ON THE THEORY OF ECONOMIC INTEGRATION*

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1. SETTING OF THE PROBLEM; DATA AND UNKNOWNS

The integration of a number of countries is a complicated process of policy and development, which can be adequately described and studied only if we introduce into our study the behaviour of a large number of variables (production, prices, import duties, *etc.*) for a considerable number of consecutive time units. In this essay only the economic aspect of integration will be considered; the purely political and cultural aspects, although very important, will be left out entirely.

As in any problem of no matter what kind, we will have to indicate, first of all, the *data* and the *unknowns*. The data may provisionally be said to be the present situation of the countries considered, with their populations, land and capital resources, technical abilities, tastes and institutions. Among these institutions are their *economic policies*. The unknowns of the problem are the changes to be effectuated in these policies. Our problem being a problem of economic policy, it will be particularly useful to distinguish between *targets* and *instruments* of policy. Among the data of our problem the targets have to be included also; the unknowns are, more precisely, the changes in instruments of economic policy.

* Published in *Les Cahiers de Bruges (Bruges Quarterly,)* 1952, p. 290.

We will not try to indicate in any detail the data describing the present situation. May it suffice to remind the reader of the differences (between the countries of Western Europe for example) in land and capital per head, and consequently in productivity which is reflected in differences in real income per head; and to remind him of differences in *taxes* and of the existence of import barriers in the double form of *import duties* and *quantitative restrictions*, leading to differences in price level.

We will go into some more detail, however, as to the description of the target, *i.e. the final situation aimed at.* In a more general way this may be said to be the situation of maximum welfare of the given block of countries which, if sufficient time be given to overcome temporary difficulties, can be obtained with the technical and psychological data, but allowing variations in the institutional data, particularly the instruments of economic policy. By this rather general formulation of our target we want to stress that a maximum of welfare should be aimed at without interference from any arbitrary institutions of a national character, such as, in particular, trade restrictions. Provisionally however, we will assume that transfer of capital and of population is impossible; accordingly we distinguish between *three phases of integration:* (I) without capital and population transfers; (II) with only capital transfers permitted; (III) with both capital and population transfers permitted. Our general formula does not imply that all import restrictions should be removed; it is left to the analysis to find out whether or not this is desirable. The formula does not pay attention, moreover, to a fundamental difficulty in the theory of economic policy, *i.e.* that it is not certain that a consistent definition of "welfare" and "maximum welfare" can be given. We come back to this question in section 2.

First, however, we want to add to the data of our problem the rather general condition that the target shall be reached with a minimum of shocks or setbacks; it may be called *the condition of continuity* and implies the avoidance of unnecessary jumps (sudden changes) and unnecessary temporary reductions in welfare. The condition will prove to be important for certain questions of the consecutive order of the measures to be taken or of the "correct moment" for certain measures.

As already said, the unknowns of the problem are the measures of

economic policy to be taken; they may be subdivided into negative and positive measures: the elimination of certain existing institutions, as well as the establishment of new ones. The discussions on European integration have so far emphasized the negative part of the program; however we should not overlook the positive part.

Our problem cannot be separated from the *general problem of economic policy*, which is also relevant to the internal affairs of each country; a problem that for certain purposes may be usefully formulated as the choise between planning and freedom. This is a choice, not in the sense that only one of these two possibilities should be chosen for the whole field of economic policy, but in the sense that for each element of economic life such a choice has to be made. The most desirable degree of centralization of economic decisions should be determined for each sector and each activity. In the description of the negative and the positive part of the program of integration the reader will find concrete examples as we see them.

2. THE MEANING OF "MAXIMUM WELFARE"

It is a well-known statement in modern economic theory that maximum welfare cannot be quantitatively defined. The welfare of a group of people is dependent on the welfare of each of the individuals; and there are no quantitative means to compare individual welfare feelings. Given a certain initial state of affairs, only certain classes of changes can unambiguously be said to be improvements, or to bring increases in welfare, namely, those changes where everybody is experiencing an increase in or at least no decline of welfare. Such changes where the situation of some individuals improves and that of others deteriorates, cannot be classified objectively as either improvements or deteriorations in welfare. No general solution acceptable to all economists has so far been formulated; and there remains room, therefore, for differences of opinion.

The approach chosen in this essay is the following. A situation II in a certain country will be considered better than an initial situation I if total consumption in that country has increased. Total consumption in this context means total consumption of consumer goods as well as investment goods. The various goods are valued, further, according to their prices "on the world market". A hypothesis implicit in this

approach is that distribution is such as to make everybody share in the increase in consumption. This is not, of course, guaranteed without special measures.

