IMPORT-SAVING AND THE BALANCE OF PAYMENTS

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Because a very large proportion of Australia's exports consists of crude or simply-processed rural products, agricultural economists and others concerned with the making of agricultural policy in this country have tended for many years to lay special weight on the relationship between agriculture and balance of payments policy. The long-standing difficulty in balancing Australia's accounts with the rest of the world has commonly been treated as a justification for a policy of agricultural expansion ; and a guide to the best pattern of expansion has been sought in current thinking about the balance of payments.

I propose to discuss here two related ideas about the balance of payments which I judge to have influenced agriculturalists : firstly the idea that the Australian economy is likely to generate a growing demand for imports which will not readily be matched by the growth of exports ; and secondly the idea that it would be possible to ease the resultant balance of payments problems by " import-saving ", i.e. the production at home of things that were previously imported (" importables "), and the substitution of these domestic products for imports in domestic uses. My main interest is in the second of these notions, but I propose to say a good deal about the first too, because they are closely linked in current discussion. Indeed, I believe that the influence of the first idea accounts largely for the interest that agricultural economists and policy-makers take in import-saving ventures as a possible component in agricultural policy.

The attempt to set agricultural policy in a wider context, by linking it with balance of payments problems, is to be welcomed in principle. No argument is needed to establish that when economic programmes for agriculture are being drawn up, and solutions to agriculture's economic problems are being devised, some attention should be paid to their bearing on the rest of the economy. However, I feel that those associated with agriculture have not been critical enough in their attitude to the fashionable notions about the balance of payments that I am discussing here. I want to maintain that when we try to make economic sense of these ideas (and especially to make them consistent with each other) serious difficulties emerge, and that the possible scope for import-saving appears rather limited.

Making economic sense of the two notions consists essentially in relating them explicitly to certain basic propositions about the balance of payments. The relevant propositions are few, elementary and well-known, for they underlie the construction of balance of payments and national income statistics ; but in my view too little attention is paid to them in current discussion of balance of payments prospects and policies. In the remainder of this paper I want to consider in some detail their significance for import-saving and its companion notion.

The Basic Identities

As a first step in the argument, it is necessary to set out what I have described as the basic propositions. These consist of two identities, which I label a balance of payments identity and a social accounting identity. The balance of payments identity can be expressed as :—

$$D \equiv M - X - T - P \tag{1}$$

$$\equiv M - X - N \tag{1a}$$

where D is fall in reserves

M is imports and other international payments for goods and services

X is exports and other international receipts for goods and services

T is net receipts from income transfers, donations etc.

P is net capital inflow.

$N = T + P$.

We may then define a balance of payments deficit as any situation where $D > 0$, i.e. where $(M - X) >$ N.

This way of describing the balance of payments differs slightly from the conventional classification of transactions into merchandise trade, invisible items, and capital account. " Invisibles " are here divided into " transactions in goods and services " and " net transfers ", and visible and invisible transactions in goods and services are added together. The reason for reclassifying items in this way is that it provides a direct link with the social accounting identity, which is :—

$$Y + M \equiv E + X \tag{2}$$

where Y is gross national product.

E is gross domestic expenditure.

From (2) it follows that $(M - X) \equiv (E - Y)$, so that we have a dual definition of the deficit : $(M - X) > N$, and $(E - Y) > N$.

This result is of some importance, because it brings out the connection between internal and external transactions, and between domestic and external policies. It indicates firstly that any balance of payments deficit involves in a sense excess absorption of goods and services by the domestic economy—absorption of goods and services in excess of the sum represented by domestic production, net transfer payments from the rest of the world, and net capital inflow ; and secondly that if net transfer payments and net capital inflow remain unchanged, the emergence or correction of a deficit requires some change in the balance between domestic production and domestic absorption. More specifically, it implies that if an improvement in the balance of payments is to be engineered from within the economy, the solution must involve on balance the release of resources by the domestic economy. If gross national product is fixed, expenditure must fall : if national product is growing, expenditure must grow by a smaller amount. The problem facing the advocates of any policy or device is to show how it might contribute

to that result. In particular, this is a challenge that the advocates of import-saving must meet.

