Mechanico-Discretionary Tools for Parity Changes

1. Any comprehensive proposals for changes or reforms of the international monetary system should inevitably deal jointly with three interdependent elements: the flexibility of the exchange rate; the domestic adjustment process; and the availability of international liquidity on a global and an individual countries basis. Their interdependence needs little elaboration.[1] The extreme cases are the most obvious ones. With a practically unlimited amount of liquidity available to individual countries on a non-conditional basis, the exchange rate can remain fixed indefinitely and there is no need for a domestic adjustment process.[2] Likewise, if the exchange rate were allowed to be, as a matter of deliberate policy, perfectly flexible (that is, free to move without restrictions or intervention by the monetary authorities), the amount of liquidity needed would be zero and again there would be no necessity for deliberate policies of domestic adjustment.[3] In less extreme cases, which constitute the vast majority, where each of the three elements is subject to different degrees of freedom or restriction, the extent to which any of them is needed as a policy tool, in the event of a balance of payments disequilibrium, depends on the extent of the use of the other two.[4]

1 A most recent, if not explicit mention of this interdependence can be found in the "remarks" made by Mr. Arthur F. Burns, Chairman of the Board of Governors of the Federal Reserve System, in Montreal on May 12, 1972.

2 This case is less unreal than it would appear at first glance. We have examples of countries (e.g., Libya, Kuwait) which have received over a number of years foreign financial resources (e.g., oil revenue) at zero cost in (steady or growing) amounts which have allowed them to implement domestic policies leading to income and price induced increases in demand for foreign exchange, without facing the need to adjust such policies or to change the exchange rate.

3 A situation approaching this extreme case existed in Lebanon up to the time when a Central Bank was established (1964).

4 This implicitly assumes that even where there should be a mechanism for correction of a disequilibrium from the outside (i.e., adjustment in surplus countries), there remains a residual which requires a correction by a country experiencing a deficit.

2. This paper is concerned primarily with the exchange rate; and more specifically with technical criteria for exchange rate adjustments in an international monetary system which, like the one at present operated by the International Monetary Fund, encompasses at least all the countries which are in the present Fund membership.[5] Because of the interdependence, reference will be made, where appropriate, to the two elements with which we are not primarily concerned, i.e., the domestic adjustment process, and the availability of international liquidity. The main technical objective of this paper is to assess the suitability, chiefly from an operational point of view, of clearly defined indicators to serve as guidelines for exchange rate adjustments. Its main contention is that indicators serving such a purpose can technically be constructed; but that there are limitations as to their reliability, so that both for this reason and for the inevitable infringement of national sovereignty which is involved, the role of discretion and judgement, both at the national and international level, is bound to remain important.

3. Our first introductory task is to review rapidly those aspects of proposals for reforms of the international monetary system submitted during the last decade or so, which are concerned with the exchange rate arrangements. The thrust of the arguments advanced in this respect, particularly in academic circles, but also in official spheres, has been in favour of *more flexibility* in the exchange rate arrangements; by which, I believe, is meant more flexibility than *as a matter of historical record* has been experienced in the past decade and a half [that is, during a period when the quantitative (non-price) tools of policy have played a decreasing role as regulators of international economic and financial relations].

4. The above reference to the historical record has the deliberate purpose of highlighting the contrast between the record itself and the degrees of freedom allowed by the present system — an aspect which has an important bearing on the assessment of the effectiveness of the technical indicators if the implementation of the policies suggested by the indicators were to be left solely to national author-

5 The reference to "countries" should not be taken too literally. The criteria discussed below are equally applicable in the case where the "country" is a regional group, such as the proposed EEC system of fixed parities among members of the group.

ities. A brief digression on this contrast appears therefore to be useful; and will also serve as a general comment on the clamour for a *new* international monetary system.[6]

5. Since, as stated, one of the purposes of a new system would be to introduce flexibility in exchange rate changes, the question is why and in which sense there is allegedly not enough flexibility under the present one. As a background against this question, it should be recalled that the historical and emotional premises on which the Bretton Woods system was founded were represented by the experience of the 1930's, which included a complete armory of policy tools in international monetary and economic relations. The main preoccupations which originated in that experience were as follows: (i) It was feared that countries would devalue their currency too much and too frequently to overcome domestic and balance of payments problems and that this would result in shifting the burden of internal adjustment to other countries. Hence the prior approval regime for exchange rate changes. (ii) The experience had also shown that the discipline inherent in the classical gold standard was no longer an acceptable *compulsory principle* of economic policy. It was decided, therefore, that countries should be allowed, under safeguards, to change their par value without being challenged as to their domestic policies, political or social, which made such a change necessary. While the *size* of a change was deemed to be a matter of international concern, the *initiative* on it was left entirely and only to the individual countries. At the same time, countries were given the option not to change the par value if they so chose, and to undertake instead domestic policies to correct a disequilibrium in the balance of payments. To this end, provisions for balance of payments financing and exchange restrictions on a temporary basis were made. (iii) The experience of the previous decade had also shown that leaving short-term capital movements completely uncontrolled would risk

6 Since a critical view is taken here of the widely proclaimed need for a system significantly different from the present one, I should explain that by "system" I mean in this context a set of institutional arrangements operated by an agency (like the IMF), and not necessarily inclusive of any specific set of national policies which are consistent with it. To be more specific, both the present sharing of the burden of adjustment and a hypothetical future non-mandatory 50-50 sharing in the form of a policy agreement between deficit and surplus countries are consistent with the present system and can be housed by it. This being said, I should add that the points made in this context are meant as technical clarifications and not as a defense of the present system as such.

creating difficulties within each national financial market, both as a result of the entry and of the outflow of this capital.[7] Hence the provisions which allow, and in certain cases even request, the introduction of controls on international capital movements. These provisions were particularly aimed at protecting the par value and also the adequacy of the international (conditional) liquidity to be created through the Fund.

6. The preoccupations and philosophy which led to the characteristics of the Bretton Woods arrangements were not validated by subsequent experience. In fact, as is well known, up to recently, individual countries — developed and developing alike — have shown, with some exceptions, little inclination, let alone eagerness, to propose timely changes in par values; or changes at all. The reasons for this were of a complex nature and at times difficult to determine: frequently they were of a political or psychological nature rather than of an economic one.[8] The other premise, concerning the desirability of controlling capital movements, was also gradually abandoned and, indeed, a "new" philosophy developed, affirming the virtue of a complete freedom of such movements. Reflecting this shift in philosophy, the Board of Directors of the IMF gave in 1961 an interpretation of Article VI of the Statute (which is related to these matters) which appears to be diametrically opposed (for all practical purposes) to the interpretation on the same subject rendered in 1946.[9] Only lately the sad experience of the combination of this

7 The striking adverse effects of these capital movements led Professor Marco Fanno to the view, in an exaggerated appraisal, that they constituted the seed of economic crises (see M. Fanno, *I trasferimenti anormali di capitali e le crisi*).

8 An attempt at giving an "economic" basis to the reluctance of national authorities to propose changes in par values consists of introducing an inexistent rule; i.e. that the Fund only approves "large" changes in parities (see, for instance Stephen Marris, *The Burgenstock Communiqué: A Critical Examination of the Case for Limited Flexibility of Exchange Rates*, Essays in International Finance, No. 80, May 1970; Princeton University, Princeton, New Jersey). It is a fact that the 1961 revaluations of the DM and the Dutch guilder were of about 5 per cent and the IMF did not object to them; nor did it object to the devaluation of the Danish Krone of about 8 per cent (November 1967), nor to the revaluation of the Austrian schilling, of about 5 per cent (May 1971). Moreover, most of the "Smithsonian changes" were of less than 10 per cent and a large number of changes under "crawling peg" arrangements have been of an even smaller magnitude (e.g., Brazil). The latter changes were approved by the Fund, even though not formally as par value changes.

