A QUANTITATIVE DISCUSSION OF SWEDISH FOREIGN AID AND BALANCE OF PAYMENTS*

By JOHN M. QUIGLEY**

Summary

Although the amount of Swedish foreign assistance has been small, in the past few years the rate of increase of aid appropriations has risen appreciably. This paper generates a simple model to discuss a major problem, balance of payments disequilibrium, which may arise as Sweden approaches its goal of devoting one percent of national product to foreign assistance. After discussing Sweden's foreign assistance policies and noting recent developments, the paper estimates import and export demand relationships for Sweden. On the basis of a growth function for the internal economy and assumptions about the direct feedback of foreign aid appropriations, two sets of current account projections are derived for the year 1970. Even under the most optimistic set of assumptions, it is shown that the goal of devoting one percent of national product to foreign assistance could not be reached as early as 1970.

I

The question of foreign economic assistance has been controversial for the better part of two decades. Debate concerning the needs and results of economic assistance has sharpened, not only in the donor, but also in the recipient nations. Within the donor nations discussion has been intensive on at least two major aspects of foreign aid: the quantitative levels of assistance to be offered and the degree of control and external supervision under which it is to be administered.

Among the recipient nations, there has been sharp criticism of the generally low levels of assistance offered and of the amount of control exercised directly by the donating nations. As the developing nations have begun to exercise more political power in world affairs, they have likewise become more outspoken in their criticism of and their expectations for foreign assistance.

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One important aspect of the question of foreign assistance is the impact of the appropriations on the balance of payments of the donor nation. From an *a priori* viewpoint, the impact would appear to be greatest if the granting nation were small (i.e., had a small share in world trade) and if a large part of the appropriation were made available through multilateral organizations (that is, without "strings" attached to purchases in the granting nation). In general, we can say that:

$$B = f \left( \frac{F \cdot M}{W} \right)$$

where $B$ is the balance of payments effect upon the donor country (net foreign exchange cost of aid), $F$ is the gross amount of aid offered, $M$ is the percentage of "untied aid", and $W$ is the donor's share in world trade.

It is evident that almost any nation contemplating an ambitious program of foreign assistance must, at the same time, make independent studies of her balance of payments situation to harmonize the goals of foreign aid with the equally important target of balance of payments equilibrium.

Besides being one of the developed nations with an ambitious program of foreign assistance, Sweden has a relatively small share in world trade and intends to increase her volume of assistance primarily through multilateral channels. In addition, Sweden is one of the few nations with a well-defined, concrete, and quantifiable goal for her contributions to economic development. The purpose of this paper will be to construct a long-range projection of certain items of Sweden's balance of payments, to specify her goal for foreign economic assistance, and to discuss in a general way the interrelationships between the two.

Traditionally, most projections of current account items have been made on a sectoral basis; separate predictions are made for each of the larger segments of the accounting items and the results are summed. One celebrated example of this approach is to be found in the monumental volume of Sir Donald MacDougall [10], which includes a painstaking analysis of eight different sectors of the U.S.
current account. MacDongall's conclusions may be long-forgotten, but his meticulous and well-documented study will long remain on economists' bookshelves.

In 1963 the Brookings Study, *The United States Balance of Payments in 1968* was published. This timely and controversial report uses econometric methods to forecast the U.S. current account balance. This econometric approach has been refined further by Rudolf Romberg in his estimate of the U.S. current account balance for 1964 [11].

Although the notion of standard errors and confidence intervals cannot be applied, the econometric approach allows the assumptions of a payments forecast to be neatly isolated and should in principle be as effective as the sectoral approach, where the assumptions seem to increase geometrically with the number of sectors involved.

II

Sweden, one of the few European nations without colonial interests, began giving official development assistance after World War II. By 1950 Sweden's foreign aid consisted of only about 0.7 M Sw. Kr. A decade later Swedish development assistance had increased to over 45 M Sw. Kr., but it still amounted to less than one tenth of one percent of gross national product.

Throughout Swedish society there appeared to be widespread support for a more ambitious program of international assistance. In 1961 the United Nations general assembly passed a resolution which expressed the hope that international assistance should be increased drastically to a level corresponding to one percent of the incomes of the developed nations. Sweden voted in favor of this resolution and the Swedish Riksdag stated, also in 1961, that "it fully shares the hope of the U.N. resolution and finds it only natural that Sweden should help to realize this aid" [15, p. 29]. Subsequently, the government's development assistance bill of 1962 stated that Sweden would strive to increase her aid program as soon as possible so that one percent of her national income would be budgeted for official development assistance.

