchange rate interventions in the exchange market. The "dollar outflow" is only an *ex ante* concept. And the existing *ex ante* imbalance can be inferred only from the pressure brought to bear on the markets in which owners of financial wealth try to protect themselves against an anticipated fall in the value of their dollar assets reckoned in the national (or other) currency. This pressure is stronger (for any given *ex ante* rate of exchange and of interest), the higher the existing stock of gross outside dollar assets and the greater the possible increase in the stock in the process.

Let us follow the circulation of the dollars. When non-residents try to shift their portfolios away from their dollar holdings, none of the existing international dollar assets in their hands can ever be destroyed.[33] Dollar assets may change their form as they shift from one non-resident to another, but they always end up in some non-resident's portfolio. Outside dollar assets increase if portfolio changes tend to swell the amount of liquid deposits in offshore markets, and if at the same time bank increase their lending: both eventualities which are likely to occur in periods of intense speculation against the dollar. In exchange markets, the dollar tends to fall — and interest rates on dollar assets possibly to rise — in order to stabilize holdings of dollars.[34] Through these transactions, new international assets in non-dollar currencies will also be created.[35]

When U.S. residents, too, are diversifying their portfolios and making a net substitution of their holding of domestic debt for foreign debts, they are making a net addition to the world stock of gross international dollar assets. In other words, new dollar assets must be absorbed in non-resident portfolios, while non-residents are trying (unsuccessfully) to get rid of the old ones.[36]

markedly predominant. It may be noted incidentally that, even if the net interchange of amounts equal to the balance on current account is the fundamental identity round which the whole dynamic of adjustment revolves in the exchange rate models explicitly considering the current account, this point should not mislead us. These models — for example, BRANSON (1977), KOURI (1976), DORNBUSCH and FISHER (1980) — remain stock models, even if, because of their construction, they cannot account for any transaction on the exchange markets, except for the net transactions in question. On these and other subjects dealt with in this Section, see BIASCO (1985).

[33] It is implicitly assumed that there is no net liquidation of U.S. residents' previous holdings of foreign exchange.

[34] This is a process over time if divergences between existing and optimal portfolios are eliminated gradually, and the stock of outside dollars keeps increasing.

[35] These assets may be pre-existing ones, or newly created ones, when operators, on a consolidated basis, absorb dollars by issuing debts in their home currencies.

[36] Again, the matching non-dollar assets may be pre-existing assets previously held by U.S. non-residents or newly supplied assets. U.S. residents, of course, can simply move dollars to the Eurodollar market, but the expansion of dollar assets in non-resident portfolios is also likely to occur through lending by offshore banks.

All this happens whatever the sign of the current account imbalance. When the U.S. current account is negative, as in Table 1 (modified), new flows of dollars affecting row 3 are adding to those stemming from the stocks. Additional outside dollar assets are created and must find a holder at any time. Again, additional dollars received by non-residents may, or may not, be held as stable assets; nevertheless, they must be absorbed in non-resident balance sheets. Moreover, in dollar banking, an excess of liquidity may be created and a borrower market can develop, fostering adverse speculation and hampering the adjustment of interest-rate differentials *vis-à-vis* other currencies. A great deal of the adjustment is then borne by the exchange rate, but a disequilibrium in the exchange market is likely to persist if divergences between optimal and desired portfolios are eliminated not instantaneously, but only gradually in a learning process.

In this situation, the financial and exchange markets must rely on a number of marginal adjustments effected through commercial banks taking open positions, or through central banks acting as residual buyers in the exchange markets. Official reserves are then accumulated in order to avoid a disruptive appreciation of strong currencies. In a sense, these developments are involuntary. A series of upward (or downward) adjustments in exchange rates and interest rate changes may be required before the excess supply of dollars is eliminated. In the meantime, a number of causal links, involving policy responses and flows in the real sector, may be set in motion, which will substantially change the situation.[37]

Three kinds of response, arising endogenously from the flow structure in Table 1 (modified) and the related difficulties in closing the *ex ante* real-financial circle, converge to modify both the flow structure and the adjustment processes. These reactions involve (i) changes in the relative prices of commodities; (ii) changes in the policy response of the U.S.; and (iii) changes in the U.S. trade performance.

(i) The weakness of the dollar, combined with inflationary expectations fuelled by a synchronized ascending cycle, lead to waves of speculation in commodity markets. The availability and increased mobility of international funds are drawn into the process because they foster the financing of speculation in raw materials and foodstuffs. The main explanation of the spectacular price boom which eventually takes place lies in the quasi-monetary function, *qua* store of value, which

[37] The way medium-term cycles can develop in the exchange values of a key currency is dealt with in BIASCO (1987) and SCHULMEISTER (1987).

these goods perform in similar periods.[38] Both in 1973 and 1979, oil was the last of the raw materials to explode, but — as in a fireworks display — the last explosion was also the most important one.[39]

(ii) In a world of fluctuating exchange rates, the threat to the domestic and external stability of the "residual" country becomes enormous; hence, neither the U.S. nor any other country can for long perform the function of "nth country" — *i.e.* the nation whose "benign neglect" makes it possible for the other n-minus-one countries to reconcile their objectives.[40] In present conditions, the international monetary system no longer makes smooth residual accommodation possible via the key country's external accounts. Nor, by keeping within limits that country's overall balance which has to be covered *ex ante*, does it allow that country's economic policy to maintain a relative degree of freedom (see conditions (a) and (b) referred to on pp. 193-4). If the other countries' aims call for a trade deficit and a liberal financial attitude in the key country, there are no immediate solutions for harmonizing the situation.