Import-Saving and a Fixed Propensity to Import

We are now in a position to set out in a more formal way our two hypotheses that the economy will generate a growing demand for imports, and that import-saving will ease our balance of payments problem. Unfortunately, as soon as we attempt to do so a serious difficulty emerges. In order to accommodate both ideas in the same system, one of them has to be drastically modified.

As is well known, the forecast that demand for imports will grow inexorably, and that this will issue in balance of payments problems, rests on some simple but quite specific assumptions. For the purposes of the argument it is assumed that net transfers, net capital and exports are all fixed at some level, that gross national product is growing at some given rate, and that imports are proportional to gross national product, i.e. that

$$M = mY \tag{3}$$

where m is some fraction.

The symbol m then stands for the (fixed) average propensity to import. On these assumptions, there is no escaping the conclusion that a balance of payments deficit will emerge eventually. Indeed, the same conclusion follows even if we do not assume that exports, net transfers and capital are fixed, but say only that their sum $(N + X)$ rises more slowly than gross national product.

The general difficulty with this approach to the balance of payments is that until some qualifications are introduced into the argument, it implies that balance of payments problems are inescapable : the economy must simply roll on to disaster. Obviously we are not expected to draw this conclusion ; on the contrary, the argument is intended to provide a spur to action. But if policy is to be allowed to affect the outcome, the assumptions must be relaxed or qualified somewhere. One possible way of doing this would be to suppose that exports or capital imports are fixed only while government policies (e.g. policies relating to export promotion or the repatriation of capital) remain unchanged. A second would be to relax the assumption expressed in equation (3), by supposing that it applies only while the government's exchange, tariff and monetary policies remain unchanged ; but in this case very little is left to the predictive value of the original theory, and it hardly seems worthwhile retaining as a distinct approach to the balance of payments. The question that we must consider here is whether equation (3) can also be modified in a way that would allow imports to be reduced through import-saving, but that would not completely destroy the equation's meaning.

We can most conveniently approach this question through a description of some of the general features of import-saving. If a reduction in imports through import-saving is to be possible, a number of conditions must be satisfied. The demand for imports must have its only source in a specific demand for certain kinds of goods (" importables ") ; imports and home-produced importables must be alternative means of satisfying this demand ; and home-produced importables must possess a competitive advantage (e.g. a price-advantage or an advantage ensured through import-licensing policy) over imports, so that as output is expanded at

home the home-produced goods are in fact substituted for imports in domestic uses. Actual imports will then be equal to a gap between the demand for importables and domestic output. This can be expressed in symbolic terms by the equation :

$$M = P - Y_M \tag{4}$$

where P is demand for importables

Y_M is domestic output of importables.

Each of the conditions listed above is important, but the first is really vital. The possibility of influencing total imports through import-saving disappears if the demand for imports is simply demand for goods in general, as in the equation :

$$M = E - Y + X \tag{2a}$$

where gross domestic expenditure, gross national product and exports are all determined exogenously.

In this case, a reduction in imports of certain lines through import-saving would simply be offset by an increase in imports of other goods. The root of the matter is in short whether demand for imports is determined as in equation (4) or as in equation (3) or equation (2a). We shall have to return to this subject later. For the moment, however, we shall concentrate instead on the possibility of reconciling (4) with (3).

Reconciliation of a sort is possible if we substitute P for M in equation (3), so that the average propensity to import is related to the demand for importables, instead of the demand for imports. This gives us two new equations :

$$P = mY \tag{3a}$$

$$M = mY - Y_M \tag{5}$$

Then we are still in a position to say that, *for any given level of domestic output of importables* (Y_M), imports will be determined by the average propensity to import and the level of gross national product ; and we are still able to predict, in the same way as before, an emerging and growing deficit.

Equation (5) thus disposes in a formal way of the problem of reconciliation between the two notions with which we began. There remain, however, two important questions : whether it follows that the balance of payments as a whole will benefit from import-saving, and whether equation (5) does represent an acceptable theory of the demand for imports. In my view the correct answer to the first is a qualified yes, but the answer to the second is an unqualified no.