The following table gives an account of recent Swedish foreign aid appropriations.
Table 1. Recent Official Swedish Development Assistance (millions of Swedish Kronor).

<table>
<thead>
<tr>
<th>Year</th>
<th>1951</th>
<th>1953</th>
<th>1963</th>
<th>1965</th>
<th>1966</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Assistance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multilateral</td>
<td>19.25</td>
<td>42.75</td>
<td>53.41</td>
<td>71.70</td>
<td>79.49</td>
</tr>
<tr>
<td>Bilateral</td>
<td>21.18</td>
<td>22.70</td>
<td>35.75</td>
<td>49.55</td>
<td>61.50</td>
</tr>
<tr>
<td>Humanitarian Assistance</td>
<td>2.02</td>
<td>5.00</td>
<td>5.00</td>
<td>7.50</td>
<td>7.50</td>
</tr>
<tr>
<td>Financial Assistance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multilateral</td>
<td>10.00</td>
<td>10.29</td>
<td>32.10</td>
<td>35.19</td>
<td>41.40</td>
</tr>
<tr>
<td>Bilateral</td>
<td>0.00</td>
<td>20.00</td>
<td>50.00</td>
<td>70.00</td>
<td>90.00</td>
</tr>
<tr>
<td>Grand Total</td>
<td>52.48</td>
<td>132.95</td>
<td>176.25</td>
<td>225.45</td>
<td>273.89</td>
</tr>
<tr>
<td>Percent of GNP</td>
<td>0.67%</td>
<td>1.69%</td>
<td>2.60%</td>
<td>2.30%</td>
<td>2.89%</td>
</tr>
</tbody>
</table>


As the above figures suggest, there has been a more-than-five-fold increase in foreign assistance appropriations in the past five years. Sweden also appears to be one of the most outspoken champions of the multilateral approach to foreign assistance. The government's development assistance program states that "... assistance should be given primarily in a multilateral framework. The international organizations have a better overall view of the investments required by different countries, and of the economic prospects of these countries, and they can test the value of individual projects more in detail than a country like Sweden." In pursuit of this policy, Sweden now gives about half of its foreign assistance in the form of direct contributions to multilateral organizations.

The bulk of Sweden's bilateral assistance has been in the form of grants and long-term loans untied to purchases in Sweden. Although credits have been tied to specific projects, none have so far been tied to purchases of Swedish goods. More than most countries, Sweden appears committed to the multilateral concept of foreign assistance and the untied approach to bilateral aid.

Assuming that political willingness to achieve the one-percent goal remains strong - popular support for the goal remains strong and in-
ternational organizations are ready and willing to accept additional Swedish appropriations—there remains the all-important question of Sweden’s economic ability to reach the goal quickly.

One of the primary factors which will determine Sweden’s economic ability to meet this goal is her balance of payments position. The nation plans a significant increase in its volume of assistance, and most of this assistance is expected to be in the form of untied grants and loans and contributions through multilateral organizations. In addition, Sweden is a small nation with a relatively minor share in world trade. All these factors work to increase the balance of payments effect of aid appropriations.

In projecting certain items of Sweden’s balance of payments, attention will be directed to the net balance of visible and invisible trade. First, on the basis of official government statements, it appears that any increased international assistance will be financed from current account. Sweden’s Long-Term Planning Commission has reported, for example, that the extent of foreign aid will be a question “not only of the Swedish citizens’ willingness to make sacrifices, but also of an economic policy which provides a sufficient surplus on our current balance” [16, p. 98]. In addition, predicting the balance-of-payments effect of capital movements involves at least three hazardous processes—projecting the capital flows themselves, the income stream of these flows, and the export stimulating or replacing effect of the capital movements. Furthermore, it should be noted that international capital movements are subject to more central control and supervision (by the Riksbank) in Sweden than in many countries, with the probable effect that international market forces are not as strong.

III

In the simple model explored in this paper, attention is drawn to three relationships; an import function, an export function, and an equation describing the rate of growth of national income. Following the tradition of several previous studies, export and import functions

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1 In addition to [7], [8], and [19], see L. R. Klein’s export function for British goods to the dollar area in Introduction to Econometrics (Englewood Cliffs: Prentice-Hall, 1962) pp. 33-48.