The U.S. happened to be the "residual country" because that role did not seriously impair its freedom of economic policy, and the market did not (at least for long periods) dispose of the necessary arms to challenge the value of the dollar by speculation. Later, however, the U.S. discovered that it was vulnerable in this aspect.

During the phases in which the framework of flows resembles that of the 50s and 60s, the U.S. sees the role of the dollar in international finance curtailed, since the private and official use of other currencies is enhanced (and dollar assets hedged in raw materials markets). The dollar undergoes cumulative depreciations, and the country is exposed to intense inflationary pressures (which spread to the rest of the world). Domestic and external pressure builds up to correct the imbalance in squares 1 and 7 and finally becomes irresistible. In the present international system, the role of "residual country" cannot be stable, and can only be resumed temporarily by the U.S. (or any other country for that matter).[41]

[38] The point has been dealt with in BIASCO (1979), Chapter 5. Other studies come to similar conclusions; see BOSWORTH-LAWRENCE (1982) and SYLOS LABINI (1982).

[39] Even if the manipulation of the market is an exogenous event, as in the case of oil, "the analytical focus must, in my view, be on the state of the markets, expectations, and inflation; that is, on an international economic environment that tends to push prices up and thereby becomes receptive to manipulation" (BIASCO, 1979, pag. 100).

[40] On the comprehensive role of the "nth country", see COOPER (1968) and WHITMAN (1974). The first writer to point out the residual role of the "nth country" was MUNDELL (1969).

[41] When Germany played this role in 1979, she suffered from the same problems and had to give it up immediately.

(iii) The destruction of the "residual" function of a country is endogenous, not only because of the pressure exerted by that role on the economic policy of the country that performs it, but also because of the spontaneous (though delayed) consequences of the depreciation of the currency. The expansionary impact of the growth of domestic demand in that country on the rest of the world is reduced; devaluation cannot but eventually affect trade in manufactures. In the case of U.S. trade, external accounts also benefit from the reversal of the trend in the terms of trade, which is eventually bound to occur in favour of raw materials and foodstuffs.

Combinations of flows similar to those in Table 1, though they still favour the maintenance of the expansive circle in the figure in Framework Table B, must now come to terms with nonpermissive factors in the financial system, and with changes in policy functions. By now, that is only one of the possible outcomes, since it contains the seeds of its own destruction. That outcome is destined to be replaced by others and to return only after these have exhausted their deflationary potential. But, when that outcome is operative, it does not have propellent effects comparable with those previously implicit in the picture shown in Table 1, because there is only a transitory possibility of reconciling the various aims. This implies in some markets price adjustments which have repercussions on all the other markets and on the flows themselves.

A framework favourable to expansive impulses and reactions now lacks conditions (a) and (b) referred to on pp. 193-4. But the framework to which it gives place lacks conditions (c) and (d) (ease of rotation of imbalances and smoothness in financial recycling), as will be seen in the next Section.[42]

5. The disappearance of other permissive factors

The framework of flows which appears as an alternative to the previous one is shown in Table 2. It covers the periods 1974-76 1/2, and

[42] The change in condition (e) (widening of the market through specialization) affects the whole of the critical period and will be considered later in Section 5.

1979 1/2-1983 1/2.[43] The U.S. avoids a deficit in trade and services in square 1, thanks to the curbing of internal expenditure and to the earlier devaluation of the dollar;[44] a surplus of a number of raw material-producing countries (which I refer to as Opec, for short) appears in square 6. These are by and large contemporaneous events, as both are consequences of developments in the preceding period. The surplus on O.I.C.'s goods and services accounts in square 2 is transformed into a deficit. Capital inflows into the Rest of the World (in square 8) again impose limits on net expenditure flows (in square 4).

The picture does not meet conditions (c) and (d) of pp. 194-5 because, with fluctuating rates of exchange and in situations of pronounced trade imbalances, we tend to see, in the countries in which they appear, a crystallization of both trade deficits (and the related inflationary difficulties) and trade surpluses (and the tendencies for the rise in domestic prices to be kept in check). In the O.I.C. area, this is even more the case when the overall sign in square 2, which refers to the area's aggregate balance on goods and services account, is no longer positive, but negative, and the burden is not uniformly distributed.[45] In the context relevant to row 1 (which refers to real components), conditions hampering growth therefore develop which will be examined later on.

The financial components of the flows (in rows 2-5) also have a deflationary impact. With an unfavourable change in terms of trade, the *ex ante* rate of income growth for the whole industrial area can be maintained only by the growth of expenditure above the *ex ante* levels;[46] moreover, the external deficit which this should imply must be accepted and financed. This means a complex network of intermediation.

The way in which the Opec countries tend to invest *ex ante* net *ex ante* receipts in square 16 enables only a few countries to finance the deficit, thanks to the net inflow of these funds. Those placements

[43] The flows in Table 2 are those corresponding only to the first period in question. Flows for the second period show a positive current account and imply an *ex ante* capital inflow for the U.S. As my purpose is not to provide a historical description, but to make a logical survey of "what has gone wrong" since the 70s, I shall not attempt to link the frameworks over a continuous period of time. We are dealing, of course, with consequences of the way in which incongruities in the previous framework were resolved.