9 IMF: "Selected Decisions of the Executive Directors", Fourth Issue, April 1970, p. 19.

freedom with a system based in reserve currencies has led a number of economists, and especially national authorities, to have second thoughts on the advantages of uncontrolled movements of funds.

7. Both the near-deliberate sluggishness in par value changes and the larger-than-expected short-term capital movements placed a corresponding larger stress on the liquidity/adjustment process combination. As between the two, the second has been growingly hampered by the fact that "full employment" has become less an objective of economic policy proper and more a primary element of pure internal political debate.[10] As a result, a disproportionately large part of the burden has fallen, with few exceptions (e.g., Italy in 1963-64), on the provision of external liquidity. At first the process whereby additional liquidity was assured proved to be slow and in certain respects the result of *ad hoc* improvisations. With the price of gold stuck for political, emotional and some economic reasons, and the practical difficulty to introduce a manyfold increase in Fund quotas, the GAB, swap arrangements, the Basle agreement for the pound sterling were first resorted to as additions to the Fund system. Later, the flood of U.S. dollars (desired or undesired) and the distribution of SDRs, created more than ample liquidity additions in practically (n-1) developed countries,[11] and have correspondingly

10 To dispel any impression that this is merely semantics, it may be well to clarify that what is meant is that in a number of cases (e.g., U.S. in recent years) the (political) fear of an increase in unemployment which would have resulted from energetic corrective measures has militated in favour of a milder economic policy, usually referred to as a "gradual approach" or "fine tuning", which, in all likelihood, has meant in the end not only very little success in achieving internal adjustment, but also a *larger loss* in terms of employment and GNP, if this loss is measured by multiplying the shortfall from full employment and full employment real product by the duration of the stagnation/recession.

11 The historical reliance on injections of liquidity from the reserve center seems to have led (perhaps with good reason in terms of practical realism) to the (technically erroneous) view that the gold exchange standard is an *essential* ingredient of the Bretton Woods system. Likewise, when the volume and rate of growth of dollar holdings, combined with the unpreparedness of the reserve center to undertake a program of adequate corrective measures, led to the inconvertibility into gold, this other lost facet of the gold exchange standard was also described as the loss of one of the basic ingredients of the Bretton Woods system. Once again this is technically not correct. The gold convertibility is basically an option open to countries [Article IV, 4(b)] which prefer it to the maintenance of the limits (Article IV, 3) for exchange rate quotations. Technically, what the system requires is that the central banks provide themselves with foreign currencies (e.g., through reciprocal credit arrangements) to be used *either* to intervene in the market *or* to redeem (convert) at a later stage somebody else's balances which have been accumulated because the task of the intervention has been left to the other party(ies). Today a convertibility problem exists

relieved the stress placed on total liquidity by the stickiness of exchange rates and adjustment process. This situation, however, for good reasons is regarded as exceptional, and as such needing correction rather than constituting a sound basis for an international monetary system.

8. In short, looking backwards, it can be said that: (i) Par values have been changed in practice with much less frequency than it *was expected* in 1944 and *allowed* by the system. (ii) The failure to make timely changes was even more striking when compared with what was *required* by the stickiness of the domestic adjustment process in the presence of an inadequacy of reserves relative to the degree of freedom of short-term international capital movements. (iii) This insufficient frequency has been the result not of statutory impediments,[12] but rather of sluggishness in the decision-making process at the level of the monetary authorities of individual countries, which in turn was largely dominated by political and at times emotional rather than economic considerations; or, in terms of practical policies, by the impasse created by pressure groups including political parties which, for real or imaginary reasons, believed that they would stand to lose from a change in par value in one direction or another. All this has added up to demands for a system with more flexibility in exchange rates of one kind or another.

9. In a way, this is a sort of *non sequitur*: one starts from the premise that the obstacle is the decision-making process, which is a policy matter, and then follows up by proposing a technical solution. It is not clear how mere technical changes of the statutory provisions which allow either changes in par values or ample fluctuations in rates around the par values, would lead to the adoption of policies which require the political will to do so. This, therefore, will raise

because the main reserve center does not carry out either of these two operations. To put it differently, the problem exists because, in terms of the IMF Articles of Agreement, the reserve center does neither comply with Article IV, 3 nor with Article VIII, 4; and not because it has abandoned the optional facility of Article IV, 4(b).

12 As a matter of fact, countries have changed their par value as frequently as desired (in the presence of disequilibria) without finding any obstacles in the IMF. An Executive Director of the institution, although writing in his private capacity, went as far as stating: "Nobody can deny that in practice changes in exchange rates are practically decided by the national authorities with the merely formal consent of the IMF and that at times they are announced before a final decision is taken by the IMF..." (Alexandre Kafka, *Bancaria*, December 1971, p. 1505).

the important problem of the extent to which par value changes should be made mandatory or at least exogenously induced in certain circumstances; and correspondingly the extent to which the national sovereignty in the initiative, which was recognized at Bretton Woods, can be maintained or should be reduced. This will be discussed at a later stage. For the time being we can allow ourselves the luxury of assuming that the political will for the solution of this problem exists and that a new system should include elements of more *de facto* flexibility.

10. Proposals have been made, as is known, particularly in academic quarters, to leave the exchange rate perfectly free to move. This, however, cannot be taken too seriously for a number of reasons of both a practical and policy type. Historically, it is quite clear that countries which have adopted flexible exchange rate arrangements (e.g., Canada) have registered movement in their gross foreign asset holdings, which indicates that the authorities have been intervening in the foreign exchange market, thus influencing the level of the exchange rate. This is not surprising. The exchange rate is too important a price, both nationally and sectorally, to be left to the determination by the "superior wisdom" of the "market". The authorities may have good national policy reasons to attain certain overall objectives, such as reserves accumulation or decumulation, and because of this they would not leave the exchange rate to be at levels where demand equals supply at all times. Secondly, the fact that the exchange rate is a single price in the whole market for one "commodity" does not mean that changes in it affect everything in the same way; and the authorities may have good reasons to favour or discourage certain transactions rather than others, or, to be realistic, to respond, at times, to certain group pressures more than to others.[13] Furthermore, an exchange rate left to itself is bound to reflect seasonal and occasional supply and demand factors, in addition to its basic trend. In practice, these factors may be difficult or impossible

13 "... the most important question for a government in respect of exchange policy is not should the exchange rate be 'fixed' or should it float, but what should the exchange rate be?" (R. W. Lawson, Deputy Governor of the Bank of Canada, as quoted by Samuel I. Katz, in *The Case for the Par Value System, 1972*, in Essays in International Finance, No. 92, Princeton University, Princeton, N.J., p. 25). And later in the same quotation: "what exchange rate is appropriate for a particular country at a particular time... involves a balance of conflicting considerations, some pointing to a higher rate and some to a lower...". *Op. cit.*, p. 26.

to identify with precision, even for the best informed operator. At the same time, it is difficult to believe that the authorities would refrain from attempting to offset such factors (which, incidentally, does not exclude that the authorities may intervene at the wrong time and for the wrong reasons).[14]

11. We are therefore led to consider a less than complete flexibility, which requires both that new par values be fixed or "declared" from time to time; and that the adjustment process and the provision of international liquidity have a role to play. A large number of proposals have recently been made in this respect, but the discussion of the problem is by no means a recent one, at least in the economic literature, and many economists have dealt with it over the last ten years or so. The proposals which have been made generally fall under the headings of "wider bands" and of "crawling pegs" or "gliding parities"; or a combination of the two.