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are derived, relationships which assume that both quantities are entirely demand determined. Thus by implication a reduction in real income in Sweden caused by generosity in dispersing foreign aid is assumed to have no effect upon Sweden’s ability to export—investments in Sweden’s export industries are not reduced directly or indirectly by the sacrifices necessary to finance the larger foreign aid budget. This would seem to be one objective of a rational taxation policy aimed at raising revenue for increased aid appropriations.

Formally, at least, this property of the model is the same as assuming that if real income is for any reason reduced, export capacity is not affected by the reduction; alternatively, if real income (and hence internal demand) is reduced, more goods and services are freed for export so that increasing foreign demand can still be satisfied.

The effect of foreign aid upon the growth rate of Sweden is likewise approximated rather directly in the model. A real growth rate is derived based upon the export function and an exogenous growth forecast of the non-export sectors. To the extent that increases in foreign assistance do not reappear in Sweden as induced net exports, these funds are simply subtracted from the consumption and investment base upon which the growth is compounded.

In reality there are other relationships, not included in this model which could exert a considerable influence upon Sweden’s balance of payments. The supply of exportable goods, for example, is influenced by industrial investments in Sweden, and these investments are in turn related to the growth of real income. Although the investment mix could be expected to shift towards the export sector, it probably would not shift enough to justify total neglect of the supply parameters. Likewise the real growth rate sacrifice caused by foreign assistance increases could, in fact be mitigated substantially by alternative taxation policies.

Nevertheless, the model chosen has interesting implications and does illustrate some of the many problems involved in increasing foreign aid to meet the goal of devoting one percent of national income to international assistance.

The model chosen resembles the econometric approach of the Brookings Study, but instead of estimating transportation, service, and other
current account items separately, there are only two equations: a foreign exchange earning or export function (including merchandise exports, transportation, service exports, etc.), and a foreign exchange depleting or import function (including merchandise imports, transportation, service imports, etc.).

Following the reasoning of the Brookings and Rhomberg studies, an aggregate model was chosen because Sweden, like the United States and most other developed nations, trades in a divergent mix of both raw materials and finished products on both the import and export side. In addition, previous studies on a sectoral basis indicate that disaggregation does not improve the overall estimate of imports or exports.¹

IV

Traditional theory indicates that the determinants of the demand for imports are income and relative prices. Using data for 1950–1964, the following least squares regression was obtained:

\[
M/P_m = -13.97107 + .37346 Y_s/P_s + 4.33540 P_s/P_m \quad (II)
\]

\[
(0.46495) \quad (0.04204)** \quad (2.64650)
\]

\[ R^2 = .996. \]

Where \( M \) is gross imports (including transportation, services, etc.), \( P_m \) is the weighted import price index deflator, \( Y_s \) is the GNP of Sweden measured in millions of Sw. Kr. and \( P_s \) is the implicit GNP deflator of Sweden.

This equation shows a marginal propensity to import of about .37. Although the over-all R-squared is extremely significant, the coefficient of the relative price term is not even significant at the .05 level. In addition the price elasticity of import demand is calculated at only .28. This can be explained by looking at the intercorrelation between the independent variables, real income and relative prices.

<table>
<thead>
<tr>
<th></th>
<th>( M/P_m )</th>
<th>( Y_s/P_s )</th>
<th>( P_s/P_m )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( M/P_m )</td>
<td>1.000</td>
<td>0.993</td>
<td>0.967</td>
</tr>
<tr>
<td>( Y_s/P_s )</td>
<td>1.000</td>
<td>0.960</td>
<td></td>
</tr>
<tr>
<td>( P_s/P_m )</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ See [7] and [19]. In both cases the mean percentage error of the total estimate was equal for an aggregate function and a disaggregated function composed of regression equations for seven sectors of the Swedish economy.
The intercorrelation of .960 between real income and relative prices suggests that the equation is multicollinear. A second equation, containing only real imports and income was fitted to the same data.

The results,

\[ \frac{M/P}{\dot{P}} = -14.33997 + 4.3958 Y/P \]  

\[ (0.49414) \]  

show that the multicollinearity dilemma can be avoided at the cost of only a trivial loss in predictive precision. Applying Granger's razor and using the second form of the import function requires one additional assumption; namely, that the observed relationship between real income and relative prices will continue during the period of projection.