[44] The value of the dollar rises above the levels to which it sank in earlier periods.

[45] The trade situation can also crystallize as between the O.I.C. as a whole on the one hand and the United States on the other.

[46] An unchanged real expenditure or volume of production entails a diminished income by the amount corresponding to the Opec surplus.

cannot but concern the U.S. and those industrial countries showing healthy balances in goods and services (balances strengthened even further, for a time, by the consequences of these placements). As a result, only a capital outflow conferring on those countries a role as centres of intermediation can generate the capital movements needed if the other countries are to be able to finance their imbalances and become final recipients of Opec placements.

For the latter countries, the acceptance and financing of the *ex ante* deficit are both difficult to achieve in times of markedly unbalanced trade, as the implied indebtedness is in many cases both unsustainable and unattainable.

Insofar as indebtedness is unsustainable, sequences of type 5 (in Framework Table A) are set in motion and have the effect of reducing spending. Insofar as the indebtedness is unattainable,[47] relationships of type 2 or 4 appear.

If the transfer linked to oil payment (*ex ante*) is not compensated *ex ante* by loans or net exports, the uncompensated part leads to substantial negative price effects in the transferor countries;[48] because, in particular, and with few exceptions, rates of exchange depreciate *vis-à-vis* the dollar, which is the currency used for oil-related payments, and also, because interest rates, both domestic and those for foreign borrowing, tend to increase.

The overall *ex ante* uncompensated transfers by non-Opec countries also lead to quantity effects. Given the goals and the achievements of the U.S. in square 1 and the constraint on deficit spending for the Rest of the World (square 8), the only real chance for the O.I.C. as a whole to limit their collective deficit in square 2 is by curtailing the *ex ante* surplus of the oil-producing countries (by deflation) or by accepting the burden and the risk of capital movements towards the Rest of the World.

For these countries, this new picture changes policy reaction functions; and hence, it negatively affects their ability to generate a persistently expansive world demand on which to rely for the correction

[47] On a consolidated basis, the largest part of the re-allocation of financial loans to deficit countries comes from those financial investments from the oil surpluses placed in the U.S., but indirectly via the reserves of the banks operating on the dollar offshore markets. But this re-allocation happens in accordance with banking criteria of prudence and profit.

[48] Oil transfers can be interpreted as relationships of type 4 (in Framework Table A) if we argue in terms of constant (pre-increase) oil prices, and of type 2, if in terms of current prices. Here, the former case is implied.

of individual imbalances. Since they cannot confidently rely on these conditions, a set of virtuous circumstances in the '50s and '60s now operates viciously, because the difficulties of rotating the individual negative imbalances, in their turn, slow down the growth of the world demand.

The picture can to some extent be further disaggregated and the crystallization of imbalances reviewed in relation to capital movements. When the oil burden is not evenly shared and the industrial area shows surpluses and (far larger) deficits, a division between strong and weak currency areas appears. What is decisive for the extent of revaluation and devaluation is, to a considerable extent, the financial choices of the Opec countries which are creditors of the whole area thanks to their surpluses on current account.[49] Eventually, their placements ought to give rise in the receiving countries to a deficit on current account (which will completely meet the area's deficit with Opec) to match financial inflows, and bring the exchange market into balance; the rate of exchange appreciates to levels ensuring this outcome. Alternatively, by intervening on the exchange market in order to limit the extent of revaluation, the receiving countries give rise to capital inflows elsewhere. The deficit which they would otherwise have incurred is, as a result, redistributed.

All this holds good in a context of comparative statics,[50] as a long-term outcome; but the fact that it does not occur in the short period either sets in motion a dynamics of the process which evolves in a direction markedly different from the situation which it is legitimate to postulate in this context. The result is a complex allocation of the overall unbalance, which leads to deflation and to changes of scene.

In the short run, revaluation does not necessarily lead to a deficit, and *vice versa* for devaluation. Moreover, the movement in the exchange rate itself alters the internal conditions of the economy, since it accelerates the pace of inflation in the devaluing countries, and helps to restrain it in the revaluing countries. This leads to patterns of behaviour which persists in time and tends to damp down in no small degree the impact on competitiveness of change in the rate of exchange, unless

[49] They will obviously choose the currencies of the countries which have the greatest political stability, a sound economic structure, and a most promising short-term cycle; *i.e.* currencies which may well be revalued.

