THE CONCEPT OF IMPORT SUBSTITUTION IN THE THEORY OF ECONOMIC DEVELOPMENT
Acknowledgement

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THE CONCEPT OF IMPORT SUBSTITUTION IN THE THEORY OF ECONOMIC DEVELOPMENT

The concept of import substitution (1) is taking an increasingly important place in the theory of development. It seems, however, that certain ambiguities are concealed beneath an extremely simple idea: the process of industrialization in developing countries is equated with the progressive substitution of the products of local industry for imported goods.

In this field as in others, Hirschman opened the way by suggesting paradoxically that the developing countries can obtain a relatively advantageous position for the production of the goods that they import.

It will be noted in passing that this idea initiates a tardy introduction of the colonialism factor into the theory of development. In fact, the restricted nature of the domestic market has long been considered as one of the fundamental obstacles to the industrialization of the developing countries. The theory of "balanced growth" was evolved by Nurkse in order to break this vicious circle: it recommended the simultaneous establishment of several industrial enterprises in order to stimulate complementarity of demand, which would be lacking with isolated enterprises (3).

When, on the other hand, Chenery recognizes that IS is one of the three causes of industrial expansion (4), this presupposes that a cash demand existed and was satisfied by imports.

The colonial pact, which obliged the developing countries to specialize in the production of primary products for export and to serve as the outlets for the industries of the colonial countries, doubtless partly explains this phenomenon.

Economic decolonization thus entails the breaking of this one-sided pact and the development of a national industry that will produce import substitutes.

The concept of IS was propounded at a time when development theorists were able to judge at sufficient distance the experience of the few countries that had shaken off domination of the colonial type and set in motion a process of industrial development. The work of the United Nations is helping greatly to propagate the new concept. The Economic Commission for Latin America and the Economic Commission for Asia and the Far East have published important studies on the replacement of imports by industrial production in their respective regions (5). One chapter of Industrial growth in Africa, published by the Economic Commission for Africa, deals with the same subject (6).

In a few years, IS has thus taken an important place in the "toolbox" of the theorists of economic development. Within a very short space of time, moreover, this concept, which seemed to provide a key for historical analysis, was to be re-employed as a criterion for industrial development planning in countries that had recently attained political independence.

A distinction will be made between these two uses, in the hope of showing that the ex post use of the concept of IS leads either to tautology or to the risk of confusing effects with causes; whereas its ex ante use as an investment criterion is likely to mislead the planner.

1. Definitions of import substitution

In its commonest acceptation IS is the establishment of local industries to supply goods that were previously imported (7).

Strictly speaking, the possibility of substitution for the benefit of the agriculture sector should not be excluded. Chudson points out that "Something like 17 per cent of African imports consists of food, beverages and tobacco products. It does not seem likely that growing "Africanization" will change the pattern of import demand radically and adds that it would be misleading to think of import-substitution and production for the domestic market generally in terms of industry alone "(8).
This consideration leads Maizels (9) to draw a distinction between a "gross" concept and the "net" concept adopted by most authors, who restrict themselves to the simple pattern of an economy exporting primary products and importing manufactured products and who thus equate IS with industrialization.

On the other hand, it is soon realized that the substitution of local products for imports does not necessarily signify a reduction in imports. Long-term factors such as population growth and generation of income from development investments tend to increase the demand for imports (10).

In order to solve this difficulty without abandoning the concept of IS, the authors of a study published by ECLA propose to make a further distinction between apparent IS and actual IS.

There is apparent IS when a reduction in the relative proportion or the absolute amount of imports of certain groups of products is observed (11) in spite of the fact that the acceleration of derivative demand during the process of industrialization brings greater dependence of the economy on foreign countries.

Apparent IS is thus simply another name for what theorists had long called changes in the structure of imports (11 a). There would be no objection to this refreshing of vocabulary if IS had not often been suggested as a planning criterion. Changes in the structure of imports have always been considered, on the contrary, as an effect of development, being a good structural indication for this reason, but, no one ever ventured to make it the objective of an industrialization policy.

However that may be, IS would cease to be apparent in the extreme case that there were neither an absolute nor a relative change in the structure of imports (11). IS however, would be no less real, although invisible, in the case of the increase of the local industry contribution to total supply (12).

In this borderline case, any increase in production for home demand is considered as substitution for potential imports.
IS is therefore an absolute magnitude, which Maizels opposed to the relative value of the gross or net concept. In the latter sense; "Gross import-substitution during a given period can be defined as the difference between actual imports at the end of the period and what they would then have been had they formed the same proportion of total consumption as at the beginning of the period" (12).