In the export functions derived for the United States by the Brookings economists, separate equations were derived for U.S. exports to Western Europe (OECD countries) and to all "third" countries. The tendency for the non-OECD world to spend all its foreign exchange earnings rather than to build reserves and the fact that the overwhelming majority of Sweden's exports are to her OECD neighbors suggest that Swedish exports are basically a function of the real income in the other OECD nations and the relative prices of Swedish exports vis-a-vis her OECD neighbors.

Using the latest available data, the following equation was derived,

\[ \frac{X}{P} = -13.26874 + 0.00744 Y/P + 4.6570 P/P \]  

\[ (0.55992) \]  

\[ (0.099791) \]  

\[ (2.13390) \]  

\[ R^2 = .936 \]

where \( X \) is gross exports (including transportation, services, etc.), \( P \) is the weighted export price index deflator, \( Y \) is the GNP of Western Europe and the United States (OECD countries) and \( P \) is the implicit GNP deflator of these nations.

The overall R-squared together with the lack of significance of the relative price term again suggests multicollinearity. The intercorrelation matrix shows that the income and relative price terms are correlated by \( r = 0.771 \). A second equation in real exports and real income fitted to the same data shows that
\[ \frac{X}{P_x} = -20.07703 + 0.00874 \frac{Y_0}{P_0} \]  
\[ (0.65136) \quad (0.00059)** \]
\[ r^2 = .978. \]

As in the import function, the overall \( r^2 \) is highly significant and the individual coefficients are likewise significant even at the .01 level.\(^1\)

Thus equations III and V represent good indicators of Sweden’s visible and invisible trade. Sweden’s marginal propensity to import is calculated at .43958 and the income elasticity of imports is 1.997. Neither of these figures is inconsistent with other published studies. The marginal propensity of the other OECD nations to import from Sweden is .00874, a figure which is not far from the share of Swedish exports in the combined national products of the United States and Western Europe.

It has been shown that a large portion of Swedish development assistance, when the one-percent goal is reached, is expected to be in the form of contributions to multilateral organizations and in the form of untied bilateral assistance. Indeed, for fiscal year 1965, about 80% of Swedish assistance is in one of these two forms. As of 1964 it was estimated that about two percent of Sweden’s United Nations contributions have been re-spent in Sweden.\(^2\) Of Sweden’s bilateral assistance less than 30 percent has resulted directly in purchases in Sweden. In this study it will be assumed that 15 percent of all Swedish foreign assistance will result directly in purchases of Swedish goods. The figure would be slightly higher if a greater portion of the increased assistance were in the form of bilateral grants and loans; it would undoubtedly be lower if a greater portion of the increase were in the form of contributions to multilateral organizations. But for the present purposes, 15 percent probably represents a reasonable figure.

Using the equations developed for imports and exports, it is therefore possible to distinguish the overall effect of foreign assistance upon

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\(^1\) By way of comparison, it should be noted that in both the Brookings report and the Rhomberg study the relative price terms were not highly significant and the coefficients of determination were somewhat smaller. Other studies of the Swedish economy similarly show that the price term in imports and exports is non-significant [19], [7].

Sweden's current balance. In the first round Sweden transfers one percent of its national income in the form of foreign assistance. Fifteen percent of this money is re-spent in Sweden. Since the under-developed nations trade so little among themselves and since the development purchases of the recipient nations will undoubtedly be in the industrialized world, most of the other 85 percent of Sweden's assistance will be spent in the United States and Western Europe. The magnitude of the foreign trade multiplier (derived from the marginal propensities to import and export of equations III and V) thus determines the overall balance-of-payment effect of the increased assistance.

The following table shows the results after four rounds of spending and shows the induced effects of a single foreign assistance appropriation upon Swedish exports and imports:

| First round | 1.00 | 0.1590 |
| Second round | --- | 0.0074 | 0.0859 |
| Third round | --- | 0.0098 | 0.0957 |
| Fourth round | --- | 0.0098 | 0.0957 |
| net exports induced | .1580 | .0859 |

As the table shows, after four rounds, the effects of the capital transfer are essentially exhausted. The above table is drawn in real terms using the marginal propensities to import out of real income (equations III and V). It is easily seen, however, that the analysis can be done on a monetary basis using the import and export price indices.