[50] In this context, DUNN (1979) raises some interesting points on the topic. See also GOLUP (1983) and KRUGMAN (1983).

such movements are substantial. If deficits and surpluses in row 1 tend to show no significant corrections, capital movements sense the direction of future changes in exchange rates, just as they did with fixed rates. These movements aggravate the short-run effects of devaluation and revaluation, just as they reinforce their perverse short-run impact on surpluses and deficits and on inflation differentials.[51]

The dynamic is guided by the difficulties of correcting the imbalances, and, in situations of this kind, fluctuating exchange rates embody a certain deflationary tendency. In countries with strong currencies, potential effects on export competitiveness render it imperative that inflation be cut back: a task which appreciation helps to perform by the mere fact of its operation. The economic authorities are under pressure to keep the labour market and internal productive activity in check, especially by curbing the latter. If their policy is successful, there will be further pressure on exchange rates, generating a self-reproducing bias towards deflation.[52] While this process perpetuates the positive balance in these countries,[53] it also prevents the countries with a negative balance from offloading their deficit elsewhere.[54] The latter countries are thus forced by further pressure on the exchange rate to incorporate still higher inflation, and, eventually, to cut back domestic economic activity drastically because they are otherwise unsuccessful in linking their devaluations to an improvement in their payments situation.[55]

[51] The literature on rational expectations would tend to deny the existence of vicious circles of exchange rates which that literature ascribes rather to the accommodating behaviour of the authorities; the case is the opposite for the virtuous circle. This is a result of the models of general equilibrium in which the supply of money is exogenous and, if kept constant, would be able to produce a Pigou effect and curb the race between prices and the rate of exchange. It is an open question to what extent, in the real world, the money supply is exogenous, inflation is demand-determined, and the behaviour of the authorities is a matter completely within their discretion, instead of being conditioned by the various features in the situation. On the vicious circle, see BILSON (1979) and WALLICH and GRAY (1980).

[52] The only alternative open to the authorities in order to avoid long-term disadvantages for the industrial sector as a result of that behaviour is to limit both the appreciation of the exchange rate and the fall in profits by expanding domestic demand. This was the course taken by the U.S. after 1982, with the disadvantages and consequences set out in the following Section.

[53] A process of perpetuation of a positive surplus balance on lines similar to those sketched out in the text is studied in MCKINNON (1978) and STEINHERR (1981).

[54] VANDENBROUCHE (1985) shows how surpluses and deficits can be perpetuated through the dynamic interaction of the policy objective functions of the economic authorities.

[55] This subject leads to another issue — the LAURSEN-METZLER effect (1950) and SOHMEN (1974) — regarding the difficulty of insulating a country from the foreign business cycle in a system of flexible exchange rates. According to the Laursen-Metzler effect, the impulses arising in the transmittor country are contrary to those affecting the receiving country. In the specific case dealt with here, however, if trade accounts are not balanced, and consideration is given to the policy reactions to inflation, the impulses proceed in the same direction.

If capital movements are destabilizing, there is no painless mechanism for rotating surpluses and deficits within square 2: security valve (c) — relating precisely to that rotation — does not operate.

Given certain extrapolative and non-rational elements in expectations, countries in difficulty, in order to attract capital flows, have to generate very high nominal interest rate differentials in their favour to compensate operators for the very conservatively estimated risk of devaluation.[56] Even security valve (d) — smooth recycling — cannot operate without drastic monetary restraints.[57]

The set of external limits encountered by the virtuous circle of internal-international demand, which I have being examining so far, is reinforced by internal limits, which I have not dealt with here except as regards condition (e), which deals with the reconciliation of mutually incompatible economic policies through the widening of the world market through trade specialization.

In the context described in Sections 4 and 5, those policies aimed at keeping in check domestic absorption and at steering the economy towards the external market have now become more obligatory than before, because of exchange rate spirals in which economies moving against the tide risk being involved. But the reciprocal incompatibility of these policies now has less leeway than before to overcome the

[56] The risk premium on weak currencies has behaved in such a way as to justify the hypothesis of non-efficient markets. See FRANKEL and FROOT, 1986a and 1986b. In a rational world, there would be no room for unexploited profits in forward operations — whether by arbitrage or speculation — which, instead, are found in literature (see, for instance, ALIBER, 1978; BOOTHE, 1983; CUMBY, 1984). For another opinion, see LEVICH (1985).

[57] The processes at work lead eventually to a fall in the relative price of raw materials and open the way for a change of flow patterns: this may be facilitated by an expansion originating in the United States, now freed, at least initially, from inflationary preoccupations.

In the second oil crisis, the picture (which affects conditions (c) and (d)) does not so much concern the difficulty of rotating surpluses and deficits within square 2 as that of expelling the deficit from square 2. The crystallization of deficits and surpluses concerns essentially the O.I.C. as a whole, which now form, with few exceptions, the weak currency area *vis-à-vis* the U.S., which is the strong currency area. In each of the items of the U.S. balance of payments in column 1, the sign is positive. The O.I.C. currencies this time devalue almost uniformly against the dollar, but this simply perpetuates their problems, both as regards the balance of trade for non-manufactured goods and the prolongation of anti-inflationary policies, since it causes the price of oil (and other raw materials) to rise in domestic currency, even when it begins to fall in dollars.

The picture emerging from Table 2 (modified on these accounts) is made worse by the inversion of the sign in the *ex ante* transfers concerning the Rest of the World in square 8 (outflows mainly caused by interest payments). The capital movements towards these countries (in line 3) no longer represent a net addition to expenditure capacity, since they now have to finance the transfers in the opposite direction (in line 2). Hence, solvency problems arise in those countries in column 4 which are heavily indebted, problems which become even more serious when the situation changes and relative prices of raw materials fall. They force down a no longer marginal component of world demand.

implied overall negative effects on world demand. The deepening of trade specialization no longer performs this function in the aggregate (and the continuation of the trend for the share of exports in production to grow in the various countries has in reality only a function of recovering the income lost through the rise in import prices of raw materials).[58] In the specialization process, macroeconomic effects lose most of their importance, and the process must in fact only be considered in relation to individual country perspective and the specific importance of the process for each of them. For specialization becomes the weapon with which each industrial economy tackles a situation in which the overall demand for exports is no longer the vehicle for an expansion spreading worldwide, and the success of some industrial economies means the failure of others.