12. Most of these proposals, which will be briefly reviewed below, seem to suffer, however, from a number of shortcomings. It can be said at the start that they appear to be suited only to developed countries; and in fact, they seem to apply only to those developed countries which behave in a predetermined fashion. The assessment of their viability seems also to depend on a great deal of guesswork (see paragraph 16 below) which makes their usefulness questionable from an operational point of view. The wider band proposal has two variants: the "slightly wider" and "substantially wider" margins,[15] both being compared with the present IMF one per cent either side of parity. In the latter case the size of the margin to which reference is more frequently made is 5 per cent "either side" for an intervention currency. The virtue of this arrangement is presum-

14 The experience of some developing member countries of the IMF is informative in this respect. In a number of cases, attempts have been made to avoid the political problem of par value changes by arranging for a fluctuating exchange rate on a temporary basis. Under the arrangements the authorities were supposed to let the rate reflect the "basic" trend and to intervene only to smooth out "temporary" or "occasional" or "short-term" fluctuations around the trend. In practice, however, the interventions, intentionally or unintentionally, frequently pegged the rate at certain levels and "adjustments" were allowed either too late or in inadequate magnitudes or both.

15 This terminology is used in the Report of the Executive Directors of the IMF: *The Role of Exchange Rates in the Adjustment of International Payments*, International Monetary Fund, Washington, D.C., 1970.

ably that it would obviate decisions for changes in par values over a period of years.[16] Apart from the fact that a number of countries with open or repressed inflation (e.g., several Latin American countries, other developing countries, and also, among others, such European countries as Iceland and Turkey) on the basis of past records would not find these margins sufficiently ample to solve the problem over a number of years, it is also true that such an arrangement presupposes the existence of an active foreign exchange market. The authorities of most developing countries, however, find it appropriate or necessary, for practical reasons, to set fixed buying and selling rates rather than intervention points. Furthermore, even for developed countries, and even under our assumption that there is a political will to let the rates move, the effectiveness of "substantially" wider margins in obviating par value changes hinges, inter alia, on two major assumptions: (i) That the authorities (and even the private entities) feel that they are not dispensed from implementing a domestic adjustment of a sort; and (ii) that, while the exchange rate e.g. slides, the relevant elasticities do not act in a perverse fashion, that is in a fashion that would accelerate the movement towards the limit. If the opposite were to be true, which is likely, and the two phenomena which are assumed away were to obtain or even cumulate, the limits of the band could be reached much more quickly than in a number of years. These, of course, are separate considerations from the effects of speculation, capital movements and destabilizing expectations (see paragraph 16 below).

13. As to "slightly wider" margins, the range being of 2 to 3 per cent, some of the above considerations apply. In addition, it is questionable that this would be helpful even to each and every developed country unless it so happens that a more remarkable similarity between countries' economic and financial policies than prevailing so far will be achieved in the future. It is true enough that 2 per cent is arithmetically larger than 1 per cent and that *if nothing else changes*, the former can accommodate more ample imbalances (at the par value rate) than the latter. It is also true that there is nothing magic about 1 per cent, or 0.75 or 0.50 per cent for

16 See, for instance, GEORGE N. HALM, *Towards Limited Exchange Rate Flexibility*, in Essays in International Finance, No. 73, March 1969, Princeton University, Princeton, N.J., pp. 11-12.

that matter.[17] It is at least open to doubt, however, that the assumption that nothing else changes is a valid one. In particular this applies, as stated earlier, to the determination to carry out a domestic adjustment process.

14. With respect to the "gliding parity" the most frequent reference is made to the works of James E. Meade, John H. Williamson and J. Carter Murphy.[18] The proposals of these authors involve monthly or weekly or other short interval changes in par values amounting to 2 to 3 per cent on an annual basis. A similar idea is mentioned in the Report of the IMF Executive Directors, but no definite view was expressed on it since it was deemed that the question required further study.[19] Professor Meade's proposal included both a permissive and a mandatory change of one-sixth of one per cent per month. The mandatory aspect constitutes a "consequential" ingredient, especially if one doubts the assumption that the political will to change par values under rules different from the present ones exists. In the form in which it was presented, however, the proposal did not solve a number of difficult problems. It says: "(countries) would undertake to depreciate their currencies by 1/6 per cent in

17 Insofar as exporters are concerned, however, this does not seem to be a matter of indifference. In fact, they seem to have a distinct dislike for fluctuations, forward exchange market facilities notwithstanding. The promptness with which certain European governments have introduced exchange rate insurance arrangements after the December 1971 widening of the margins seems to indicate the strength of the pressures of exporters in their eagerness to obtain a narrower band of fluctuations than allowed by the Smithsonian agreement.

18 See *The National Banking Review*, 1965 and 1966; *The Three Banks Review*, 1964 and 1966; and Princeton's Essay in International Finance, No. 50.

19 *Op. cit.*, p. 73. The Report is somewhat ambiguous in this respect. On Page 73 it envisages a possible amendment of the Articles of Agreement (which is presumably needed) to "facilitate small and gradual changes in parities as disequilibria develop"; whereas on Page 72 it states that Article IV permits changes in par values to correct a fundamental disequilibrium "smaller than members have with few exceptions proposed in the past". It is not clear why an amendment is needed unless it is maintained: (a) that no fundamental disequilibrium can ever exist if the (presumed) corrective change is of, say, 3 per cent; or (b) that by looking at a country's situation and prospects the Executive Directors are able to differentiate between a "developing" or "emerging" disequilibrium on the one hand, and a "fundamental" one on the other; and to pinpoint in time exactly when the "emerging" has "emerged", considering that the range under examination is of, say, 3 to 5 per cent. To appreciate the clairvoyance required of the Executive Directors, one should bear in mind that there is in the Report a definition of fundamental disequilibrium which covers not an actual deficit in the balance of payments but a potential one, which would be expected to appear if restrictions on trade and payments did not exist (at all?) (p. 48).

any one month if, but only if, they were faced with a continuing balance of payments deficit... ". Since this would constitute a further reduction in national sovereignty, the undertaking (assumed to be to the international community) could not be phrased — both for the protection of the country concerned and of the international community — so loosely. It is difficult to believe that any country would transfer to the staff of an international institution and to its governing body the full discretion to determine how long does a deficit have to exist to be a " continuing " one; to which " balance of payments " reference is made; the magnitude of the deficit; whether or not, and to which extent restrictions (new or old) are to be taken into account; and so forth; in order to make the undertaking operative. It is even more difficult to believe that, should it be possible to agree on technical criteria for the quantitative aspects mentioned above, countries would relinquish, on the basis of *mechanical automatic* formulae, the option to undertake corrective measures other than par value changes. In other words, the general point which is made here is that the test of the goodness of proposals of this type in this field of normative economics is their susceptibility of being implemented; [20] and it does not appear that such a test is met.

15. The (hoped for) avoidance, for a number of years, of par value changes, which is the characteristic of the " substantially wider margins " proposal; and the rule of frequent actual changes in par-value, which is characteristic of the gliding parities proposal, are combined in the " crawling bands " proposals which would involve validating actual exchange rates within a permissible band by declaring a new par value at the level of those rates. E. Roy Canterbury, who is one of the proponents of this combination, is aware of the need of fairly explicit indicators to operate it but while he would make such indicators sufficiently vague " to fool most speculators ",[21] he would leave the determination of the timing of moving the peg (par-value) to the IMF. Some of the comments made

20 To obtain an idea of the full range of the policy variables, and of the extent to which discretion and guesswork would have to be used in matters of this nature, reference should be made to J. Marcus Fleming, *Guidelines for Balance-of-Payments Adjustment under the Par-Value System*, Essays in International Finance, No. 67 (May 1968), Princeton University, Princeton, N.J.