Let: \( S \) = total supplies = imports + production for the domestic market
\( \mu_t \) = proportion of imports in total supplies
\( IS = S \left( \frac{\mu_t - \mu_t}{1} \right) \)

This formula measures the negative effects of IS on the volume of imports; it "explains" some of the variations determined by the conflicting effects of IS and expansion of demand:

Expansion of demand = \( \mu_t - 1 \) \( (S_t - S_t - 1) \)

The formula of Maizels is very similar to that employed by Chenery (13)
\( IS = S_t \left( \frac{\mu_t - 1}{\mu_t} \right) \)

In this case, the formula measures the positive effects of IS on the expansion of industrial output for the home market; it "explains" part of this expansion which is due, moreover, to the fact that the increase in personal income brings about a non-proportional increase in final demand and intermediate demand for industrial products.

It seems therefore that the concept of IS may be given at least six definitions, which does not help to make it precise.

Import substitution (1) Gross - apparent
(2) - actual - absolute
(3) - relative : negative or positive.
(4) Net - apparent
(5) - actual - absolute
(6) - relative : negative or positive.
The opinion of the majority of writers, who use the term without defining it completely, would be respected however by saying that import substitution means a process of industrialization that generally involves a progressive transformation of the structure of imports and reduces the ratio of imports of goods and services to the gross domestic product.

Let $E = \text{Total exports}$
$M = \text{Total imports}$
$M_c = \text{Imports of consumer goods}$
$M_a = \text{Imports of biens d' approvisionnement (material inputs)}$
$M_q = \text{Imports of capital goods}$
$X = \text{Production for the home market}$
$Y = \text{Gross domestic product}$
$E = M$ when there is no net movement of capital

Overall import ratio

$$\mu = \frac{M}{M + X} = \frac{M}{Y}$$

Import substitution is a process in which

1. $\mu$ is decreasing because

$$\frac{dY}{dt} > \frac{dE}{dt}$$

where $Y$ is the rate of growth of $Y$ (t = time)

thus also

$$\frac{dX}{dt} > \frac{dE}{dt}$$

2. $\frac{dM_c}{dt} \neq \frac{dM_a}{dt} \neq \frac{dM_q}{dt}$

To appreciate the analytical value of the concept thus defined, these two aspects of the IS process must first of all be examined for the various stages of industrial development.

1/ That is to say, goods (raw materials, crude or semi-finished products) used as inputs in the production of goods intended either for local consumption or export. This term is peculiar to the former Belgian Congo.
2.1. The reduction of the import ratio ($\mu$)

The connexion between the industrial development of a country and the evolution of external economic relations has been analysed from two different viewpoints.

In one of the most important articles devoted to statistical analysis of the process of industrialization, Chenery claims to clarify the causal relations between IS and industrial growth (14).

Seers, for his part, has tried rather to clarify the different phases of the process (15).

2.1.1. The "causes" of industrialization according to Chenery

A large part of Chenery's work is dominated by his preoccupation with finding a rational solution to the problem of the optimum apportionment between local production and imports (16). It is at the basis of all the articles devoted by this author to development planning, including, in particular, Resource allocation for economic development (17) and Comparative advantage and development policy (18).

The problem is of fundamental importance for Chenery since it is not merely a question of making a suitable allocation of scanty resources between alternative uses but of accelerating the principal cause of industrialization, namely, import substitution. From a quantitative economic study of fifty-one countries at different stages of development, Chenery concludes, in fact, that industrialization has three causes, the chief of which is import substitution. The growth of industrial output is more rapid than that of average personal income for the following reasons:

1) The non-proportional growth of final demand for industrial products in view of the income elasticity of such demand.

2) The non-proportional growth of intermediate demand for industrial products.

These first two factors "explain" 32 per cent of the deviation from proportionality in the growth of industrial output and per capita income when the latter rises from $ 100 to $ 600.
The increased share of domestic production in total supply, or import substitution, is the most important of the three causes because "it accounts for 50 per cent of industrialization" (19).

Among the effects of income growth, Chenery therefore points out two factors that modify the conditions of demand and one factor that affects conditions of supply: import substitution.

Income growth gives rise to IS and, to a lesser extent, to the substitution of factory products for handicraft goods and services, because it changes "relative factor costs" (20).

This analysis is virtually based upon a Harrod-Domar model that may be summarized as follows: given stable growth, a constant share (s) of increasing income (Y) is saved and invested (sY = S = I = ΔK). Accumulation of capital (ΔK) gives rise to new income growth: ΔY

\[ ΔY = \frac{1}{V} ΔK \]

where V is the ratio of capital to product. At the same time, the accumulation of capital alters the relative scarcity of factors of production and thus changes their relative costs. Hence, it would be expedient for a country with growing income to stop importing goods and to produce locally.

Under these circumstances, can it still be said that import substitution (reduction of the import ratio) is the principal cause of industrialization?

What in fact is the origin of the growth of average per capita income - the driving force of the system - if not industrial expansion itself?