The inevitable modifications of exchange rates leading to corrections of these unequal potentials are not without its costs, since they occur with huge medium-run fluctuations in exchange rates which increase uncertainty, stimulate frequent changes in the allocation of productive capacity, and hence may deter the growth of investment and demand (besides having a negative side effect on supply).

6. A new swing of the pendulum

In recent years, the pendulum has swung once again towards structures and adjustment problems akin to those examined in Section 4; thus, Table 1 (modified) again becomes the point of reference.

I am not implying that we are back in a situation of that kind, but that the adjustment problems, which, in this phase, threaten the continuity and strength of the link-ups between internal and international demand, can be better understood against the background of a potential re-establishment of, and gradual advance towards, that situation. This re-establishment comes after an important transitory period which cannot but be a unique and unrepeatable parenthesis in international monetary relations, but which, because of its legacy, confers on

[58] Besides, the specialization process in the industrial part of the world has now taken on different features, since it mainly concerns interindustry trade.

some of the functional relationships of the period under consideration certain characteristics not found in other similar periods.

I have no intention of going over all the familiar events of recent time, but will confine myself to outlining those features of this phase which link up with the subjects dealt with above.

This expansive phase, too, reveals, from another angle, the difficulties encountered by the United States in acting as "residual country" and the transitory nature of that role. This function is chiefly re-established through the benign neglect as regards the balance of trade which the United States is led to practise because of the advantage obtained in trading off the residual function against a higher rate of domestic growth than would otherwise have been possible. The spectacular creation of dollar reserves which would have occurred in cases of the kind in periods of fixed exchange rates, or, coupled with that outcome, the devaluation which would have taken place in earlier circumstances with flexible exchange rates, was, however, avoided by restrictive monetary policies which drew dollars back to New York and caused the dollar to appreciate. In this way, they aggravated the trade situation, despite the considerable benefit derived from an improvement in the terms of trade.

Hence, in the transitory flow framework leading to some new version of Table 1, the *ex ante* capital flows (in line 2) are towards, rather than away from, the dollar. In the type of case shown in Framework Table A, circuits of type 3 prevail, in the sense that *ex ante* (positive) net capital flows are partly accommodated by the (negative) goods and services account and partly by the exchange rate appreciation. This flow pattern does not imply that, in the world economy, the "residual" country function can be recovered, after having been lost in previous developments; that framework is the outcome of the straitjacket imposed on policy by the need to mantain an *ex ante* consistency for that role. As a result of the consequences which would otherwise flow from the course adopted, the U.S. is forced to follow preventive rather than reactive policies.

In this way, a seeming of re-establishment (at a modest pace) of the domestic-international demand circle ends up by being in reality based on precarious factors. In particular, this situation enormously increases the stock of outside dollars in circulation,[59] the stability of which in

[59] When the *ex ante* flow of dollars is towards the U.S., the gross stock of dollar assets held internationally increases by the amount for which foreigners obtain dollars from U.S. residents engaged in financial activities; this adds to the flow corresponding to the current account and to the new dollars created by the financial intermediation chain, which, however, can become shorter when the dollar is strong. If there is a net repatriation of U.S. residents' foreign exchange holdings, the international dollar stock of assets is reduced.

international portfolios is linked to the maintenance of the attractiveness of this currency (*i.e.* the prospect of revaluation and of a high yield). The greater this attractiveness, the more any subsequent revaluation increases the deficit on current account, thus hastening the arrival of the time when the situation is reversed. This occurs when the size and persistence over time of the deficit tend, at some *a priori* indefinite but existing thresholds, to arrive at the intrinsic limit to the self-sustaining process.[60]

At that point, the direction of causality going from capital account to the balance on goods and services is reversed, in the sense that operators with an open dollar position foresee the risk of capital losses, as deficits become the main anchor for expectations on which financial decisions are based.[61] Sequences of type 3 in the cases in Framework Table A give way to sequences of type 4 (which offer no accommodation). And, for the U.S., a vicious circle of devaluation sets in.

The full re-establishment of the flows in Table 1 (modified) still renders somewhat precarious the expansive circle of internal-external demand described in the figure of Framework Table B. The way in which that re-establishment takes place entails certain differences from the course followed by the processes in 1970-3 and 1976 1/2-1979 1/2. As regards comparable phases, the legacy of the transitory period gives rise to two aggravating conditions and to one which eases the situation.

(i) The picture is rendered more difficult by the huge borrowing needs of the U.S., which graft a flow problem, relating to the trade deficit, onto the stock problem of maintaining a certain stability in the stock of dollar holdings in portfolios. This is not a new situation, but its scale is unusual. The inconsistencies in real aims in row 1 of Table 1 (modified) become explosive as the U.S. is impelled to adjust the balance of trade, while the most deeply indebted countries are forced (by the negative sign of financial transfers in square 6) to maintain and increase a surplus on goods and services account; all this is happening while the O.I.C. are trying to avoid and surrender part of their surplus.