Effects of Import-saving on the Balance of Payments

The finding of an answer to the first question requires some reference to the " challenge " mentioned earlier, viz. how import-saving might contribute to the release of resources by the domestic economy. This in turn requires us to refer back to the basic identities, and it brings out some further and possibly unexpected features of the approach based on a fixed average propensity to import.

When the social accounting identity and equation (5) are combined, we get a new equation :

$$E = (1 + m)Y - Y_M - X \qquad (6)$$

From this it follows directly that there will be a balance of payments deficit whenever :

$$\frac{m > Y_M + X + N}{Y}$$

and that as any one of N (net transfers and capital imports), X (exports) or Y_M (production of importables) rises, the deficit will be reduced, provided that m and Y remain unchanged. So, in terms of equations (5) and (6), it is possible that import-saving will improve the balance of payments. But it should be obvious enough that import-saving will not result in any improvement in the balance of payments if it causes an equal or greater fall in exports. This commonsense view is confirmed in the inequality above, where exports (X) and the production of importables (Y_M) play the same role. The qualification is obviously important for agriculture, where import-saving projects must commonly compete with export industries for land and other resources.

The mechanism by which, according to this theory, import-saving may release resources can be identified from a further examination of equation (6). This equation has one curious feature. Its economic meaning is, of course, that gross domestic expenditure (E), depends on the level of supplies consisting of gross national product (Y) plus net imports of goods and services ($[mY - Y_M] - X$). This is a most unusual assumption in macro-economics, where supply is usually held to depend on demand (as, for example, in equation (2a)). We need not suppose that the departure from orthodoxy is intended by those who use the average propensity to import as a predictive device, but it seems to emerge quite clearly when we test the approach against the basic identities.

It becomes possible to remove any inconsistency between the orthodox view and the equation (6) if we re-interpret in a certain way both that equation and the prediction that there will be a growing balance of payments deficit. It is necessary to assume that when the argument refers to gross national product, it means not the actual level but the level that gross national product must reach if it is to satisfy some other condition—probably the maintenance of full employment. Then equation (6) does not purport to show how gross domestic expenditure is determined ; it merely defines the level of gross domestic expenditure that must be reached if potential supplies are to be fully absorbed and full employment is to be maintained.

If we adopt this view of the matter, the fundamental problem for policy appears to be to find a way to reconcile balance of payments equilibrium and full employment. The balance of payments problem itself is soluble, for a reduction in demand will be effective in reducing net imports. But this solution will involve unemployment, because the initial impact of a drop in demand cannot fall on imports. The level of demand can, on the assumptions of the argument, affect imports only indirectly through gross national product and at the price of a fall in employment. Import-saving can affect the situation by permitting an independent reduction in net imports and therefore in the proportion of gross domestic expenditure that will be absorbed by net imports. It then becomes possible to reduce gross domestic expenditure without at the same time reducing gross national product ; in this way the gap

between gross national product and gross domestic expenditure is reduced, and on balance the economy surrenders resources. Import-saving assists in the process by enabling the economy to surrender resources without reducing gross national product.

The Average Propensity to Import and the Demand for Importables

Up to this point the argument has been directed to showing that it is possible (although not easy) to devise a theory that will make use of the average propensity to import, that will provide for an improvement in the balance of payments through import-saving, and that will be consistent with the basic identities which were introduced in an earlier section. We must now turn to the question whether use of the characteristic devices of the resulting theory, the average propensity to import and the demand for importables, appears to be justified by the facts.

I think it can be said at once that there is little evidence to support the view that the demand for imports consists entirely of the residual demand for certain specific classes of goods. (The residual demand, in this sense, is the demand that remains after domestic output of these goods has been absorbed.) I believe that, on the contrary, our balance of payments experience shows that the " spill-over " effect is important in the Australian economy, and that as demand is satisfied in one direction demands for other kinds of goods, including other kinds of imports, arise or expand. I can see no valid reason for accepting equation (4) as an adequate account of the demand for imports.