The sequence of causes and effects must thus be reversed. In a semi-industrial economy (India, Pakistan, Brazil, for example), where economic development is no longer the result of exporting primary products, the driving sector is industry, which generally produces for local demand. In these countries the growth in the production of manufactured goods should lie between 26 per cent and 29 per cent over a given period, to give rise to an increase of 10 per cent in actual per capita income. As the income elasticity of the demand for manufactured products lies
between 1.7 and 2, the share of imports in the total supply of manufactured products would be reduced, perforce, to 9 per cent. (21).

Import substitution is thus a necessary consequence and not the cause of the process of industrialization in its initial stage, when industrial output is directed towards the domestic market.

Chenery's statistical analysis does not show the causes of industrial growth; it clarifies some parts of the process. It shows how industry responds to the various forms of demand: demand that is a product of development itself (the non-proportional growth of final demand and intermediate demand) and of the disproportion between the growth of production and the consequent increase in per capita consumption of manufactured products.

"This statistical breakdown does not in any way obviate the need to raise the following fundamental questions: why does industrialization take place? How does it alter the structure of the economy and society? (22) 1/ The answer can only be found in the area of supply, i.e. in acts of will by producers and decisions by planners, which do not respect the indications of demand but place "a stake in a new structure" (23) 1/.

This, fundamentally, was what Say felt (24) before he gave a tautological form to his law of outlets. Taking into account the nature of social structures, as Say put it, the first limiting factor for the size of any economy is the sum of the efforts that individuals are prepared to make and in the degree of effectiveness they can give to those efforts (25).

Import substitution is not cause of industrialization, and it appears furthermore that it is not necessarily the most important aspect of the process in a developing country.

In fact, Chenery's method greatly over-estimates IS. He does not attempt to estimate in what proportion industrial growth is linked with

1/ Unofficial translation
1) Import substitution,
2) The growth of final demand,
3) The growth of intermediate demand.

Rather, he tries to explain by these three elements the difference between the observed increase in industrial output and a theoretical increase proportional to per capita income growth. This method is in accordance with the logic of an argument that makes income growth the prime mover of the system. Since an increase in individual income from $100 to $600 per year is taken as a hypothesis, it is necessary to explain why industrial output increases more than sixfold. Chenery formulates the problem as follows:

\[ (1) \quad X = \lambda X_0 = \lambda (1 - \mu) (W + D) \]

where the signs \( \lambda \) and \( \mu \) correspond to the initial income level ($100) and to the final level ($600) and \( \lambda \) indicates a level of output for which growth of the product is proportional to income growth.

\( \lambda \) is the income growth ratio: 6

- \( W \) is intermediate demand
- \( D \) is final demand
- \( X \) is industrial output
- \( Z \) is total supply.

On the basis of equation (1), the "deviation from proportionality" can be stated as:

\[ (2) \quad X = (X_1 - X_0) = (1 - \mu) (\lambda W + D) + (\mu - \mu) Z \]

which may be interpreted as follows: in an economy where the per capita income has risen from $100 to $600, the difference between industrial output actually observed at the end of the period and the output of the base period multiplied by six is equal to the sum of:
1) The "deviation" of final and intermediate demand from "proportionality" weighted with a coefficient indicating the share of this demand satisfied by local production at the base period;

2) The share of total supply provided at the end of the period by local-import-substituting production.

In equation (2) the three "causes" of industrial growth can be identified:

Non-proportional increase in final demand: \((1 - \mu_0) \delta D\)

Non-proportional increase in intermediate demand: \((1 - \mu_0) \delta W\)

Import substitution: \((\mu_o - \mu_1) z\)

When Chenery estimates the importance of these different factors, he is led naturally to over-estimate the last of these. In fact, IS includes the increases in supply that are proportional to income, whereas the expressions \((1 - \mu_0) \delta D\) and \((1 - \mu_0) \delta W\) take into account only increases in industrial production due to the "deviation of demand \((D + W)\) from proportionality". This difference in treatment is shown in the analysis of the expression for the calculation of IS.

2a) \[ (\mu_o - \mu_1) Z = (\mu - \mu) Z + (\mu_o - \mu) \delta D + (U_o - U_1) \delta W \]

where \(Z_p\) is the growth of total supply \((M + X)\) proportional to income growth. The over-estimation of IS results therefore from the inclusion in the calculation of an element not taken into account in estimating the other two "causes" of industrial growth. The origin of the error is perceptible in the numerical example given by Chenery:
The example selected is the textile sector: it shows the difference %£X = 19.80) between actual output at a per capita income level of $ 600 (32.34) and growth proportional to income growth (12.54).

The breakdown of $X has given:

1) Import substitution = 0.349 (37.88) 13.22 67
2) Deviation of final demand = 0.505(4.88)= 2.46 12
3) Deviation of intermediate demand = 0.505(8.16)= 4.12 21

These results are open to criticism in two ways: the first is in keeping with the logic of Chenery's argument.

The error in this case lies first of all in the retention of the ratio $\mu^0$ in apportioning the proportional growth of supply between imports and production.