[60] A crucial factor is the way in which expectations are shaped by the assessment of the sustainability of the revaluation of the dollar at various levels over time. There is no doubt that a growth process in the U.S. which swells the deficit in square 1 brings this limit nearer.

[61] The role of the current account in the determination of exchange rates is discussed in COOPER (1982). For the dollar specifically, that role is examined by MARRIS (1985). In other interpretations, the current account is not important as such, but for stock reasons, which influence the risk premium.

The incompatibilities give rise to the difficulties experienced by the U.S. in correcting its trade deficit (which should be considered as partly involuntary) and in the accumulation of reserves by the O.I.C. This outcome, too, is involuntary, since central banks are impelled to accept the role of residual buyers in order to make up for the reluctance of private finance to absorb dollars, thereby avoiding huge undesired revaluations *vis-à-vis* that currency. The situation is self-propelling, and prevents a significant fall in the high real rates of interest in the whole industrial area.

(ii) The phase in which the dollar was revalued and rates of interest were high because of the U.S.'s restrictive monetary policy (coupled with the difficulty of reducing them and the weak expansion in the subsequent period) affects the world picture by creating a series of difficulties for the developing countries in servicing their accumulated debt. As compared with the interpretation of Table 1 (modified) for the earlier phasis, the dollar outflow is absorbed without providing accommodating finance for the Rest of the World, for which the *ex post* sign in square 6 is negative and the *ex ante* one still more so.

Thus, the new framework incorporates other circuits of type 4 (in addition to those already implied in the outflow of dollars) in the *ex ante* transfer to be accomplished by the Rest of the World, to meet the scheduled payments of interest and principal on debts. Real compensation can only come through a surplus in the trade of goods and services (in square 3). But, the part of this transfer actually effected is due to the U.S. deficit; and hence, if these countries are enabled to avoid bankruptcy, this is at the cost of an excessive accumulation of debts incurred by the richest country. The (much greater) part of the transfer which is unaffected works through price movements (*i.e.* terms of trade) operating against to the transferor[62] or through financial rationing.

This fragile situation entails real repercussions in the form of a cut in the demand for imports by the R.o.W., which is now reflected in the industrial area itself. It has also financial repercussions in the vulnerability of the private banks, which have accumulated most of the non-performing loans. Since most of these banks are American ones, the United States is led to meet the more immediate demands of compensatory finance, with, as a result, a further strain on the dollar. Although directly exposed, however, the U.S. has only an intermediatory role; on

[62] It works, although for different reasons, like the "classical" transfer problem mechanism. In this particular transfer problem, the transfer is in the currency of the receiver.

a consolidated basis, asset credits originate in the O.I.C., which are in the reassuring position of being direct creditors of the U.S., and hence less interested in providing compensatory finance.

(iii) The high interest rates stage leaves, as its only legacy "with shock-absorber" effects on tensions present in the system, a weak situation on the raw material markets. This outcome is anomalous in the context of the devaluing of the dollar. This kind of legacy makes it possible to keep the threat of inflation in check, without thereby restoring a margin of freedom to economic policies, or causing spontaneous expansive effects as strong as were the depressive effects caused by the price boom on these markets.[63] The reason for this is that the other negative legacies of the transitory phase weigh heavily on the world economy and that the fall in raw material prices may even aggravate the situation by increasing the difficulties of those sectors of the world economy harmed by this fall and inducing them to react more rapidly than those which benefit.

For the moment, the expansive picture has involved the avoidance of the conditions eroding it from within, but at the same time has not developed any momentum. A change in the phase will also have peculiar characteristics which are still affected by the anomalous conditions arising from the transitional phase. The persistence of conditions (i)-(iii) which offer no immediate prospects of solution has led to peculiar internal repercussions (like the crash in the stock exchanges) and is creating the preconditions for deflation in the U.S.

7. Final remarks

The oscillation of the world economy round (to some degree) recurrent adjustment problems denotes a basic instability in the processes of income formation on the demand side. Simplifying drastically, we can define the situation in which the world economy is caught up as one in which the world trade multiplier does not succeed in obtaining a continuous and virtuous link-up from a kind of world accelerator (involving in this case the authorities) owing to the very fact of not

[63] Indeed, the price of oil collapses without all that has been said about its rise being valid in the opposite sense for its fall.

being able to generate that link-up. For that is hampered by the difficulty of reconciling the different *ex ante* objectives inherent in the process and by the reactions to the circumstances emerging from that process. And again, by the *ex ante* incongruities between financial and real flows and by endogenous financial conditions affecting expenditure.

All this set of aspects of the world economy has been summed up in this article under the term "bridling phenomena".

The instability of world processes and the presence of bridling phenomena calls for the adoption of stabilizing and interventionist policies, as the chances of reactivating an expansive and coherent demand circle cannot be left to spontaneous developments.

The perception of these needs is blurred by both the prevailing analytical and interpretative perspectives.

The analytical perspective in question flows from the concept which sees the economy as pivoting on the idea of a self-regulating capacity of the market, and entails the existence of gravitational equilibrium centres towards which the processes tend automatically to move. Within this paradigmatic perspective, even when used as an analytical device, we cannot possibly account for the relevant features of the real world, which is dominated by unbalanced positions, instability of responses, threshold factors, uncertainty, lags, contrasting signals, financial feverishness, and incompatibility of individual plans. Within this paradigm we can only come to the conclusion that convergent processes can be disturbed only by the operations of the public authorities and by institutional obstacles to the functioning of the market (which however imply a new equilibrium).