If that view is accepted, it disposes immediately of the question whether there is a fixed average propensity to demand importables. It does not, however, dispose of the alternative view that there is a fixed average propensity to import. Here there is a fair body of statistical evidence to be taken into account. Taken at face value, that evidence is quite impressive. Over quite a long period the ratio of imports of goods and services to gross national product has tended to remain pretty stable in Australia. There have of course been substantial year-to-year changes in the ratio, due to changes in the severity of import-licensing and to other factors, but after each disturbance it has tended to return to about the same level. In the three immediate pre-war years the ratio averaged a little more than 15%. In the first three years after the war it averaged a little more than 17%, and it reached approximately the same level in the period 1957/58 to 1959/60. It seems that something more than chance has been at work here, and that Australia's payments for foreign goods and services do tend to be equal to about one-sixth of gross national product.

However, it does not follow that the level of imports is determined by gross national product alone, or that we can safely conclude that, in future, foreign payments will continue to be equal to about one-sixth of gross national product. There is available an alternative explanation of the stability of the ratio, and if that explanation is correct it would be inappropriate to make predictions about the behaviour of imports, independently of other elements in the balance of payments.

Just as it is possible to calculate a ratio between gross national product and payments for imported goods and services, so it is possible to calculate a ratio between G.N.P. and receipts for exported goods and services. We

might call this second ratio the average propensity to export. The two propensities are linked through the balance of payments identity, in the form :

$$\frac{M}{Y} \equiv \frac{X}{Y} + \frac{N}{Y} + \frac{D}{Y}$$

The propensity to import is one aspect of a complex that includes the propensity to export, the rate of capital inflow and net international transfers, and the rate at which reserves are being run down or accumulated. If N/Y and D/Y are small the two propensities will be roughly equal. Stability in the propensity to import requires no more than that the other elements should also be stable, or that there should be off-setting changes among them.

Unless we have some additional arguments on which to rely, a study of the statistical facts does not establish which of the elements in this complex have been the determining factors over any period, and which has been determined. The statistics themselves do not justify us in singling out the propensity to import as a factor that would continue to be stable if the propensity to export or the rate of capital inflow began to change. The stability in the Australian propensity to import can be quite readily explained as the product of an only slightly less stable propensity to export, a changing rate of capital inflow, and efforts on the part of the Government to keep longer-run changes in the level of reserves within quite narrow limits. All that the statistics establish is that in the past the Australian economy has displayed a fairly stable propensity to engage in international transactions ; this does not assist us very much in forming a view of what might happen to imports in changing circumstances in the future—especially if the propensity to export fell.

Moreover, there are other arguments which cast doubt on the hypothesis that there is a fixed average propensity to import. It is not in fact very plausible to suppose that, irrespective of the level of income and the relationships between the prices of various goods and services, the community as a whole will invariably choose to divide its spending between home produced goods and imports in some constant proportion. Alternatively, it is not very plausible to suppose that, irrespective of the levels of output and of exports, the community will always want to supplement domestic production with imports equal to a constant proportion of output. There seems no reason to expect that the average propensity to import would function as a determining rather than a determined factor in the situation.

An Alternative Approach to Import-saving

To sum up the argument of the last section, I have suggested that there are good reasons for rejecting both the hypothesis that the aggregate demand for imports consists in a " residual " demand for certain specific kinds of goods, and the hypothesis that the demand for imports or for importables as a whole is determined directly by gross national product through a fixed average propensity to import. That argument did not, however, establish that these hypotheses could not be true of some *parts* of the demand for imports. This point opens up further possibilities for investigation, and leads eventually to a conclusion that under certain rather special circumstances import-saving might be useful.

The approach devised earlier, but discarded as inapplicable to imports as a whole, appears much more plausible when it is applied to imports of raw materials and components for industry. Prima facie, it is not at all implausible to assume that inputs of raw materials and components for industry should, at least for a given pattern of production, be equal to a constant proportion of output (gross national product). If that is so, the demand for imports of raw materials and components might reasonably be treated as equal to the gap between total demand for these commodities, and domestic output of them. These relationships may be stated as :

$$R = rY \tag{7}$$

$$\begin{aligned} M_R &= R - Y_R \\ &= rY - Y_R \end{aligned} \tag{8}$$

where M_R is imports of materials and components
Y_R is domestic output of materials and components
R is total demand for materials and components.
r is some ratio.