21 E. Roy Canterbury, *Economics of a New Frontier*, Wadsworth Publishing Co., Inc. pp. 213-15.

in respect to each component of this proposal are applicable here; and in particular, that it seems again to underrate the difficulties which arise on account of the transfer of sovereignty that it would entail.[22]

16. The discussions of the various proposals mentioned above, and of their variants, are conducted in the literature largely with reference to their effect on capital movements, and to the stabilizing or destabilizing nature of these movements. These are, no doubt, very relevant variables to take into account. There are, however, two main reasons why such aspects have not been covered in this paper. One is simply that our main interest is not so much to discuss the theoretical merits of each proposal, but rather to see if and how they are susceptible to be made operable. The second and more substantive reason is that in the view of this writer, the conclusiveness of such discussions is rather limited. The various variables involved in determining short term capital movements — interest rate differentials, the actual and imagined (by operators) success or failure of measures of internal adjustment, the nature of expectations and their elasticity with respect to spot rate movements, the more or less educated judgement as to whether and how long a country can " hold out " in view of the size of its reserves and its borrowing capacity — have values which vary within a certain range (more or less wide) and may have positive or negative signs. Because in practice such variables may be largely independent of one another at least in the short run — which is our relevant time dimension — the number of possible combinations of " within range values " of such variables is so high that the possibility of developing a set of abstract firm propositions which aim at predicting in advance what will happen in each actual situation is very limited.[23] It becomes even smaller if

22 Other proposals, meant to have practical applicability, can be found in George N. Halm, ed., *Approaches to Greater Flexibility in Exchange Rates*, Princeton University Press, 1970. See in particular Part IV (" Practical Proposals and Suggestions for Implementation ") with papers by L. B. Krause, R. V. Roosa, W. Fellner, G. C. Chittenden, R. N. Cooper, D. B. Marsh, T. D. Willet, C. M. Vlierden and H. G. Johnson.

23 In a recent article Mr. G. Gandolfo (" Tentativi di analisi teorica in tema di cambi flessibili e speculazione ", in *L'Industria*, No. 1, 1971), reached substantially the same conclusion on the basis of a mathematical model, even though his treatment was based on capital movements due to speculation only (not including, e.g., interest rate differentials) and even though he assumed the spot rate as the only variable determining the speculators' behaviour (" Sembra plausibile ritenere che gli speculatori basino le loro aspettative sul tasso di cambio corrente e sul suo andamento ", p. 46).

one introduces the possibility, but not the certainty, of such elements as controls on short-term capital movements, which in turn may differ as to the degree of their intensity and effectiveness.

17. Having admitted the desirability for "more flexibility", and having pointed out a number of unresolved and probably unresolvable questions raised by proposals which have been advanced, we must now proceed to discuss how some form of limited exchange flexibility can be implemented.[24] We shall neglect any form of wider bands and shall focus our attention on the movable parities approach, although this does not exclude that wider bands can be used.

18. Movable parities do not move by themselves; and since parities could move under the present arrangements but they do not, something concrete has to be done to make them move. Two ingredients are needed: (i) a prompting mechanism; and (ii) a new addition, of an exogenous type, in the present exclusively national activation process.[25] An important task to meet requirement (i) above, is the construction of "indicators". Such indicators, for the system to be operable, should have a number of characteristics, the most important of them being the following ones. They should be clearly understandable, sufficiently reliable and, to the extent possible, simple. They should be based to the *minimum* extent possible on complex (and at times dubious) calculations and on estimates or guesswork of future trends in the domestic economy and its balance of payments (these estimates would enter in the decision-making process). In addition, if they have to serve an international (as distinct from regional) monetary system, they should be applicable to all countries and not simply to a group of them. Furthermore, to the *maximum* extent possible, they should be constructed in such a way as to be

24 Practically the studies on this matter stop at the point where they raise questions (see George N. Halm, *op. cit.*, pp. 24-27). The Report of the IMF Executive Directors does not go any further. In fact, it is strangely patchy. It rejects a particular type of arrangement for par-value changes — i.e., *automatic* adjustments at *fixed intervals* (pp. 44-46); it does not take into account any similar non-automatic (or discretionary) arrangements; and in the Policy section, mention is made of only one semi-permissive simple proposal (under "Prompt adjustment of parities in appropriate cases") which, as already noted, seems to differ only marginally from the present arrangements, and which is not even discussed.

25 Experience shows that this addition is necessary even under regimes where the par value is for all practical purposes abandoned. Latin American countries offer during the '50s and the '60s numerous examples of frozen "free" rates and of "stuck" crawling pegs.

consistent when applied to the various countries which compose the system (symmetry requirement). Other characteristics should be their capability of suggesting changes in par values in *either* direction, and of allowing for increases or decreases in total international liquidity.

19. One can conceive in principle of three basic types of indicators: those which rely on the market mechanism; those which are based on relative domestic price movements; and those which are based on changes in net foreign asset positions of the monetary authorities. The first group finds its rationale in the pure price theory. The second group finds its rationale in the purchasing power theory; and the third in the balance of payments theory.

20. The first group is mentioned here as a mere formality. It would be based on the necessary conditions: (i) That the exchange rate can move within a sufficiently wide band; and (ii) that there is no intervention by the authorities. Under these conditions new par values would be periodically declared on the basis of the level of the spot rate or of some combination of spot and forward rates. The meaningfulness of these indicators and therefore their capability to be a tool of policy, stand or fall with the acceptance of the principle that "market knows best"; that is, that whatever the rate or combination of rates is at any one time, it constitutes the "true" value of a currency. Having expressed a negative view on this thesis in an earlier paragraph, it would be repetitious to discuss it again in this context; nor would it be profitable to enter into the technical aspects of the construction of this group of indicators.

21. The second group of indicators consists essentially of comparisons between domestic price indices or other price indices of different countries. It is based on a straightforward application of the purchasing power parity theory; and implicitly on the corroborating consideration that by determining the relative valuation of currencies in this manner one eliminates, in comparison to market rates, the influence of seasonal, temporary or erratic components of demand for, and supply of, foreign exchange. This raises two types of issues which will be discussed in order: (i) the validity of the theory as such, both conceptually and on the basis of empirical evidence; and (ii) some theoretical and practical problems with index numbers.

22. The general idea of this approach would be that at time t the equilibrium exchange rate R_t between the currencies of two countries A and B would be determined as follows:

$$R_t = R_o \frac{I^A_{t,o}\ \gamma^A_{t,o}}{I^B_{t,o}\ \gamma^B_{t,o}} \qquad [1]$$

Where R_o is the (equilibrium) exchange rate at time o, and the numerator and denominator are some appropriate price indices ($I_{t,o}$) of time t with respect to o multiplied by corrective factors ($\gamma_{t,o}$) which will be specified later and which have also a time dimension. Then, if R_o was a par value at time o, R_t would be the appropriate par value at time t. The question, which belongs to normative economics, whether R_t *should be declared* as a new par value is a different one and will not be discussed in this context. (See from paragraph 42 onward.)

23. Some years ago, Bela Balassa [26] discussed at length point (i) of paragraph 21, from a theoretical point of view and introduced some refinements.[27] He also made some empirical verifications and some brief references to operational aspects. We shall review some of needed refinements to improve the theory, shall highlight the implicit and explicit assumptions, and shall make an attempt to reach a conclusion as to operational usefulness of indicators based on such a principle, leaving aside for a moment the problem arising out of index numbers theory and practice.

24. The purchasing power parity theory can be seen as a conceptual offspring of the simple quantitative theory of money as applied to closed markets; and it suffers from the same shortcomings as the latter, particularly those related to its highly aggregative nature and to its implicit neglect of non-monetary factors. To put it differently, the theory would give correct results if, in a Fisherian

26 Bela Balassa, "The Purchasing-Power Parity Doctrine: A Reappraisal", in *The Journal of Political Economy*, December 1964, pp. 584-596.