The income growth that multiplies the total supply by six must also modify comparative costs in comparison to the base period. Since Chenery attributes entirely to income growth (26) the change in comparative costs entailed by the transition from $\mu^0$ to $\mu_1$, he must also apply the ratio $\mu_1$ to supply, Zp, in order to calculate import substitution in relation to the "deviation" of total supply ($\Sigma Z_2$) and not, as he does, in relation to the actual value of supply ($Z_1$)

The example given then becomes:
<table>
<thead>
<tr>
<th></th>
<th>Initial Value</th>
<th>Proportional Growth</th>
<th>Actual Growth</th>
<th>Deviation</th>
<th>Breakdown of X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production (X)</td>
<td>2.09</td>
<td>21.22</td>
<td>32.34</td>
<td>11.12</td>
<td>11.12</td>
</tr>
<tr>
<td>Imports (M)</td>
<td>2.05</td>
<td>3.62</td>
<td>3.54</td>
<td>1.92</td>
<td>4.55</td>
</tr>
<tr>
<td>Import ration (L)</td>
<td>0.495</td>
<td>0.146</td>
<td>0.146</td>
<td>0.349</td>
<td></td>
</tr>
<tr>
<td>Total supply (Z)</td>
<td>4.14</td>
<td>24.84</td>
<td>37.88</td>
<td>13.04</td>
<td></td>
</tr>
<tr>
<td>Final demand (D)</td>
<td>1.90</td>
<td>11.43</td>
<td>16.31</td>
<td>4.88</td>
<td>2.46</td>
</tr>
<tr>
<td>Intermediate Demand (W)</td>
<td>2.24</td>
<td>13.41</td>
<td>21.57</td>
<td>8.16</td>
<td>4.12</td>
</tr>
</tbody>
</table>

The breakdown of $X$ gives:

1) $IS = \frac{0.349 (13.04)}{11.12} = 4.54 \quad 41\%$

2) $\Delta IS = \frac{0.505 (4.88)}{11.12} = 2.46 \quad 22\%$

3) $\Delta IS = \frac{0.505 (8.16)}{11.12} = 4.12 \quad 37\%$

This greatly reduces the importance of IS.

The same result occurs when another method of calculation is adopted, not corresponding to Chenery's argument.

Instead of treating income growth and proportional growth of supply as automatic, the total growth of industrial output should be discussed.

Income is not an externally conditioned variable; its rate of growth is certainly not the motive force in industrial development. On the contrary, it is the development of industry and the corresponding transformation in the economic structure and the social system that sustain income growth.

Hence, it is not a matter of "explaining the "deviations" of X from proportionality" but of demonstrating what demand is satisfied by $\Delta X$: 1) The final and intermediate demand for manufactured products, which increases more rapidly than the income growth caused by industrialization; or
2) The share of the demand that was satisfied by imports in the base period and that is to be covered, at the end of the period, by local production in order that the growth rate of \( X \) may stimulate income growth, which is a condition of 1.

It should be noted that exchange control has often played the role, as described by Chenery to the transformation of comparative costs, of compelling satisfaction of demand from local output.

<table>
<thead>
<tr>
<th></th>
<th>Initial Value</th>
<th>Actual Growth</th>
<th>Difference</th>
<th>Breakdown of ( \Delta X )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production (( X ))</td>
<td>2.09</td>
<td>32.34</td>
<td>30.25</td>
<td>30.25 100 %</td>
</tr>
<tr>
<td>Imports (( M ))</td>
<td>2.05</td>
<td>5.54</td>
<td>3.49</td>
<td>13.22 44 %</td>
</tr>
<tr>
<td>Import ratio (( \mu ))</td>
<td>0.495</td>
<td>0.146</td>
<td>0.349</td>
<td></td>
</tr>
<tr>
<td>Total supply (( Z ))</td>
<td>4.14</td>
<td>37.88</td>
<td>33.74</td>
<td></td>
</tr>
<tr>
<td>Final demand (( D ))</td>
<td>1.90</td>
<td>14.41</td>
<td>12.51</td>
<td>7.27 24 %</td>
</tr>
<tr>
<td>Intermediate demand (( W ))</td>
<td>2.24</td>
<td>21.57</td>
<td>19.33</td>
<td>9.76 32 %</td>
</tr>
</tbody>
</table>

The breakdown of \( \Delta X \) gives:

- \( IS = 0.349 \times 37.88 = 13.22 \) 44 \%
- \( IS = 0.505 \times 14.41 = 7.27 \) 24 \%
- \( IS = 0.505 \times 19.33 = 9.76 \) 32 \%

\( \sum IS = 30.25 \) 100 \%

In this case the absolute value of \( IS \) remains identical with that given by Chenery but, in relative terms, it falls from 67 per cent to 44 per cent.

This is one reason for casting doubt upon the importance of \( IS \) at the beginning of an industrialization process.