This completes the model to be developed in this paper. On the basis of reasonable forecasts of the independent variables, the growth rates and price indices, it is possible to discuss in broad terms, the Swedish government's desire to finance increases in foreign assistance contributions through a surplus generated on current account.

The forecasts of the independent variables are made for the year 1976. 1975 could just as easily have been chosen, although this would
have ultimately involved projecting the econometric relationships an additional five years into the future. However, more reliable forecasts are available for the period 1965–1970 and it is of considerable interest to see if Sweden could achieve the goal as easily as 1970 without encountering balance-of-payments difficulties.

V

To project the values of the selected items from Sweden's balance of payments, it is necessary to have reliable forecasts of the independent variables; \( Y_e/P_e \), \( P_e \), \( P_x \), and \( Y_e/P_e \). As in previous balance-of-payments studies, two projections will be made; projection A, based upon reasonable assumptions for the independent variables which are most favorable to Sweden from a balance-of-payments viewpoint; and projection B, based upon assumptions for the independent variables which are most unfavorable to Sweden from a balance-of-payments point of view.

The Organization for Economic Cooperation and Development has been involved in estimating and forecasting the real rate of growth of Western Europe and the United States. In a report published in 1962, the real growth rate for the period 1960–1962 was estimated at 3.8 percent and the rate of growth up to 1970 was estimated at 4.4 percent annually [18]. This forecast has been revised on the basis of recent developments, and the real growth of Western Europe and the United States is currently projected at about 4.5 percent–4.6 percent up to 1970. With this figure as a base, optimistic (from the balance-of-payments viewpoint) and pessimistic limits of 4.7 percent and 4.4 percent were chosen. For projections of export and import prices, it was assumed that an optimistic-pessimistic discrepancy of \( \pm 0.5 \) percent annually develops. Import prices increase by 1.0 percent and export prices by 0.5 percent annually and the converse. To estimate Sweden's real growth rate for the period requires two steps.\(^1\) First, on the basis of interviews with members of the Swedish National Institute of

\(^{1}\) In the Brookings study of the U.S. balance of payments in 1968, they were able to use a completely exogenous forecast of U.S. GNP in 1968, justified because exports are such a small portion of GNP in the U.S. In Sweden, where exports account for 20–30 percent of national income, this simplification cannot be made.
Economic Research (Konjunkturinstitutet) the real rate of growth of GNP excluding exports was projected to be between 4.0 percent and 4.8 percent. Second, using the optimistic and pessimistic values for real income in Western Europe and the United States and the econometric relationship describing exports, the rate of growth of real exports was calculated; the weighted combination of the two was the overall growth rate assumed for Sweden. The values are 4.4 percent and 4.7 percent.

At this point, knowing the values for \( Y_0P_e \), \( Y_tP_e \), \( P_{ne} \) and \( P_n \), a projection could be made, based on the supposition that further increases towards the foreign aid goal are not made during the period 1965-1970. It is of greater interest, however, to assume that Sweden achieves the foreign assistance goal by 1970 and then to see what the balance of payments in that year would look like.

Next Sweden's rate of inflation is conservatively estimated at 2 to 3 percent during the next five-year period.

So far a real growth rate \( r \) has been derived, based upon the Konjunkturinstitutet's preliminary forecasts and upon the export forecasts.

Thus in real terms,

\[
Y_t = Y_{t-1}(1 + r).
\]  
(VI)

Foreign assistance affects this growth in two ways. There is the direct effect, in which income is sent abroad and is therefore "lost" to the economy for growth purposes. But there is also the net feedback effect, that is, the extent to which the assistance given stimulates the net exports of the donor. To the extent that foreign assistance induces additional exports from the donor, its effect is analogous to any fiscal policy measure.

Table 2 shows that as of 1965 Sweden gives roughly .28 of one percent of national income in foreign assistance. If Sweden were to increase her level of foreign assistance in a linear fashion to reach the one percent goal, this would imply annual increases of about .144 of one percent of GNP during the period 1966-1970. Of this figure

\[1\] This effect has been distinguished in a number of Swedish publications, for example [13].
8.85 percent would be fed back (net) and the other 91.15 percent would be "lost" to the economy (see table 3). If the increased foreign assistance were paid for proportionally by all sectors of the Swedish economy,¹ the growth rate would be affected in the following manner:

\[
Y_{1965} = Y_{1964} (1 + r)
\]

\[
Y_{66} = [Y_{65} - .9115 (0.424) (0.01 Y_{65})] (1 + r)
\]

\[
Y_{67} = [Y_{66} - .9115 (0.568) (0.01 Y_{66})] (1 + r)
\]

\[
Y_{70} = [Y_{60} - .9115 (1.000) (0.01 Y_{60})] (1 + r).
\]

The solution² to this system of equations shows that the annual growth rate in real terms is only 4.1 percent under the optimistic assumptions and 4.25 percent under the pessimistic assumptions.