3. ELIMINATION OF IMPEDIMENTS TO TRADE AND PAYMENTS

(1) UNDER "CONSTANT RETURNS"

A central part of integration programs for the first phase, where capital and population are not yet permitted to move, is formed by the removal of all barriers to free trade and multilateral payments. The target aimed at is the *"single market"* (*marché unique*), where only total demand and total supply, taken for all countries together, have to be equal and only one price prevails for each commodity, at least for each "international commodity", *i.e.* commodity whose transport cost may be neglected in comparison to its price. For all trade taken together, it is no longer necessary, in this final situation of equilibrium, that bilateral trade between any two countries should be in equilibrium, but only total imports and total exports (goods and services taken together) should be equal to each other (apart from possible capital transfers).

The thesis that the elimination of trade barriers contributes to maximizing welfare is taken from the theory of international trade. It is not in all circumstances correct; we shall have to discuss to what extent and in what conditions it is so.

There is general agreement among economists that under certain general conditions, to be discussed below, the statement is correct in a world of "constant returns". By this phrase economists indicate conditions of production where the production of each consecutive unit of a certain good requires the same quantity of productive effort. Assuming for the sake of simplicity that there is only one productive agent or factor of production, say, labour, then this state of production may be described by one single figure or coefficient telling us how much labour one unit of the product requires. And this will hold good for any quantity produced. Let us call this coefficient the labour intensity of the product in a given country. The existence of fixed labour intensity coefficients for all goods in all countries concerned would mean that we can, once for all, indicate the *"comparative cost"* for all commodities in a given country and in all countries. Suppose

we choose the units in which we measure the various goods so as to have the same value—say $1—on the world market. If then, country A can produce one unit of wheat in one hour and one unit of iron in 1,1 hour, the comparative cost of wheat in that country is lower than that of iron. If, in another country B, one unit of wheat can be produced in 2 hours and one unit of iron in 1,8 hours, country B has a lower comparative cost for iron than for wheat. In the case of free trade it is more advantageous for country A to produce wheat and for country B to produce iron. For country A can, even if it did not want any more wheat, produce in one hour a unit of wheat and exchange it, on the world market, for one unit of iron. But if it had to produce that unit of iron itself, it would cost 1.1 hours. Similarly it is more profitable for country B to produce iron and no wheat. With fixed prices and fixed labour intensities, each country would concentrate on the production of that one commodity which it produces at the lowest comparative cost. This would be the optimum economic situation; given the fact that each country can consume only what it earns with its own production, maximum production would mean maximum consumption. And any other use of its labour would leave each of the countries with a lower production.

This is particularly true for the other uses to which labour would be put if *import duties* were imposed. If for historical reasons, it is thought that other industries with lower comparative cost advantage, are justified by the possible occurrence of either higher transport costs or of military insecurity, these industries can exist only behind the wall of a protective tariff. In our example, country A could produce iron just as well as wheat only if an import duty of 10% could keep the internal iron price at $1.1. And country B, too, could produce wheat only if a duty existed bringing its price in B at 2/1.8 or about $1.11. In these conditions, however, the total world market value of both A's and B's production would be lower than without tariffs and abolition of these would, therefore, raise welfare.

Our model may be refined by assuming that there is a *limit* to the "*capacity*" of each industry in each country. This means that no more than, say 2/3 of all workers in country A, can produce wheat; all arable land—supposed of equal quality—would then be in use. On the other hand let us assume that no more than 3/4 of B's workers can be

engaged in iron making, since the capacity of blast furnaces is then fully used. The consequence will be that in both countries there will not be complete specialization. Part of the workers will be employed in other, less productive industries. Among these, those will be most attractive that rank second in the series of comparative cost figures; if their capacity is fully used, the third industry will be taken. If all workers are to be employed, their wage rate must be such that even the least productive industry needed for full employment does not incur losses.

4. ELIMINATION OF TRADE BARRIERS: (2) UNDER DECREASING OR INCREASING RETURNS

We have explored above the consequences of the basic assumption of a world producing at constant unit cost or "constant returns". These consequences are exaggerated if, instead of this structure of production, we assume another one, namely production at increasing marginal cost or "decreasing returns". This state of affairs may be most easily understood by considering each industry as a combination of different industries, each of them with a limited capacity. Just as in the preceding model, production will again be concentrated; in the more attractive sections, until with decreasing productivity a limit is reached where marginal productivity coincides with the wage level.