A context dominated by instability calls for a paradigm of instability; that is, of the way in which instability is generated endogenously. In a methodological approach which studies economic processes in conditions of permanent disequilibrium and of irreversible decisions, it would be easier to grasp the fact that processes, once begun, do not necessarily imply any particular point of arrival. Indeed, an initial disequilibrium is most likely to lead to a further but different kind of disequilibrium, and thus it makes for institutional and behavioural changes as it proceeds. Hence, expectations cannot be firmly anchored to some point of convergence, and nothing can be inferred about the "long-term" features. The anchor can be found only in a cooperatively operated context of rules of the game and of market organization.

The interpretative perspective which blurs the perception of the system's needs concerns the role of the supply factors. The view that the difficulties experienced in recent years flow in the main from factors which have exerted a direct negative influence on the propensity to produce (independently of demand) and to widen the productive capacity leads to the conclusion that what we are faced with is a number of problems concerning the individual national situations, but it would be quite incorrect to talk of difficulties in a genuine international mechanism. Inherent in this approach is the conviction that supply policies are in themselves sufficient to determine conditions for (future) growth, and, in addition, that these policies ought to take as their point of departure resolute restraint exercised specifically on aggregate demand.

This approach has given rise to an unfortunate "line" (which still has a certain appeal), and which lays it down that, for the restoration of order in the international system, all that was needed was for each country to restore order within its economy, and that the system had no need of any other rules.

The reference to incapsulating factors as the major ones in the world economy in recent years leads, on the contrary, to the conclusion that the world suffers from external, much more than internal, limits to the growth of its member countries. And it points at the same time to the conclusion that a series of plans and rules of behaviour would make the world economy more "organized" (in the sense given to this term by economists in the early "forties"), and hence more inclined to grow. Even if it is not the intention of this paper to engage in the discussion of this topic, it should be stressed that in many fields of international money, debts, finance, trade, transfers and terms of trade, there is ample scope for plans which would go far to relieving the market of the task of resolving *ex ante* inconsistencies, impinging on the stability of the external-internal circle of demand generation. What is called for is a series of collective solutions, and not "case by case" solutions.

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REFERENCES

ALIBER R.Z., 1978, *Exchange Risk and Corporate International Finance*, London.

BALASSA B., 1963, "Some Observations on Mr. Beckerman's 'Export-propelled' Growth Model", *Economic Journal*, December.

BECKERMAN W., 1962, "Projecting Europe's Growth", *Economic Journal*, December.

BECKERMAN W., 1965, "Demand, Export and Growth," Chap. II of Beckerman W. *et al. The British Economy in 1975*, London.

BIASCO S., 1979, *L'inflazione nei paesi capitalistici industrializzati. Il ruolo della loro interdipendenza, 1968-1978*, Milano.

BIASCO S., 1985, "Dollar Circuits and Theories of Currency Transactions", working paper, Department of Economic Sciences, University of Rome.

BIASCO S., 1987, "Currency Cycles and the International Economy", in this *Review*, March.

BILSON J.F.O., 1979, "The 'Vicious Circle' Hypothesis", *IMF Staff Papers*, March.

BOOTHE P., 1983, "Speculative Profit Opportunities in the Canadian Foreign Exchange Market, 1974-78", *Canadian Journal of Economics*, No. 4.

BOSWORTH B. and DUESENBERRY J.S., 1973, "A Flow of Fund Model and its Implications, in *Issues in Federal Debt Management*, Federal Reserve Bank of Boston.

BOSWORTH B. and LAWRENCE Z.R., 1982, "Commodity Prices and the New Inflation", Brookings Institution, Washington.

BRANSON W.H., 1977, "Assets Markets and Relative Prices in Exchange Rate Determination", *Sozialwissenschaftliche Annalen des Instituts für Hohere Studien*, Nr. 1.

CAVES R.E., 1970, "Export-Led Growth: the Postwar Industrial Setting" in Eltis W.A. and Wolfe J. (eds.), *Induction, Growth and Trade: Essays in Honour of Sir Roy Harrod*, Oxford.

CILIO M., 1984, "Squilibrio e compatibilità ex-post - Note sulla scuola svedese", *Rivista internazionale di Scienze sociali*, N. 2-3 Aprile-Settembre.

COOPER R.N., 1968, *The Economics of Interdependence*, New York.

COOPER R.N., 1982, "Flexible Exchange Rates, 1973-1980. How Bad Have They Really Been?" in Cooper R. *et al.* (eds.), *The International Monetary System under Flexible Exchange Rates*, Cambridge.

CUMBY R.E., 1984, "International Interest Rate and Price Level Linkages under Flexible Exchange Rates: A Review of Recent Experience" in Bilson J.F.O. and Marston R.C. (eds.), *Exchange Rate Theory and Practice*, Chicago.

DUESENBERRY J.S., 1962, "A Process Approach to Flow-of-Funds Analysis" in NBER, *The Flow of Fund Approach to Social Accounting*, Princeton.

DORNBUSCH R. and FISHER S., 1980, "Exchange Rates and the Current Account", *American Economic Review*, December.