This illustrates the real cost of increasing Sweden's foreign assistance appropriations to reach the one-percent goal by 1970. Under either optimistic and pessimistic conditions, it would reduce Sweden's real growth rate by about .3-.4 percent during the next five-year period.

Having decided to make this rather large economic sacrifice, we now turn to the balance of payments position of Sweden in 1970 to see if these large increases in foreign assistance could, in fact, be financed through a current account surplus. The following table consolidates the assumptions of the analysis:

<table>
<thead>
<tr>
<th>Assumptions</th>
<th>A Favorable</th>
<th>B Unfavorable</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Real growth rate of U.S. and Western Europe, (Y_0/P_0)</td>
<td>4.7</td>
<td>4.3</td>
</tr>
<tr>
<td>Real growth rate of Sweden, (Y_s/P_s)</td>
<td>4.1</td>
<td>4.25</td>
</tr>
<tr>
<td>Rate of general price inflation in Sweden, (P_s)</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Rate of import price increase, (P_m)</td>
<td>0.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Rate of export price increase, (P_x)</td>
<td>1.0</td>
<td>0.5</td>
</tr>
</tbody>
</table>

¹ To the extent that the goal is not approached "in a linear fashion" and that increases are not "paid for proportionally", (i.e., to the extent that Sweden is able to increase its foreign aid without sacrificing as much real growth as the equation implies), the results of this study are positively ("favorably") biased from Sweden's balance of payments viewpoint.

² "Solution" implies substituting \(Y_{61}\) into the last equation and solving for \(Y_{70}\) in terms of \(Y_0\) and a new growth rate \(r_s\).

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VI

In the previous sections we have described the export and import behavior of the Swedish economy, forecast the values of the independent variables in 1970, and have noted the effect upon the Swedish economy of the appropriations necessary to reach the one-percent goal by 1970. Now we analyze the statement, "the extent of Swedish foreign aid is not only a question of the Swedish citizens' willingness to make sacrifices, but also ... of a surplus on the current balance of payments". Even if Swedish citizens' willingness to make sacrifices is great enough to allow a 1 percent--3 percent lowering of the real growth rate, would there be a sufficient surplus on the current balance of payments to allow the goal to be reached by 1970?

The following table gives the analytical results of the model, under the assumptions specified, and shows the current balance of payments of Sweden in 1970 under favorable and unfavorable developments.


<table>
<thead>
<tr>
<th>Item</th>
<th>Favourable Conditions</th>
<th>Unfavourable Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Assumptions A</td>
<td>Assumptions B</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Exports (incl. transportation, services, etc.), not including aid financed exports</td>
<td>35,346</td>
<td>33,584</td>
</tr>
<tr>
<td>Aid induced exports</td>
<td>219</td>
<td>255</td>
</tr>
<tr>
<td>Total</td>
<td>36,165</td>
<td>34,039</td>
</tr>
<tr>
<td>Imports (incl. transportation, services, etc.), not including aid induced imports</td>
<td>35,328</td>
<td>33,347</td>
</tr>
<tr>
<td>Aid induced imports</td>
<td>121</td>
<td>120</td>
</tr>
<tr>
<td>Total</td>
<td>35,449</td>
<td>33,467</td>
</tr>
<tr>
<td>Net balance</td>
<td>-633</td>
<td>-2,394</td>
</tr>
<tr>
<td>Foreign assistance</td>
<td>-1,385</td>
<td>-1,392</td>
</tr>
<tr>
<td>Net balance of trade and foreign assistance</td>
<td>-732</td>
<td>-4,587</td>
</tr>
</tbody>
</table>