27 Balassa's presentation has been recalled here because it offers the possibility of introducing quantitative correctives to price indices. One should not ignore, however, the original paper on this theory by C. Bresciani-Turroni, "The Purchasing Power Doctrine", in *L'Egypte Contemporaine*, 1934, pp. 443-464. Mention should also be made of the pioneer work of M. Gilbert and I. B. Kravis, *An International Comparison of National Products and the Purchasing Power of Currencies*, OEEC, Paris, 1954.

presentation, one could hold unchanged *in every respect* business transactions, involving that changes in each country in money-velocity, taken as a whole, would be reflected by necessity only in "parallel" shifts in demand and supply functions of individual goods, and consequently in corresponding changes in the aggregate (the level of prices). As Balassa points out, the use of the general level of prices for the calculation of the *absolute* parity does not give the relative valuation of currencies whenever there are differences in relative prices within each national economy, as between internationally traded goods on the one hand and other goods and services on the other. In turn, these differences are related to the relative weights in national income of the sectors producing the two categories of goods and services; and reflect differences in productivity in those sectors.[28] The same considerations apply in the case of *intertemporal* comparisons whenever between the two points in time each of the countries concerned experiences different rates of changes in wage rates and in the composition of total product. If some disaggregation is introduced further complications appear. To give one example, if it is assumed, as one should, that the supply functions of traded goods have different elasticities in different countries, the proportional factor (exchange rate change) which produces a zero change in the foreign balance, in the presence of shifts in those functions — due, e.g., to money wages and productivity changes — depends *inter alia* on those elasticities.

25. Balassa's inquiries with respect to the absolute formulation of the theory are based on the proposition (which appears empirically confirmed) that at higher level of national product the price level is "higher" because of the assumed large proportion of the service sector where intercountry productivity differentials are small, whereas wages rates and prices are influenced by those in manufacturing. He therefore suggested to correct the price parity by a factor related to national product. His conclusion was, however, that even if this is done one can obtain only "some clue as to the overvaluation or

28 *Op. cit.*, p. 586. It can be noted that the problems arising in determining the *absolute* level of exchange rate in the base year by the use of this formula can be conveniently bypassed by borrowing from the balance of payments theory the level of the equilibrium rate. This is not as simple as it appears since, among other things, one would have to decide whether the equilibrium rate is that which ensures a zero current account balance or a zero basic balance.

undervaluation of a currency". The same applies to intertemporal comparisons. Thus, remaining close to Balassa, and particularly where other considerations are introduced (e.g. differences in elasticities), considerable doubts arise as to the possibility even in principle, of determining with precision reliable corrective factors in formula [1]. Other difficulties would be encountered in practice in attempting to determine the magnitude of such factors for each country and at each income level as well as the magnitude of changes in them over time.

26. Balassa's approach deals basically with the supply side. To introduce the demand side, we shall use an expenditure approach. The simplest case is where a change in the equilibrium rate is due to *pure monetary factors* and a full employment situation is taken as a starting point. It will be shown that changes in the general level of prices may reflect only to a limited extent the exchange rate which corresponds to the existing monetary situation, and consequently may only give an imperfect clue as to the size of the correction to be made in the existing (disequilibrium) rate. It all depends on where the domestic monetary assets are spent. In the extreme case, where the whole of a domestic expansion of liquid assets is transferred abroad for the purchase of goods (including capital assets) and services, the resulting imbalance in the external accounts is not reflected in all likelihood in a change in the purchasing power parity. In a symbolic form we can explain this thought by borrowing from Triffin the following ex-post identity: [29]

$$E \equiv (y - y_o)\, P_o + (P - P_o)\, y + D$$

where E is an expansionary impulse; $(y - y_o)\, P_o$ the change in real income; $(P - P_o)y$ monetary change of real income; and D the current account deficit of the balance of payments. In the case mentioned in the text $E = D$ and either both monetary and real changes in income are zero or they are of opposite sign and their sum is zero. If $(y - y_o) = o$ also $(P - P_o)$ is zero. What this relationship highlights is futhermore that the theory under consideration neglects $(y - y_o)\, P_o$; that is, the effect of an expansionary impulse

29 R. Triffin, "A Statistical Framework for Monetary and Income Analysis", in *Maintaining and Restoring Balance in International Payments*, ed. by William Fellner, Fritz Machlup and Robert Triffin (Princeton, N.J., Princeton University Press, 1966), p. 217.

on real income. [Of course, if instead of an identity we were to write functional relationships $(y - y_o)\, P_o$ would appear as one of the factors which affect D.]

27. A more detailed analysis of the demand side should deal, *inter alia*, with the effects of shifts through time of the demand functions of internationally traded goods. This analysis would lead to conclusions similar to those reached when considering the supply side; but, worse still, it would also show that *ex ante* not only the size but also the algebraic sign of the effects on the price level of such shifts of demand functions are *uncertain*, as they depend on the behavior of such variables as, for instance, the marginal propensity to save, measures to reactivate or contract total domestic demand; and this behavior cannot be determined *a priori*.

28. Consideration has been given, to solve problems similar to ours, to the use of special indices. In 1965 the National Bureau of Economic Research published a study which dealt with the subject of measurement of international price competitiveness.[30] This study pointed out the inadequacy, for the mentioned purpose, of the index numbers actually constructed by the United States Government, and suggested an index for internationally traded goods. The study expressed the hope that "the outcome of this investigation will encourage government and international agencies to pursue the measurement of international price relations on a more comprehensive basis. Such measurements would add to our understanding of trade patterns and of changes in the balance of payments of industrial countries. Existing data cannot be relied upon to provide a satisfactory basis for gauging changes in world price relations".[31] It is understood that the U.S. Bureau of Labor Statistics has carried out a considerable amount of work for the construction of an index similar to that proposed by the NBER. In fact, their intention seems to extend the coverage beyond manufactured goods, which was the one proposed by the National Bureau. Once this work is done — which may take a number of years — considerable progress will be made, at least with respect to industrialized countries. Only then,

30 I. B. Kravis, R. S. Lipsey, P. J. Bourque, *Measuring International Price Competitiveness*, National Bureau of Economic Research, New York, 1965.

31 *Op. cit.*, pp. 1-2.

however, it will be possible to judge whether the negative position expressed by the authors of the NBER study with respect to *our* problem remains valid; namely, that " Our place-to-place comparisons and indexes of price competitiveness are, in a way, parallel to the absolute and relative versions of the purchasing power parity concept. However, we have not sought to achieve a measure suitable for the calculation of equilibrium exchange rates, and our system of weighting (world trade weights) does not correspond with those usually discussed in connection with purchasing power parities ".[32]

29. Due to the essentially negative character of the conclusions reached in the previous paragraphs, we shall simply enumerate some of theoretical and practical problems which arise in connection with index numbers; and shall do so only with respect to the use of such indices for international comparisons. From a theoretical view point three problems stand out: namely, (i) if and to what extent it is appropriate to correct national indices to take into account " improvements " introduced by the productive system; (ii) which weights should be attached (constant or variable) to price changes of national products, or, alternatively, whether value indices are more appropriate; and, (iii) to what extent account should be taken of changes in customs duties, or of changes in " effective protection ". As to practical problems, the most serious are those which arise with respect to the availability and reliability of data and to the international comparability of the indices. Those who have first-hand knowledge of the main aspects of index numbers in developing countries (and also in some developed countries) are well familiar with shortcomings in respect of data availability and quality. Each index may have deficiencies in terms of overall coverage, weighting systems, excessive (insufficient) reliance on one or more specific commodities, and other aspects. As between indices of the same type constructed by different countries, divergencies may exist, in addition, with respect to mathematical formulae, different degrees and effectiveness of price controls, the timing of publication, to mention a few aspects.