Chenery's statistical analysis is based upon a sample of fifty-one countries at different stages of development at the same time. In four countries out of the forty with annual per capita incomes below \$ 600 the share of the manufacturing industry in the gross domestic product
exceeds 23 per cent (27). The inclusion of industrial and semi-industrial countries in this sample emphasizes the importance of the IS factor in comparison to the demand growth factor. According to Chenery's calculations, IS accounts for 72 per cent of the difference deviation from proportionality observed between the growth of income and industrial output for capital goods and 66 per cent of the deviation for material inputs. "For consumer goods, on the other hand.. import substitution is a minor factor" (28); in this case, the growth of final and intermediate demand is the determining factor that "explains" 87 per cent of the difference.

Most developing countries initiate their industrialization process by the production of consumer goods for the local market. The importance of the IS aspect is consequently reduced as soon as the static international analysis of Chenery is replaced by comparison over a period of time limited to developing countries. (cf. table 1.)

It seems therefore that, at the beginning of an industrialization process, import substitution of consumer goods by local production rapidly attains a ceiling. The growth of demand resulting from industrialization and possibly maintained by traditional export activities is in fact the chief support of industrial growth at this stage of economic development.

As for the capital goods and material inputs industries, "increases in production have generally been absorbed by the rising domestic demand without curtailing corresponding imports" (28 a).
### TABLE 1

**ROLE OF IMPORT SUBSTITUTION IN THE GROWTH OF MANUFACTURING OUTPUT FOR THE DOMESTIC MARKET**

**1950 - 1951 to 1958 - 1959**

<table>
<thead>
<tr>
<th>Country</th>
<th>Import substitution</th>
<th>Domestic demand</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Industrially more advanced countries:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Africa</td>
<td>31</td>
<td>69</td>
</tr>
<tr>
<td>China (Taiwan)</td>
<td>23</td>
<td>77</td>
</tr>
<tr>
<td>Israel</td>
<td>38</td>
<td>62</td>
</tr>
<tr>
<td>Chile</td>
<td>-3</td>
<td>103</td>
</tr>
<tr>
<td>India</td>
<td>-4</td>
<td>104</td>
</tr>
<tr>
<td>Mexico</td>
<td>4</td>
<td>96</td>
</tr>
<tr>
<td>Argentina</td>
<td>25</td>
<td>75</td>
</tr>
<tr>
<td>Brazil</td>
<td>5</td>
<td>95</td>
</tr>
<tr>
<td><strong>Industrially less advanced countries</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Former Fed. of Rhodesia and Nyasaland</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>Venezuela</td>
<td>28</td>
<td>72</td>
</tr>
<tr>
<td>Peru</td>
<td>33</td>
<td>67</td>
</tr>
<tr>
<td>Guatemala</td>
<td>-14</td>
<td>114</td>
</tr>
<tr>
<td>Philippines</td>
<td>36</td>
<td>64</td>
</tr>
<tr>
<td>United Arab Republic</td>
<td>25</td>
<td>75</td>
</tr>
<tr>
<td>Colombia</td>
<td>18</td>
<td>82</td>
</tr>
</tbody>
</table>


*a/* Manufactured output excluding metal products, machinery and transport equipment: ISIC major groups 20-34 and 39

*b/* It will be noted that IS seems to have greater importance for the group of industrially less advanced countries. This is clearly explained by a higher import ratio for the base period.
The Congo is no exception (cf., table 2). Between 1950 and 1957, the output of the manufacturing industry increased at the exceptionally rapid rate of 14.50 per cent. For consumer goods, only 36.5 per cent of industrial growth was attributable to import substitution, whereas demand for the other categories of goods very greatly exceeded the increase in local production. In all, 11.3 per cent of the increase in industrial output could be ascribed to import substitution.

Import substitution thus acquires a certain importance only at a relatively advanced stage in the process of industrialization, namely, when the local production of capital goods increases more rapidly than domestic demand.

2.2. The stages in the IS process.

The search for a criterion to distinguish the various stages of economic evolution is characteristic of the inductive historical method. This method, illustrated by the German historical school fell more or less into abeyance at the period when, first, deductive marginal analysis, and then macro-analysis alone occupied the forefront of the stage. Since the work of Rostow (29), the historical method has now returned to favour.

When Seers studied the stages of economic development of a primary producer in the middle of the twentieth century, (30), he spontaneously rediscovered the guiding principle of the German historian Sombart, who had formulated a law of the decreasing importance of foreign trade. This law is applied to the first four stages of development distinguished by Seers:

- The open economy proper
- The open economy in the crisis state
- The closed economy in a period of easy IS
- The closed economy in a period of difficult IS.
TABLE 2
IMPORT SUBSTITUTION AND THE GROWTH OF INDUSTRIAL OUTPUT
IN THE CONGO, 1950-1957 3/

(per cent in millions of francs at current prices)