As the table suggests, under the most favorable circumstances the balance on current account improves by more than 309 M Sw. Kr. from its 1963 level (-294 M) before the feedbacks from
foreign assistance are considered. Exports increase at a healthy rate and the current balance improves by more than 100 M Sw. Kr. annually. After foreign aid feedbacks are included, there is a surplus of about 633 M Sw. Kr. in 1970, but this is not nearly enough to offset the one percent of national income which is given in foreign assistance. Under the unfavorable conditions the picture is even blacker. Although exports also increase, imports grow at a faster rate and the balance, before foreign assistance feedbacks are considered, deteriorates by over 2600 M Sw. Kr. from its 1963 level. These results show that under unfavorable developments, no more than a token amount of untied or multilateral aid could be given. Unfavorable conditions of this type, causing such a large deterioration of the balance, would undoubtedly call for direct government intervention long before 1970.\footnote{Hence this projection must be viewed in the same light as MacDougall's projection of a $16 B U.S. surplus in 1975 [10, p. 323].} What then, under favorable conditions, could Sweden do to improve further the current account surplus so that more foreign assistance could be given in 1970?

First the classical methods of adjustment should be mentioned. As the import model shows, a reduction in the real growth rate or a decrease in the general price level would reduce imports through the marginal propensity to import or through the substitution of home-produced goods. But it would be silly to recommend deflationary policies, since Sweden is sacrificing about .3 to .4 percent of growth in increasing foreign assistance commitments during the period 1966–1970. Further sacrifices to meet the balance-of-payment constraint appear neither economically nor politically feasible.

Sweden could also reduce imports through a persuasion campaign ("Buy at Home," or something to this effect) aimed at reducing the marginal propensity to import, at least temporarily. But this is unacceptable when one considers Sweden's position as an advocate of freer international trade. In addition there is a calculated risk of retaliation abroad in such a move, and the net result of such a campaign is uncertain.

As a third possibility, Sweden could redouble its efforts to export, either through a persuasion campaign among industry or through a
government-industry subsidized program. This would appear to be a fruitful approach when one considers that only a small change in the propensity of the rest of the world to import from Sweden would greatly increase exports.

But a glance at Table 4 shows that the most efficient and most certain way to increase the current account balance would be to attract more of the foreign assistance money back to Sweden during the first round of spending. This would have a number of complicated effects upon the balance of payments. In the first place, the negative effects of the aid upon the real growth rate of Sweden would decrease (i.e., the real cost of increasing the foreign assistance program during 1965–1970 would be diminished). This would increase Sweden’s GNP from the assumed value and would therefore increase imports in Table 4. Since national income is higher than the assumed level, the foreign aid “goal” would increase, but all these effects would be more than offset by the increase in aid-induced exports.

In the extreme example, when all of the appropriated assistance is spent in Sweden in the first round of spending, the growth rate of the economy is not affected by the donation.¹ In the case of Sweden in 1970, the real growth rate would remain at 4.4 percent and the overall trade aid balance would show a surplus.

The tying of aid directly to Swedish purchases is obviously the most efficient method to insure that more of the foreign assistance appropriations are re-spent in Sweden, but as has been mentioned, this is discouraged as a matter of policy. However, this same result could be obtained, de facto, in a number of ways.

Priority in bilateral assistance grants could be given to nations which make known their intentions of spending most of the aid in Sweden. But this seems akin to “cheating”, and is not quite in the spirit of the government’s official position.

The fact that Swedish aid is often tied to particular projects seems to represent the best opportunity to improve the feedback value of

¹ Except in the special case of financing the assistance through deficit spending, in which the growth rate would actually increase. Financing the assistance unevenly among the various sectors of the economy would also increase the growth rate, but this is excluded from the model.
Swedish assistance. If projects for Swedish aid were chosen judiciously, such that Swedish firms had a better than average chance to compete for the purchases to be made, the feedback of the assistance into Sweden could be raised considerably higher than the 15 percent level assumed in this model. This would require considerable discretion exercised on an ad hoc basis by the aid administrators. It would require evaluating for each individual project, not only its worthiness from an economic development point of view, but also the possibilities for successful competition for purchases by Swedish suppliers. In addition, the possible long-run harmful effects of indirectly subsidizing inefficient Swedish industries must be borne in mind.

Thus there are a number of policies to the Swedish government to reduce the deficit indicated by the model. These range from deflationary domestic policies to direct and indirect measures to increase exports and reduce imports, to measures aimed at increasing the portion of foreign assistance which is spent in Sweden.

But despite these policies, there appears to be little likelihood that, even under the most favorable developments, Sweden could achieve its impressive and idealistic foreign assistance goal as early as 1970.

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