These ideas seem to fit well enough with Australia's experience during the period of import-licensing, when demand for materials was obviously an inflexible element in the situation. At any rate they are sufficiently plausible to make it worthwhile to consider their implications for import-saving.

Before we can embark on that task a certain amount of stock-taking is necessary. Since the basic identities were first defined above, new concepts have been introduced through the splitting of existing ones. Besides M (imports), we now have M_R (imports of raw materials and components) ; besides Y (gross national product) we have Y_R (domestic output of raw materials and components). In order to accommodate these changes, the simple scheme set out in identities (1) and (2) must be elaborated a little, and three further terms must be added to the existing set. The new terms are :

M_E : imports of finished goods,
Y_O : value added to materials and components in the domestic economy,
Y_E : domestic output of finished goods available for the domestic market.

The first two of these represent simply the residual elements in total imports and total gross national product respectively, after imports and output of materials and components have been accounted for, i.e.

$$M_E = M - M_R \tag{9}$$

$$Y_O = Y - Y_R \tag{10}$$

Y_E is needed to complete the classification of final output, in which X (exports) is the other element. It figures in a new identity :

$$Y + M_R \equiv X + Y_E \tag{11}$$

This identity expresses the fact that the value of final output includes not only the value of domestic services (Y) but also the value of the imported materials and components that have been absorbed in domestic production.

From the information now at our disposal we can construct a system of five equations :

$$D = M - X - N$$
$$M + Y = E + X$$
$$M = M_R + M_E$$
$$M_R + Y = X + Y_E$$
$$M_R = rY - Y_R$$

Of the terms included in these equations, X, N, Y_R and r are, as in previous approaches, determined outside the system. In the absence of any convincing empirical evidence about the other aggregates, it is largely a matter of choice what other assumptions are made. I propose, for purposes of illustration, to assume that Y and E are also determined outside the system. I suggest that it is reasonable to treat E (gross domestic expenditure) in this way, because we do commonly assume that expenditure is determined by and will respond to governmental policy measures. Similar treatment of Y can be justified by assuming the existence of full employment and by ruling out (as in an earlier example) all adjustments to the balance of payments that are inconsistent with full employment. Y is then determined at the level appropriate to full employment.

The making of these assumptions amounts to a re-assertion of equation (2a), for Y, E and X are all now determined, and in the social accounting identity only M is left to be determined. On the face of it, this choice of approach is highly unfavourable to the idea of import-saving. If (2a) holds, the condition for a balance of payments deficit ($D > 0$) is simply $E > (Y + N)$, and the only way to attack a deficit successfully is to reduce gross domestic expenditure. External imbalance—$(M - X) > N$— is a product of domestic imbalance—$(E - Y) > N$—and the latter must be tackled first if the former is to be corrected. Either a fall in imports or an increase in exports will be ineffective in improving the balance of payments while gross domestic expenditure remains unchanged.

This radical conclusion follows from the meaning of equation (2a), which is simply that imports " fill a gap " between domestic demand (E) and retained domestic supplies ($Y - X$). If exports rise while national product and expenditure remain unchanged, retained domestic supplies will be lower and imports must rise to satisfy demand. If, on the other hand imports fall while product and expenditure are unchanged, retained domestic supplies must rise—at the expense of exports—to reduce the size of the gap that is to be filled by imports. A change in either imports or exports will cause associated changes that will, on balance, leave things as they were before.

These conclusions seem to rule out any contribution from import-saving, which is at best a method of reducing imports. However, it appears that the additional relationships introduced into the discussion, especially the distinction between imports of finished goods and imports of materials, do affect the argument. The conclusion that follows from the argument, as we have seen, is that the only way to correct a deficit is to reduce gross domestic expenditure. But it is not difficult to think of numerical examples in which the working-out of such a policy would imply a negative value for either M_E or M_R. This is obviously unacceptable.