<table>
<thead>
<tr>
<th>Imports + Industrial output</th>
<th>I/S</th>
<th>( I/S ) S</th>
<th>( \Delta X )</th>
<th>I/S 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer goods</td>
<td>69.9</td>
<td>60.7</td>
<td>11.100</td>
<td>1.022</td>
</tr>
<tr>
<td>Material inputs</td>
<td>65.7</td>
<td>74.1</td>
<td>9.627</td>
<td>-809</td>
</tr>
<tr>
<td>Capital goods</td>
<td>93.4</td>
<td>93.8</td>
<td>8.023</td>
<td>-321</td>
</tr>
</tbody>
</table>

\( S = \text{Total supply} = \text{Imports} + \text{industrial output} \)

\( X = \text{Increase in industrial output} \)

\( o \) and 1 = 1950 and 1957

1957 is the last year in the 1956-1960 period in which a growth in industrial output and imports is noted (cf. table in annex).

\( a/ \) Import ratio

\( b/ \) Total supply.

\( \Delta X = \frac{\text{Increased industrial output}}{\text{Import ratio}} \)

The final stage, diversification of exports, invalidates Sombart's law (31).

The four first stages described by Seers are obviously characterized by the reduction of the import ratio accompanying the growth of local industry.

The analysis is worked out on the basis of some remarks on America. Seers considers that it is sufficiently representative to be applied to the history (or the future) of any country whose rate of development exceeds the rate of export growth (32). It is certainly applicable to Brazil, for example. The economic history of this country, outlined by Furtado, coincides perfectly with Seers's table (33). In the description of the process of economic development, Seers very adroitly combines the changes in the economic structure with other changes in social structures.

At the first stage, the development of the open economy is largely determined by foreign countries. Exports consist mainly of primary products for which there is demand abroad. The rate of growth of the
national income cannot, over a long period, exceed that of exports and net capital inflow.

The only development likely to influence this set of limiting factors and to promote a more rapid growth of income than of imports is import substitution (34). The open economy is often, however, a dominated economy and is thus in a "comatose" political state. The colonial or neo-colonial powers that organize for their own profit the relations of dependence between the open economy and the industrial countries impede the process of import substitution.

The open economy enters a state of crisis under the dual pressure of economic and political forces. Exports of primary products begin to stagnate and real import capacity is reduced, whereas relations of the colonial type give way before the political exigency of more rapid and more independent development. Then the industrialization of the economy may begin, in so far as the political structure of the country lends itself to this process.

Furthermore, import substitution (industrialization through IS) is often stimulated by the appearance of inflationary pressure. The weakening of the (neo-) colonial political power in fact sets off wage demands; the satisfaction of these demands makes export activities less profitable at the rate of exchange in force and swells domestic demand. The factors for the destruction of the open economy thus become cumulative.

Import substitution by local production is therefore the only means of ensuring development, in spite of the persistence of inflationary pressure, and, at least partially, because of them (35). The more open the economy has been, the easier is this substitution. Control of imports of non-essential consumer goods frees resources in foreign currency for the importation of capital goods and material inputs that will be used in the local production of goods that can easily replace imports. The economy becomes closed with "the establishment of cigarette factories, breweries, cement works and workshops for ready-made garments. All these activities could have come into existence when the economy was still open, but their development was impeded by the competition of imports" (36).
Industrialization entails, however, such a growth of imports of material inputs that it soon becomes necessary to set up a local industry orientated towards intermediate demand. The transition to this stage of development implies corresponding progress in the organization of political authority, while planning requires more than simple improvements of the statistical machinery; according to Seers, the project for developing the production of intermediate goods implies, in fact, the calculation of input-output projections covering all sectors of the economy in order to estimate changes in demand, (37)

Finally, at the last stage, when the limits to possible import substitution have been reached, economic development depends once again upon foreign demand. Meanwhile, an economy that has become industrialized (like that of Japan, for example) can now diversify its exports and thus to avoid the economic domination threatening those who produce only primary products.

The stages described by Seers are obviously the necessary phases of a process of economic development in which:

$$\frac{dY}{dt} \text{ becomes greater than } \frac{dE}{dt}$$

since \( Y = (X + E) \)

and \( E = M \)

It obviously in a first stage \( M > X \)
then \( M = X \)
and finally \( M < X \)

However, the interest of a type analysis of stages of development lies less in the description of each stage than in the analysis of the factors that promote or hinder the structural transformations implied in the transition from one stage to another; in this respect the outline does not do justice to the breadth of the model drawn up by Seers.

If the case of the Congo is studied, it will be seen, however, that the model does not cover all of the observable facts.
In the first analysis, the example of the Congo seems to be the exception that proves the rule. The colonial régime did not hinder the establishment of industry orientated towards domestic demand. The manufacturing industry was set up in the Congo, in two waves of investments during the periods 1920 - 1925 and 1948 - 1952, i.e. long before it became difficult to stifle by violence the political expression of a demand for economic development (38). This deviation from the traditional colonial pact may be explained by a number of factors (39); the most important of these lies in the provisions of the international treaties governing trade in the Congo basin. Thereby the colonial power was prevented from reserving the market in the colonized country exclusively for metropolitan industry. In so far as control over the supply of imported products was not completely in the hands of Belgium, an essential element of the political structure, given by hypothesis in Seers's model, is not confirmed.