30. We may summarize our conclusions on indicators based on price indices as follows: (i) if general indices are used, corrective factors would have to be applied to them to obtain a reliable indication of equilibrium exchange rates; (ii) there is in theory a considerable doubt about the degree of precision of such corrective factors and the determination in practice of the magnitude and the algebraic sign of the correction, particularly for the short run problems; (iii) for these reasons (and for practical considerations as well) it would be necessary to make recourse to special indices; (iv) the work so far done on these indices does not allow to reach a firm conclusion as to whether they can serve either the purpose of determining the competitiveness of a country's products or the equilibrium rate of its currency; (v) the vast majority of countries is not working, to the best of our knowledge, on the construction of such special indices. On the basis of the above, the value of such indicators for operational purposes seems to be very limited, particularly in view of the importance of the decisions which would be based on them. This does not exclude, however, that in certain cases and where a degree of uniformity in techniques and an adequate comparability of indices is achieved, they can be used as a subsidiary criterion to other indicators.

[32] *Op. cit.*, p. 9.

31. The negative conclusions which we reached above can now be rephrased as follows: in a short run analysis it is not possible to make a reliable diagnosis of the relative role played, in each case where there is a departure from equilibrium in exchange markets, by price factors, income factors, changes in supply and demand schedules for import and export goods and so forth; nor is it possible to determine whether such factors represent " durable " changes or short lived departures from past trends. The third group of indicators takes a short cut route bypassing those problems: it takes into account the " results " of those factors as they are " revealed " by the actual demand and supply for foreign exchange. This, however, does not mean going back to the free market theory because the distinctive feature of this group of indicators is that it assumes the existence of an " interventor " in the market, usually referred to as the monetary authorities, which buys and sells foreign exchange basically for policy reasons. " Free market " economists may be tempted to equate these reasons with arbitrariness — after all, the expression " dirty " float does not denote neutrality or approbation. It should be noted that *in a number of cases* the interventor has a better " knowledge " than the " market "; e.g., because of a decision

already taken at the political level to correct the disequilibrium mainly through a domestic adjustment process.[33]

32. The basic rationale of the third group of indicators, in its simplest form is that the changes in external assets and liabilities in the balance sheets of the monetary authorities are a significant mirror image of an equilibrium or disequilibrium in the balance of payments *via exchange market interventions*. To dispel at the start the impression that this is a tautological statement, it should be pointed out that, for example, a zero change in the net foreign asset position is compatible with a deficit in the current account where this deficit is totally the result of imports representing foreign direct investments (which do not involve transactions in the foreign exchange market). These indicators have the advantage that they have already been tested though, admittedly, in much simpler cases,[34] in many respects, than those of developed countries with highly complex financial structure. For this reason the discussion should be conducted within a broader framework than that based on the activities of the monetary authorities alone, and some disaggregation will be necessary.

33. As a start, however, it will refer only to the monetary authorities, under the assumption that the rest of the banking system is not allowed to hold gross assets and liabilities in foreign currencies. The central concept at the basis of these indicators is the *net foreign asset position* of the monetary authorities. The attractiveness of this approach is the easy and prompt availability of data to determine that position. Another advantage is the implicit consistency which,

33 Although the use of hindsight wisdom is distasteful, it is fair to point out that while there have been numerous cases where interventions in "defence" of a currency eventually proved fruitless within a period of a few months, there have also been cases where the authorities' judgement proved to be superior. Unfortunately, the somewhat impressionistic approach of attaching more importance to events accompanied by a change (in par values) than to those which are not, distorts the historical picture in favour of the first group of cases.

34 This writer had a role, in 1964, in initiating one of these indicators. At that time a general accounting framework consisting of a link up to *identities* in the monetary sector balance sheets and in national income accounts, had been developed in the OEEC by Professor Robert Triffin and Mr. Geer Stuvel. This, however, was for general purposes and not with specific reference to exchange markets (see *Statistics of Sources and Use of Finance, 1948-1958*, OEEC, 1959). Subsequently in 1966 Professor Triffin used the same framework for the specific analysis of external imbalances, including the "diagnosis of disturbances". See his two essays in: *Maintaining and Restoring Balance in International Payments, op. cit.*, pp. 85-108 and 213-221.

in a well coordinated set of national monetary accounts, would exist between indicators of different countries; an aspect which is particularly useful for the purpose of a two-sided approach (surplus and deficit) to correct an imbalance. The difficulties in the definition of the *net* position may present some problems which, however, can be solved.

34. The need for a *net* figure requires little explanation. In the event of a "disturbance", of domestic or foreign origin, which affects the demand and/or supply functions in the foreign exchange market, market interventions which prevent the exchange rate from being the adjusting factor result in a decline (increase) in gross reserves in an amount equal to the deficit (surplus) on current account (capital transactions are assumed as non-existent for the time being). This equality ceases to exist any time resources which for this purpose are borrowed abroad are used. In fact, in the case of a deficit, gross reserves may not decline at all (or even increase) if the amount of foreign borrowing by the authorities is the same (or larger) than the amount of the intervention. The equality is re-established if the amount of foreign borrowing is deducted from gross foreign exchange assets. Likewise, in the case of a surplus, the equality is assumed if in making the calculations account is taken of any decline in liabilities which may be achieved through the disposal of foreign currencies purchased in the market.

35. Conceptual difficulties arise, however, when the question is raised whether *all* the liabilities of the monetary authorities should be treated equally; and, if the answer is in the negative, which liability should be considered and which should not be considered, and why. Generally speaking, the guiding criterion which should preside over the treatment of the liabilities of the monetary authorities is that it should be functionally related to the purpose for which the indicator is used, i.e., to judge the viability of a given exchange rate. It can be stated as follows: those liabilities which are directly related to the authorities' gross foreign assets which can be used for, or can result from, market support operations are the relevant ones for the purpose of determining the net foreign asset position. This means, in the case of support of a "weak" market, foreign currency *borrowing* used or to be used to close the excess demand gap; and, in the case of a "strong" market, *repayments* of foreign debts made

possible by the proceeds of interventions to absorb an excess supply. This definition creates some problems in the case of reductions of liabilities, where the liability which is repaid in advance is of a long-term maturity (e.g., IBRD loan) and therefore would not normally be included in the initial definition of "net". Leaving this difficulty aside, it is clear that the NFA position is unaffected by borrowing and repayments *as such*: the indicator remains unchanged as long as the borrowed funds are unspent; but it declines as they are used in support operations. Likewise, the indicator increases when market purchases are carried out; and remains unchanged when available (acquired) foreign assets are used to eliminate or reduce a liability. To the extent that all these operations are carried out with the monetary authorities of other countries, the international symmetry of these indicators is assured.

36. It should be briefly added that both the asset and the liability side may present some definitional and international comparability problems, due to the possibility that for instance gross liquid assets may be reduced through the purchase of medium or long term financial securities and may be increased through opposite operations. Similar problems may arise with respect to the liabilities, particularly those which, for legal or institutional reasons are not treated in the same way in all countries. Some difficult questions arise in relation to certain specific types of liabilities with respect to which no a priori guideline can be given and the use of discretion is inevitable. Without entering into a complicated enumeration of cases, two categories of them deserve special attention. One consists of conditional multilateral (or even bilateral) credits in foreign currencies which are contracted for the purpose of implementing a stabilization program, part of which is the maintenance of the existing par value. It is most likely that in these cases the borrowed funds are spent and that the NFA therefore declines; but it would be clearly in contradiction with the purpose of the credit if such a decline of the indicator were to be used to set into motion a process which could lead to a change in par value. Therefore provisions would have to be made either not to include that credit under the liabilities (at least as long as the program is carried out); or to ignore, *pro tanto*, the movement of the indicator. The second category of cases relates to less developed countries. A typical feature of these countries is that they normally have a net inflow of financial and real resources, i.e., a deficit in

current account. This deficit is compatible with an absence of support in the exchange market only where the capital movements which finance it do not involve foreign exchange market transactions. The opposite case is when the financing is done by what is generally called a development program loan. This is another name for general balance of payments support. Since it is again safe to assume that the proceeds of the loan will be spent, the NFA would *pro tanto* decline if the loan is added to the liabilities. The dilemma can then be put as follows: *either* it is agreed that a disequilibrium exchange rate corresponding to the program loan is desirable, in which case two alternatives are available: to exclude the liability in question or to allow for a decline in the NFA without implications for the exchange rate; *or* the program loan is taken as a pure balance of payments assistance, in which case a full meaning should be attached to the change in the indicator, with respect to the viability of the exchange rate. Problems of this type can only be resolved on the basis of substantive and policy criteria with respect to each individual case.