The system makes sense only if neither M_R nor M_E is negative, for there is no place in it for negative imports. (Exports, which might be regarded as negative imports, are already covered.) A reduction in expenditure that implied a negative M_R or M_E would not be a possible means of

improving the balance of payments. This is important in relation to M_E, for it is on M_E that the impact of any reduction in E must fall initially if gross national product is to remain undisturbed. If an existing balance of payments deficit is greater than M_E—but only in these circumstances—correction of the deficit must involve a fall in M_R instead of or as well as in M_E : a fall in E is still essential, but it must be reflected partly in M_R to enable the economy to " release " resources without reducing Y. The change in M_R can be effected through a re-allocation of resources between different processes, so that Y_O falls and Y_R rises. The substitution of domestic for imported supplies of materials and components will then be an important part of the process of correcting the deficit, although it is worth noting that the expansion of domestic production of materials (Y_R) is useful only up to the point at which it is equal to demand for materials.

Thus by adopting a relatively complex view of the demand for imports, it is possible to make some provision for useful import-saving. This view has the merit that it is rather more plausible than the simple view we considered earlier. However, as compared with the simple view, it restricts the useful role of import-saving to circumstances in which there exists a special numerical relationship between the balance of payments deficit and imports of various kinds. Except in those circumstances import-saving has, on this view, no contribution to make.

It would certainly be possible to devise more complex balance of payments models than any discussed so far in this paper—in order, for example, to provide for the unplanned accumulation of stocks in the economy, to allow for the operations of the Government sector, or to relate part of expenditure to disposable income or to gross national product. There is, however, no reason to believe that the results, although they would be more complicated, would assign a substantially larger role to import-saving.

Summary and Conclusions

I have the impression that to many people concerned with the economics of agriculture, import-saving appears a simple and attractive notion that can readily be applied to problems of agricultural policy. My main theme has been that while it is undoubtedly an attractive notion it is not at all simple. We have to go to a great deal of trouble before we can make more than superficially plausible the idea that import-saving will render the balance of payments less unfavourable. Even then we cannot be sure that import-saving will be useful. It all depends on the circumstances that exist—the way in which imports are determined, and the actual level and composition of imports—at any given time.

The stumbling-block to a simple view is the need to reconcile import-saving with certain basic facts about the balance of payments, and about the relationship between domestic policy and the balance of payments. The solution of balance of payments problems would be easy if we could look forward to a growth in national product and income that would not generate any increase in domestic expenditure. There is, unfortunately, no reason to associate import-saving with this sort of process. It is essentially a re-arrangement of the pattern of production, not a device for making gross national product larger than it would otherwise be, or for restraining the growth of demand. It is only in certain special circumstances that this re-arrangement will be helpful.

It follows that most of the important questions to be asked about import-saving projects are questions about the character of the balance of payments. It is just not possible to judge rationally a given " import-saving " proposal (e.g. a proposal for the expansion of cotton growing) on its own merits. The character of such a proposal, especially the extent to which the project might be " export-costing ", is of course not unimportant. But import-saving projects are futile unless the balance of payments situation is of a kind that will respond to this form of treatment. This is, at the present time, a very open question in Australia.

There is one further point. I think that import-saving projects are often viewed as an alternative to general balance of payments measures (e.g. wholesale increases in the tariff, or changes in the exchange rate) ; they are viewed as a means of avoiding the disruption and discipline that must follow from such measures. I feel that to be an over-sanguine view of the matter. The above argument showed that import-saving might be useful. But it does not follow at all from that argument that import-saving must take the form of a series of individual projects, or that it can be carried out independently of very wide-sweeping measures. What was judged to be useful was a general process, a shifting of resources from finishing activities in the economy (Y_O) to the production of raw materials and components (Y_R). If the required shift was of any significant size it would probably be unnecessary to specify which commodities should be encouraged, and uneconomical to devise measures on a commodity-by-commodity basis. In other words, the most effective means of saving imports might well be to make use of those general measures to which import-saving often seems to be an alternative. In this situation import-saving would appear as merely one aspect of a general process of balance-of-payments adjustment, rather than a separate policy or policy-objective.