Certain complications arise if we introduce the phenomenon of "increasing returns" or decreasing marginal cost, *i.e.* the fact that, in many manufacturing industries, it is cheaper to produce large quantities than to produce small quantities. In many such cases the cost of producing one more unit (the marginal cost) is lower than the average cost of production. This means that prices cannot be equal to marginal cost, for then nobody would be prepared to produce. Free trade will not, in such circumstances, lead to the optimal use of productive resources in a country. This optimal use of resources might involve the production of a certain quantity of iron also, if the marginal cost of such production would be below the world market price. Entrepreneurs will not be prepared, however, to do so as long as they do not receive a price covering their average cost, which is higher than marginal cost. They could only be induced to do so if they got a higher price. This argument is frequently used against free trade and hence

against integration. Its importance should, however, not be overestimated.

It is true that under the conditions assumed, free trade would not lead to the optimum situation. The underlying reason is that the correct productive reaction of entrepreneurs cannot be induced by free pricing and production generally, but only by a complicated system of subsidies or taxes or both. The simplest example in this case would be subsidizing according to fixed cost; however, we shall not go into the implications of such a system. The introduction of an import duty could make the entrepreneurs consent to the correct production program; but, as shown by a closer examination, the reaction of consumers would then lead to an erroneous pattern of income spending. Therefore protection is not the correct remedy.

Apart from this conclusion, the point can be made that probably the extent to which the assumed technical conditions apply is not of much importance. Indeed the field in which decreasing costs apply is restricted and may be said to be almost entirely of a micro-character. The easiest way of making this clear is perhaps to point to the large number of plants that exist in most industries. If decreasing costs prevailed to an appreciable extent, the number of plants would be small. Evidently the optimum size of a plant in most industries is small in comparison to the total production of the industry; meaning that increasing returns apply only over a limited interval of production (including transport of products). If this is so, the industry may, for purposes of macro-economic problems, be considered as one of constant marginal cost. The smallest unit of production may then, without much loss of accuracy, be taken to be equal to one optimal-size plant. This argument is reinforced by the large number of industries; it means that the production of an optimum-size plant, even if it should approach the total output of one product, will still be small in comparison to the production of a country as a whole.

One last argument may also be of constructive value in this controversy: even if further technical developments should in many industries lead to optimum-size plants which are large in comparison to the production in the type of industry considered, the optimal position for a group of countries will be one with free trade, namely, a position where each country has specialized on a certain number of

industries and the products are freely exchanged. Although this optimal situation will be one of free-trade, it is not probable that it will be reached by free competition only. Deliberate regulation of industries along these lines—as suggested *e.g.* by the Petsche Plan—will be a more effective approach (*cf.* section 8).

5. ELIMINATION OF TRADE BARRIERS: (3) FINAL REMARKS

There are other reasons why the mere elimination of trade barriers may not lead to a position of maximum welfare. A most important assumption made in the proof of the central thesis of free trade is that all the productive resources available are actually used in production. In the particular case of labour this is equivalent to the assumption of full employment, or at least high and stable employment—accepting the fact that for various reasons it is not always possible to employ 100 % of the number of workers.

Further assumptions are implicit, as already indicated, in the welfare definition which we have accepted for the sake of convenience. They may be that income distribution is not too far removed from the optimal one—whatever that may mean—or that desirable corrections will be possible without affecting the advocated policies of international trade. This is not necessarily always so.

It is important to notice that in the optimum position for the first phase of integration now discussed there will be equality of prices of international commodities, but *not necessarily equality of "factor prices"* *i.e.* of the wage rate, the interest rate or the rent level. As long as immigration is not free, such large differences may remain between countries, in capital and land per head of the population, that the marginal productivity of *e.g.* labour will not be equal and hence real wages will differ. It would not be in the interest of the countries with fewer resources than the others to increase their wage rates to a common level: they would not be able to compete and their level of unemployment would increase.

On the other hand it is not necessary that capital per head should be completely equalized in order to make wages uniform. Wages can be equal even if one country has fewer resources than the others; the condition being that such a country is permitted and able to specialize on the less capital-intensive industries.

6. CONTINUITY CONDITIONS

As we have already stated, certain conditions will have to be fulfilled if shocks in the development or unnecessary set-backs are to be avoided. In order *e.g.* that restrictions in the imports of any country be eliminated, it is necessary that *no internal restrictions* should be left, such as rationing or price regulations as a consequence of, say, war scarcity. This means that equilibrium between demand and supply at the price desired must be possible, at least for supply and demand of all goods together, defined in some way or another. As long as certain general lags in either productivity or in financial stability have not been overcome, free trade may lead to too great disturbances. These lags need not be absent for all commodities, for the very reason for free trade may be to eliminate partial scarcities; but on the other hand the country concerned should then be able to export other commodities.