37. We should now give consideration to an expanded system which includes financial institutions, the private non-financial sector, and the official non-monetary sector. Changes in their foreign assets and liabilities do not necessarily involve foreign exchange movements but may affect in many cases the foreign exchange market and when this happens the balance sheet of the monetary authorities and their NFA position are less meaningful. Assuming an imbalance in the balance of payments, the following identity can be written:

$$I \equiv \Delta R + \Delta F_B + \Delta F_P + \Delta F_G$$

where I is the imbalance; R is the NFA position of the monetary authorities; F_B, F_P and F_G are the net foreign positions of the "banking system", the private sector and the "development finance sector". While fully realizing that the correspondence between conventional categories of flows and institutional balance sheets is far from perfect, it can be assumed as an acceptable first approximation that: (i) short-term capital movements are reflected in ΔF_B (but also ΔR, particularly under strong speculative pressure); (ii) suppliers' credits and direct investment are reflected in ΔF_P; and (iii) official project financing and financial development assistance as well as assistance in other

forms are reflected in ΔF_G (this roughly would correspond to "official development assistance" according to the DAC definition).[35] The fact that the components of the right hand side of the above identity all have a positive sign does not mean that each of them is bound to be always positive. In fact, in actual cases, each net change will bear a plus or minus sign depending on whether the sector's net assets increased or declined. In case of a deficit (with *I* bearing a negative sign), if the net inflow of private and public capital (negative net changes in F_P and F_G) is equal to the deficit, and ΔF_B is zero, ΔR is also zero, which indicates that despite the deficit the foreign exchange market was in equilibrium during the time to which the identity applies, at the going exchange rate. Likewise, a zero change in the net foreign asset position of the monetary authorities is consistent with an equilibrium at the going rate in the foreign exchange market and a current account surplus equal to the (positive) sum of ΔF_P and ΔF_G (again if ΔF_B is zero). The two situations outlined above approximate those of a developing country and a developed country respectively (where gross short term capital inflows and outflows either offset each other or are absent because of e.g. effective capital controls).

38. At this point a decision should be made which is crucial for the meaningfulness and acceptance of the NFA position as a potentially reliable indicator. Should one reject it on the ground that, as in the above cases, a zero change is consistent with a current account surplus or deficit (possibly of large magnitude)? or should one accept it because of the manner in which the surplus or deficit are financed and because it reflects a balance in the foreign exchange market. Our decision in favour of the latter is partly arbitrary, but partly based on economic considerations. To the extent that direct investment and suppliers' credits are prompted by economic motivations, and to the extent that official development (project) assistance is granted on the basis of differential economic return on capital, exchange rates which are consistent with these flows and maintain

35 From a practical accounting point of view there should be an additional item: "Errors and Omissions". Conceptually, however, the components of this item should be included in the categories stated in the identity. This is not a good enough reason, on the other hand, to ignore that item particularly when an attempt is made to construct indicators out of balance sheet data. The way out seems to be an allocation (with a minimum of arbitrariness) of this item to the various stated categories.

the exchange markets in balance *can be considered* as equilibrium exchange rates. If this decision is taken, an indicator based on the NFA position is *prima facie acceptable.*

39. To reach firmer conclusions, the treatment of the changes in the net foreign position of the "banking system" should be dealt with. This "sector" is in fact broader than merely the banks and should include other financial institutions as well as portfolio investment. It should be noted that the importance of the position of this "sector", as an indicator of the exchange rate, increases, by and large, with the widening of the "bands" which, *ceteris paribus*, reduces the need for interventions by the monetary authorities. Two options seem to be available: *either* to consolidate the "balance sheet" of this "sector" with that of the monetary authorities; *or* to use its net position as a subsidiary indicator. There are two major considerations in support of the latter alternative. To the extent that changes in this net position are of importance during periods of intensive foreign exchange speculation, and in view of the possibility that capital movements may be prompted by not securely founded expectations; it may not be appropriate to exaggerate (or to minimize), through the mentioned consolidation, the changes shown by the net foreign asset position of the monetary authorities. The second reason is of a more practical nature. The availability of financial institutions data is usually not as prompt as that of the monetary authorities and for this reason a consolidated net foreign asset position of the two "sectors" may cause a delay of a few months in the calculation of the indicator.[36] Furthermore, information on data concerning certain specific flows which fall under the category presently discussed are better available through direct contact with the authorities than through institutions' balance sheets. This applies, for instance, to borrowing abroad through security markets or otherwise, induced through suasion by the authorities; and to reversal operations, where

36 It should also be noted that one should separate in the balance sheets the creditor and debtor positions in foreign currencies from the other foreign positions. This may be seen by referring to a single operation under which a bank purchases a foreign currency asset and simultaneously creates a non-resident account (presumably convertible) for the equivalent amount in domestic currency. If the latter liability were included, the net change in the position would be zero; which would incorrectly not reflect the upward pressure on the local currency in the exchange market.

possible, after the "crisis" has been overcome.[37] An important "aside" which emerges from these considerations is that the effectiveness of the indicators under discussion is greatly enhanced by a two-tier market system, where the exchange rate in the parallel market is the balancing item; except where non-trade current invisibles show normally a large net imbalance.

40. Although indicators of this type seem to meet much better than others the requirements of international comparability and symmetry, promptness in calculation and relative simplicity in construction, they should not be adopted before a "dry-run" is conducted on past data for a sufficiently large number of countries. This empirical test would reveal possible shortcomings in the proposed treatment of the various assets and liabilities, and would also show to what extent the subsidiary indicators based on the net position of the banking sector and on price indices are essential, helpful, or unnecessary. Assuming that these tests lead to positive conclusions, a few technical and economic points should be discussed, before considering policy aspects.

41. As stated in paragraph 18, the major purpose of the indicators is to trigger the initiation of action, possibly (but not necessarily) leading to a change in par value, by the international community. As this constitutes an erosion of national prerogatives, the triggering device should not be excessively rigid. This can be achieved with the introduction of flexibility in the general technical criteria and of *ad hoc* considerations on a country by country basis. The basis around which to build flexibility should be a pre-established path for the NFA position for each country. Clearly, under conditions of increasing global liquidity this should be an increasing path, implying that normally an unchanged NFA position is an indication of an overvaluation of the currency; and that only an actual rate of growth of the NFA position higher than that of the path is an

37 These considerations suggest that the construction of indicators of the type discussed here is seriously hampered in cases where there are no exchange controls. The large scale short term foreign borrowing carried out in the free exchange market by Argentine firms in 1961-62, through local banks, to overcome domestic credit stringencies is a case in point. These transactions could have been reflected in the NFA position of the monetary authorities if the banking guarantees (avales) had been authorized by the central bank in a manner that would have shown them as contingent liabilities of that institution.

indication of undervaluation.[38] Any pretence of great precision in setting future targets would, however, be wholly unrealistic. Therefore, the path rather than a line should be a band straddling over the line. The width of the band should be determined on the basis of empirical tests; and it should be sufficiently wide to activate the "mechanism" only where there is a safe basis to do so, and sufficiently narrow to avoid that the arrangements become ineffective. As to *ad hoc* considerations, it should be recognized that insofar as individual countries are concerned, the rate of change of global liquidity is not the only variable which should govern the paths for their individual NFA positions. Without attempting to enter into the frustrating problem of determining a demand schedule for reserves, it can be acknowledged that the *initial* NFA positions of certain countries may suggest the desirability of faster reserve accumulation than in other cases (and vice versa); and that the rate of desired accumulation (or decumulation) is also a function of the volume of foreign transactions, the degree of restrictiveness on payments for current and capital transactions and so forth. In addition, since the targets should be for intervals not longer than a quarter, seasonality factors should also be taken into account, as appropriate.