This does not in any way detract from the value of the model, since the case of the Congo may be considered as exceptional. On the other hand, the trend represented in figures 1 and 2 contradicts Seers's model on a vital point. It will be noted in fact that the exported share of the GDP in the Congo increased when the absolute value of exports declined during the major crisis of the years 1930 - 1933; the same phenomenon was repeated, less markedly, in 1938 - 1939. Furthermore the rate of growth of the market economy GDP after 1946 was linked less and less with the rate of export growth in spite of the sustained expansion in this sector.

It cannot therefore be said that the economy became closed (the third stage described by Seers) at the time of the crisis in export activity. In fact the opposite was true. The explanation is simple. Between 1920 and 1940 the rates of growth of the GDP and of exports were closely correlated. In an economy with this characteristic, a falling-off of foreign demand entails a non-proportional reduction in

1/ Original English text not available.
domestic demand. The exporters begin by cutting down their investments and follow this by rationalizing their production processes so as to reduce the number of personnel employed while maintaining the volume of output. If the crisis is prolonged, marginal enterprises close down and lay off their employees. This is enough for domestic demand to be drastically curtailed and for the non-exporting industrial enterprises to be placed in difficulty.

Furthermore, the social structures of the Congo during the 1930's were characterized by:

- The absence of labour organizations
- The monopsonistic nature of the labour market
- The fact that the representatives of economic power and political power belonged to the same social groups.

Under these conditions, exporting enterprises were able to impose a reduction of nominal wages. Between 1930 and 1935 there was such a collapse of domestic demand that by 1935 the product of non-exporting activities had fallen to the 1920 level and did not reach the 1929 level until 1944. The production of cement, for example, fell from 64,000 tons in 1929 to 21,000 tons in 1944. The production of beer dropped from 24,000 to 8,700 hl between 1929 and 1934 but rose more rapidly to its previous level (1936) through the elimination of imports. A cigarette factory disappeared in 1931 and was not replaced until 1945. One soap works out of three resisted the crisis. The development of sugar production illustrates even better the intensification of economic dependence on foreign countries: domestic consumption fell from 2,100 tons in 1929 to 927 tons in 1933 and did not rise to the level of 2,125 tons again until 1938; during this time output grew and was exported to Europe; it was not finally reorientated towards domestic demand until 1950.

The development described by Seers and that observed in the Congo may be integrated as special cases of a more general model. Lewis gives the starting point for such a process (40).
He examines the interdependence of the three sectors of an economy, namely:

A: Agricultural production for the domestic market,

X: Industrial production for the domestic market,

E: Production for export.

An increase in X triggers off increased demand for the products of A. If supply in the agricultural sector is inelastic, there is either a rise in prices, which may cause an inflationary process, or an increase in imports. The deficit in the balance of payments may then hamper the expansion of X unless E increases or X provides substitution for imports. The same reasoning applies to the expansion of A, if the production of X cannot increase.

Lewis says that E is therefore the only sector whose development is not likely to be hampered by stagnation of A or X. Domestic demand, argued by exporting activity may be satisfied by imports since exportation provides the necessary foreign exchange. That is one reason why expansion generally begins with exporting activity and not with production for the domestic market, whether agricultural or industrial (41). He also says that E is not necessarily concentrated on primary products, for which there is demand in the already industrialized countries.

The first stage of economic development is therefore characterized by the predominance of export activity and, for countries that started late in the development race, exports are necessarily concentrated on primary products, for which there is demand in the already industrialized countries.

This orientation of economic activity is made necessary by the inadequacy of domestic demand and by the difficulty of organizing simultaneous growth of A and X. Therefore, economic domination of the (neo) colonial type does not lie in the organization of the (colonized) economy as an exporter of primary products and an importer of manufactured products; domination is exercised rather when the
(neo) colonial power claims to prevent the reorientation of economic activity towards domestic demand. By causing an expansion of domestic demand, a growth in exports nevertheless makes possible this transition to the second stage of economic development.

Other things being equal, by the way, the size of the domestic market is determined by the size of the population and the level of the real income per head. If the minimum capacity of the enterprises belonging to the growth-stimulating sectors of the economy exceeds the size of this domestic market, maintenance of the rate of growth will be obtained only at the price of increased dependence on foreign demand.

A summary international comparison shows in fact that the share of national production exported varies directly as the income per head and inversely as the amount of the GDP (cf. table 3).

The results of international analysis may be transposed in chronological order. The stages of development of a developing country will therefore be characterized successively by:

1) The production of primary products (agricultural or mining) normally intended for export because sufficient markets are not found inside the country. In Nigeria, however, the domestic market is large enough to absorb 66 per cent of the output of such an important export product as palm oil (42).