A condition that must be fulfilled if *multilateral payments* are to be realized is that these payments be roughly in equilibrium. If they are confined to "current payments", *i.e.* payments for current imports and exports of goods and services, there will have to be equilibrium in this part of the balance of payments. If complete freedom of payments is discussed, including capital transfers, equilibrium in the balance of payments as a whole will be required—a condition hardly fulfilled in most Western European countries nowadays.[1]

If the *convertibility of monies*—which is implicit in the establishment of multilateral payments just discussed—is not proposed for all currencies, but for a group of them only, then the condition to be fulfilled will be less stringent: equilibrium will be needed in the supply and demand of the sector of the balance of payments referring to the currencies considered. Such was the case *e.g.* at the moment of the creation of the European Payments Union: at that time equilibrium in the dollar sector did not yet exist, and it does not yet, but equilibrium in the European sector was possible.

The problem of convertibility may be worked out a little further in the following way. It arises only in a world of disequilibria, as do the problems of continuity previously discussed. Here it is disequilibria in

[1] Integration of the "second phase" does not require this much, since it implies only free capital transfers to the other countries of the group.

the balances of payments which create the problem. A set of currencies may be said to be of different strength according to the devaluations that would be necessary to restore equilibrium in the corresponding balances of payments. As long as there are certain gold reserves available to every country, convertibility can be introduced by decree. But it cannot be maintained if the currencies are of unequal strength. With regard to the stronger of two currencies, convertibility will not create difficulties, but for the weaker one it will. The regulation of convertibility will have to cope with these difficulties. It will also have to be mutually consistent: if currency A is declared to be convertible into B and *vice versa*, and the same for A and C, then also B and C have to be considered convertible. There must therefore be groups of mutually convertible currencies. The condition that a group can be maintained evidently implies the existence of balance-of-payments equilibrium for the sectors, in each national balance of payments, of the group considered.

We have discussed some conditions concerning the state of affairs at the moment when certain measures of integration are introduced. Other conditions originating from *the velocity of the process of adaptation*, may be added. This process will imply the shift of workers and capital from one industry to another, a transition which requires time and energy. This again means that too rapid an integration will create considerable difficulties and losses. The minimum loss connected with migration of capital will be obtained if only that portion should be shifted that is worn out each year and has to be replaced. Similarly the minimum of loss involved in a transfer of workers would be obtained if all young workers entered the new industry and the number of workers in the old industry diminished through the natural process of retirement of the oldest workers. If this—very low—speed of transition were chosen, the disadvantage of the erroneous division of labour under protection would continue for quite some time. An optimum speed will have to be found where the increased transition losses are compensated for by the decreased protection losses.

Finally something should be added about the correct scheduling of the various steps towards integration. As we stated in section 1, the condition of continuity also requires that a minimum of setbacks is involved. Now, a number of different paths towards integration are conceivable,

such as the temporary creation of *partial areas of integration,* which are afterwards, integrated completely. Here the important question arises whether the partial integration is really a step in the correct direction. Sometimes this is decidedly not so, since a partial integration may create new protection which will not persist with complete integration.

7. THE SECOND AND THIRD PHASES OF INTEGRATION

If in addition to permitting goods and services to move freely from one country to another, we also permit capital to do so in the "second phase of integration", a new and better optimum can be obtained. This follows from the fact that the marginal productivity of capital is different in the various countries and that new investments will therefore be more productive in the relatively under-capitalized countries. These will probably be the overpopulated countries. The same thing is true if, in the third phase, people are permitted to move. Only then will it, in principle, be possible to have the optimal distribution of both capital and labour over the given—and immovable—natural resources. In the second phase equality of interest rates, and in the third phase equality of wage rates will be realized—if we omit such factors as the preference to live in a certain country, a factor which is not unimportant in real life! From this last remark it will be evident the integration will be less complete in the third phase than may be assumed for the first and second phases; it will also be clear that a host of problems of an extra-economic character will be involved in this last phase. The particular economic difficulty with the second and (even more so) with the third phase is the opposition of interests involved. It is not in the interest—at least not in the direct interest—of the present populations of the "richer" countries to have the populations of the "poorer" areas move in. It is only of a certain indirect interest to them, which it is not easy to evaluate: the interest of reducing the antagonism between richer and poorer countries and thus the possibility of conflicts.