42. If indicators of this type were to be adopted, experience with their use would be the most solid basis on which to develop and refine practical rules for their continued implementation, such as the significance of deviations from the band-path in terms of the size of such deviations, the minimum number of consecutive repetitions of deviations through time, and so forth. Experience would also show whether and to what extent subsidiary indicators based on the net foreign asset position of the "banking sector" and on price competitiveness indices should be brought into the picture concomitantly or only after "excessive" deviations appear. These scattered remarks do not pretend, however, to list all the possible adjustments that experience would suggest. From this point on we shall proceed on the assumption that "symptoms" can be promptly and reliably

38 The idea of a pre-established path is consistent with that of controlled changes in international liquidity. This was clearly not the case under the exchange standard of the type that has prevailed in recent years. Should similar arrangements continue in the future, despite official statements to the contrary, the mentioned path should be reappraised ex-post on the basis of changes in reserve currency additions to, or withdrawals from, the system.

detected and shall discuss the further steps which can be taken towards effective action on the basis of this "early warning". The first point to be covered to make the system operational is the "activation process". The major departure from the existing arrangements would consist of a multilateral understanding that whenever the agreed "early warning" warrants it, the international agency (IMF) would have the right to take the initiative in approaching the country concerned (obviously without publicity) to make suggestions. It goes without saying that this action may be rendered unnecessary by a similar initiative taken by the country; and it should indeed be expected that countries, although in principle relinquishing *pro tanto* their sovereignty, would be interested *as a matter of fact* (and in the initial phase of the system) in exercising the initiative before the international agency does it. The second point relates to the purpose of the initiative. In view of the extremely delicate nature of the subject, the principal immediate objective of the initiative would be to start a consultations process which would cover possible action on the three major magnitudes involved: adjustment process, provision of additional liquidity (to the country), and exchange rate adjustment.

The consultations would inevitably consist of two parts: (i) the diagnosis of the causes of the abnormal trend in the NFA position; and (ii) the strictly related consideration of the appropriate remedies. The carrying out of the diagnosis with the necessary speed would presuppose that both the country concerned and the international agency (IMF) keep under review the developments which have a bearing on the NFA position and the exchange rate. Without attempting to make a catalogue of possible causes, we shall simply point out that the diagnosis should cover both real and monetary factors; both internal and external causes; shifts of demand and supply functions besides considerations of elasticities of historical functions, and so forth. For the above purposes, or at least some of them, reliance may have to be placed on the subsidiary indicators referred to in paragraphs 30 and 39. Within the framework of international collaboration, one purpose of this diagnosis is to determine the extent to which bilateral or multilateral correction, rather than a purely unilateral one, is called for.

43. The determination of appropriate remedies is the phase where the partial transfer of initiative to the international community is balanced by the use of a multilateral approach. Depending on the diagnosis, the remedies may run the full gamut from a straight devaluation (revaluation) of the currency of a country to no action by it at all, with the whole of the correction being made abroad. The former case is typically that of a country which experiences a pure price inflation, and whose authorities independently see no prospect of a politically feasible domestic adjustment process. The latter case — a rare one in the real world — would be that of a country with a very moderate expansionary impulse and a practically stable price situation, while most of the rest of the world is experiencing a situation of under-full-employment effective demand, and the authorities of those countries have great reluctance to take income reactivation measures. In all other cases the consultations process may yield one or more packages of corrective measures, and each of them may include a dose of change in par value, a dose of domestic adjustment, and a dose of *ad hoc* (and possibly conditional) provision of liquidity.

44. A few final remarks may be necessary for certain institutional aspects. The NFA position indicators may be influenced by measures, taken by one or more countries, which are under the jurisdiction of specialized organizations (e.g., the GATT). This raises the delicate issue whether one institution (e.g., the IMF) can make a suggestion (e.g., to change a par value) on the grounds that the introduction of measures (e.g., import restrictions), although fully authorized by another institution, seriously distorts the meaningfulness of the indicator (and, in the short run at least, the balance of payments situation). This goes into the core of the presently debated issue as to whether monetary and trade matters should be considered jointly under a new system, also from an institutional viewpoint. Without even attempting to make suggestions on this issue we may simply point out that even if it should be decided that a separate treatment of trade matters is a better course, nothing should prevent the monetary agency to take into account measures in that field in assessing changes in the NFA position. In the particular case of the introduction of important trade restrictions, the relevance of a subsidiary indicator based on price movements is thereby highlighted since it can be normally expected that those restrictions lead to changes in internal prices of imported goods and of domestic substitutes as well.

45. We have now come to the end of our journey. In a world where at least the monetary authorities are groping for flexibility in the exchange rate field but are seemingly unable or unwilling to use the ample power to the same end provided by the existing arrangements; and where the competent international institution is by agreement limited in taking initiative, one of the needed ingredients is a convenient activating "agent". This "agent" should be capable of sparking action in all cases where a change in par value seems *prima facie* to be indicated, be it up or down. It should be accompanied by an addition to the power of initiative of the international community, through the designated institution, so that it can start a process of consultation on exchange rate and related matters whenever this appears indicated. To reduce the arbitrariness of this initiative, "objective" indicators (which, however, should not be too rigid) are necessary. These indicators should have a number of characteristics, including: their prompt availability, relative simplicity, being inherently comparable internationally, institutionally operable, applicable to all countries, and functionally related to the official national agencies which operate in the foreign exchange market. Although none of the groups of indicators examined seems to give a sure answer, those based on changes in the net foreign asset position of the monetary authorities come closest to meeting the mentioned requirements. Their shortcomings may be remedied in part by the subsidiary use of other indicators, including those based on price movements. At any rate, it is recommended that their adoption be subjected to empirical tests on past developments. The delicate nature of the matters being dealt with, and the well known potentialities of disrupting speculative movements, make it advisable clearly to establish that the action triggered by the indicators is a consultative process and not necessarily the beginning of a decision for a change in par value, or in par values of different currencies. The scope of discretion is ample in these matters and technical and institutional problems may arise which may have to be dealt with on the basis of *ad hoc* considerations.

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P. S. - This paper, prepared in July 1972, has concerned itself with a problem with which national authorities and academic economists have dealt over the past decades on the basis of the historical reality

which has faced them; i.e., the fact that, in a nutshell, par values were changed too late and too little. It continues to be dealt with in that context. The fear of, and protection from, competitive depreciations has become to be seen as an aberration of the founding fathers of the Bretton Woods system; although it is to be recognized that they too had *their* historical background to be concerned with. This writer is not sure that signs have not appeared on the horizon indicating that maladjustments exist in the international *economic* system which, being concomitant with unresolved disturbing social and political national problems, may set the stage for "too fast and too much" changes in par values or for administered fluctuating rates to the same effect. Though the mention of a helping technicality may appear ludicrous with respect to the possibility of such a serious turnaround in international relations, it may be mentioned that the suggested indicators may serve as well the purpose of detecting the symptoms of competitive depreciations.

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