DUNN R.M. Jr., 1979, "Exchange Rates, Payments Adjustment, and Opec: Why Oil Deficits Persist", *Essays in International Finance*, No. 137, December.

EKKER M.H., 1950, "Equilibrium of International Trade and International Monetary Compensations" in *Weltwirtschaftliches Archiv*, Nr. 2.

FRANKEL J.A. and FROOT K.A., 1986a, "Interpreting Tests of Forward Discount Bias Using Survey Data on Exchange Rate Expectations", NBER, working paper.

FRANKEL J.A. and FROOT K.A., 1986b, "The Dollar as a Speculative Bubble: a Tale of Fundamentalist and Chartists", NBER, working paper.

FRISCH R., 1934, "Circulation Planning: Proposal for a National Organization of a Commodity and Service Exchange, *Econometrica*, vol. 2.

FRISCH R., 1947, "On the Need for Forecasting a Multilateral Balance of Payments, in *American Economic Review*, September.

GOLUP S.S., 1983, "Oil Prices and Exchange Rates", *Economic Journal*, September.

GOODWIN R.M., 1983, "The World Matrix Multiplier", in *Essays in Linear Economic Structures*, Chap. III, London.

GRAZIANI A., 1969, *Lo sviluppo di un'economia aperta*, Napoli.

HANSSON B., 1982, *The Stockholm School and the Development of the Dynamic Method*, London.

HICKS J., 1979, *Causality in Economics*, London.

HILGERDT F., 1944, "The Case for Multilateral Trade", *American Economic Review*, May.

KALDOR N., 1966, "Causes of the Slow Rate of Economic Growth in the United Kingdom", Inaugural Lecture at the University of Cambridge, November.

KALDOR N., 1971, "Conflicts in National Economic Objectives", in Kaldor N. (ed.), *Conflicts in Policy Objectives*, Oxford.

KOURI P.J.K., 1976, "The Exchange Rate and the Balance of Payments in the Short Run and in the Long Run: A Monetary Approach", *Scandinavian Journal of Economics*, No. 2.

KRUGMAN P., 1983, "Oil and the Dollar" in Bhandari J.S. and Putman B.H. (eds.), *Economic Interdependence and Flexible Exchange Rates*, Cambridge, Mass.

LAMFALUSSY A., 1963, *The United Kingdom and the Six: An Essay on Economic Growth in Western Europe*, Homewood.

LAURSEN S. and L.A. METZLER, 1950, "Flexible Exchange Rates and the Theory of Employment", *Review of Economics and Statistics*, November.

LEAGUE OF NATIONS, 1942, *The Network of World Trade*, Geneva.

LEVICH R.M., 1985, "Empirical Studies of Exchange Rates: Price Behaviour, Rate Determination and Market Efficiency", in Jones R.W. and Kenen P.B. (eds.), *Handbook of International Economics*, Amsterdam.

LINDAHL E., 1939, *Studies in the Theory of Money and Capital*, London.

LINDAHL E., 1953, "On Keynes Ekkonomiska System", *Economiskk Tidskrift*, n. 2.

LUNDBERG E., 1936, *Studies in the Theory of Economic Expansion*, London.

MACHLUP F., 1968, "The Transfer Gap of the United States", in this *Review*, September.

MARRIS S., 1985, "Deficits and the Dollar", Institute for International Economics, Washington.

MCKINNON R.I., 1978, "Exchange-Rate Instability, Trade Imbalances, and Monetary Policies in Japan and the United States", working paper, Stanford University.

MINSKY H.P., 1957, "Monetary System and Accelerator Models", *The American Economic Review*, December.

MUNDELL R.A., 1969, "Problems of the International Monetary System", in Mundell R.A. and Swoboda A.K. (eds.), *Monetary Problems of the International Economy*, Chicago.

MYRDAL G., 1939, *Monetary Equilibrium*, London.

SCHULMEISTER S., 1987, "An Essay on Exchange Rate Dynamics", Austrian Institute of Economic Research, working paper.

SOHMEN E., 1974, "Exchange Rates, Terms of Trade and Employment: Pittfalls in Macroeconomic Models of Open Economies", *Kyklos*, No. 3.

STEINHERR A., 1981, "Effectiveness of Exchange Rate Policy for Trade Account Adjustment", *IMF Staff Papers*, No. 1.

SYLOS LABINI P., 1982, "Rigid Prices, Flexible Prices and Inflation", in this *Review*, March.

TERMINI V., 1981, "Logical, Mechanical and Historical Time in Economics", *Economic Notes*, Vol. 10.

VANDENBROUCKE F., 1985, "Conflicts in International Economic Policy and World Recession. A Theoretical Analysis", Conference on "Western Europe in the 1980s", *Cambridge Journal of Economics*, March.

WALLICH H. and GRAY J.A., 1980, "Stabilization Policy and Vicious and Virtuous Circles", in Chipman J.S. and Kindleberger (eds.), *Flexible Exchange Rates and the Balance of Payments: Essays in Memory of Egon Sohmen*, Amsterdam.

WHITMAN M., 1974, "The Current and the Future Role of the Dollar: How Much Symmetry", *Brookings Papers on Economic Activity*, No. 3.

YEAGER L. B., 1976, *International Monetary Relations: Theory, History and Policy*, New York.