The fact that it is not in the direct interest of the richer countries to eliminate barriers to immigration combined with the "continuity condition" (section 1) leads us to the suggestion that the influx of immigrants be such as to avoid serious setbacks in prosperity in the richer countries. This is equivalent to advocating a process of gradual convergency

in welfare between richer and poorer areas by keeping welfare in the richer countries at a lower rate of increase and raising the rate of increase in welfare in the poorer countries.

Still another aspect of the third phase is the possibility of *regulating the growth of population*. Looked at from the economic viewpoint of the integration area it will be in the common interest of all countries in the area that the speed of increase in population be mitigated. This side of the problem needs to be studied more intensively than it is at present.

8. POSITIVE MEASURES OF INTEGRATION

As we have already observed it is a mistake to suppose that economic integration could be achieved by the mere elimination of existing instruments of economic policy. Those who hold this opinion overestimate the power of free competition as well as the preparedness of the present-day world to play the game of free competition in all circumstances. A number of positive measures will be necessary, and they may be summarized under four headings:

(*a*) automatic consequences of the elimination of trade barriers;
(*b*) measures of supervision;
(*c*) measures to maintain the conditions under which free competition works favourably;
(*d*) measures to supplement the forces of free competition.

The elimination of trade barriers and the creation, thereby, of the single market, implies certain *automatic consequences*. In order to make that market work in the correct way it will be necessary *e.g.* to make import duties of the integrated territory *vis-à-vis* third countries uniform in all the integrated countries; to have indirect taxes the same everywhere within the integrated area and to cause the rules according to which scarce currencies (in particular dollars) are made available, to be the same in these countries. Perhaps we should add the warning, referring to section 5, that the equalization of wages and of social insurance premiums, does not necessarily follow as a desirable measure.

Further it will be necessary to organize a certain *supervision* of both the negative measures and their automatic consequences just described. Otherwise it is by no means certain that these measures would be executed completely and in the best way; the temptations felt by

certain groups or governments to neglect certain elements may be too great.

As we have previously pointed out, free trade, as a special form of free enterprise, will influence general welfare favourably only if certain conditions are fulfilled, of which the most important is the condition of *high and stable employment*. Experience has shown, however, that high and stable employment cannot be obtained by laissez-faire. Certain forms of employment policy will be necessary complements of any integration. To a certain extent such a policy can and should be pursued on a world-wide basis and should therefore be the task of the United Nations, apart from the duties which the national governments have in this field. But to a certain extent these tasks could be supplemented and made easier if the integrated area itself has a distinct policy and applies the corresponding instruments and organs. Part of such a policy could be the co-ordination of financial policies of the co-operating countries to effect the maintenance of financial stability or, in the scientific phrase, "monetary equilibrium".

Finally there is an important field of *supplementary action* in order to bring about, by direct endeavours, certain of the wholesome consequences of the single market. It is in particular in the field of specialization and interplant co-operation that direct steps seem to promise more than the indirect forces of competition might, in the end, perform. In order to obtain the most efficient concentration of the production, say of certain spare parts or semi-finished goods, in a few plants, making long production runs possible, deliberate schemes of co-operation and direct conversations probably will be the quickest way. Such conversations and the final co-operation will be necessary not only in order to avoid duplication in this world of complicated technical problems, but also for the elimination of the existing feelings of distrust among many competitors, both in the same country and among different countries. It seems to be the most effective way in which many industrialists could contribute to the integration.

9. CONCLUDING REMARKS: THE NEED FOR QUANTITATIVE RESEARCH

These theoretical considerations about integration are almost entirely qualitative in character. They should be supplemented with actual

measurements in order to determine the order of magnitude of the phenomena discussed and their relative importance. A further development of the theory seems fruitful only on the basis of such quantitative knowledge: too often one may misjudge the relative importance of the various aspects of a problem if one does not know their relative influence. Unfortunately our statistical knowledge of the data pertinent to economic integration is very restricted. Figures concerning the level of production costs are very scarce and in numerous cases are completely unavailable. A vast bulk of rather elementary documentation is lacking and should first be built up. Improvement of production statistics as well as special investigations into individual industries will be necessary. As long as these data are not available much of our discussion on economic integration will lack the precision needed to permit far-reaching conclusions, or to enable us to draw up a program of integration for the next decade.[2]

[2] A bold piece of pioneering work has been undertaken by my colleague P. J. VERDOORN in a Report for the Dutch Economic Society (autumn-1952 meeting).