2) Industrial production for the domestic market caused by export activity. At the beginning of the industrialization process, production is normally confined to consumer goods. The share of total production exported decreases as long as the size of the domestic market exceeds the production capacity of the consumer goods industries.

3) However, the expansion of a consumer goods industry cannot indefinitely provide the dynamism for growth. Economic development then requires a transformation in the structure of industry and the
TABLE 3

development of the export ratio in some countries as a function of GDP and GDP per head

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>% GDP $ million</td>
<td>GDP per head ($)</td>
<td>% GDP $ million</td>
<td>GDP per head ($)</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>9.05</td>
<td>67</td>
<td>6.65</td>
<td>31,300</td>
</tr>
<tr>
<td>Philippines</td>
<td>20.4</td>
<td>192</td>
<td>17.2</td>
<td>4,394</td>
</tr>
<tr>
<td>Nigeria</td>
<td>22.1</td>
<td>60</td>
<td>19.0</td>
<td>2,740</td>
</tr>
<tr>
<td>Burma</td>
<td>27.8</td>
<td>51</td>
<td>25.5</td>
<td>1,176</td>
</tr>
<tr>
<td>Ecuador</td>
<td>33.5</td>
<td>180</td>
<td>26.0</td>
<td>829</td>
</tr>
<tr>
<td>Ceylon</td>
<td>48.6</td>
<td>122</td>
<td>45.2</td>
<td>1,299</td>
</tr>
<tr>
<td>Former Fed. of Rhodesia and Nyasaland</td>
<td>57.6</td>
<td>161</td>
<td>68.2</td>
<td>1,592</td>
</tr>
<tr>
<td>Malaysia</td>
<td>68.6</td>
<td>218</td>
<td>79.6</td>
<td>1,673</td>
</tr>
<tr>
<td>Greece</td>
<td>16.1</td>
<td>307</td>
<td>13.7</td>
<td>3,127</td>
</tr>
<tr>
<td>Japan</td>
<td>23.7</td>
<td>285</td>
<td>20.6</td>
<td>43,668</td>
</tr>
<tr>
<td>Italy</td>
<td>17.8</td>
<td>493</td>
<td>21.8</td>
<td>30,584</td>
</tr>
<tr>
<td>South Africa</td>
<td>61.8</td>
<td>385</td>
<td>62.8</td>
<td>7,480</td>
</tr>
<tr>
<td>United States</td>
<td>10.9</td>
<td>2,324</td>
<td>11.7</td>
<td>472,673</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>33.6</td>
<td>1,084</td>
<td>31.9</td>
<td>65,657</td>
</tr>
<tr>
<td>Canada</td>
<td>37.8</td>
<td>1,767</td>
<td>42.9</td>
<td>32,404</td>
</tr>
<tr>
<td>Denmark</td>
<td>49.5</td>
<td>975</td>
<td>44.9</td>
<td>5,800</td>
</tr>
<tr>
<td>Belgium</td>
<td>56.0</td>
<td>1,093</td>
<td>60.0</td>
<td>10,966</td>
</tr>
</tbody>
</table>


a/ Export ratio: value of exports of goods (excluding services) at current prices expressed as a percentage of the production of goods (excluding services and including non-marketed production) at current prices.

b/ Comparison between the years 1953 and 1958.
appearance of enterprises producing material inputs and capital goods (see below). In this case the minimum threshold of capacity may very rapidly outgrow demand. That is the case with Belgium, a country exporting semi-finished manufactured products, where the export ratio reached 60 per cent in 1962.

Moreover, the development of a local industry producing material inputs and capital goods induces new possibilities of expansion "downstream" for the consumer goods industries which have so far been dependent on imports for their intermediate products. Countries like Japan or Italy then become exporters of consumer goods.

The export ratio of Italy in 1961 (20 per cent) was greater than that of India (6.65 per cent) although the GDP's were more or less identical ($30,584 and $31,000 million). The stages of development are therefore not necessarily determined by the progressive closing of the "open" economy exporting primary products, and the result of the industrialization process is not necessarily a "reopening" to international trade.

On the contrary, Belgium and the former Federation of Rhodesia and Nyasaland, for example, exported about 60 per cent of their output, while India and the United States exported approximately 10 per cent.

In reality, the stages of development are determined by the structure of supply and not by the origin, domestic or foreign, of demand. Maintenance of the rate of growth of the GDP is the result of "motive activities"; they have been called "Wachstumindustrien", "growth leaders". They can be traced statistically because the rates of growth of their output and productivity are higher than the average for the whole of the economy and because their share of industrial production increases. (44)

The essence of the processes of economic development therefore lies in transformation of economic structures, which is never completed, that is to say, when what used to be a growth-stimulating activity is supplanted by another whose growth is more rapid.
In an economy with a low degree of monetarization, the export of primary products is doubtless a growth leader. When the domestic market attains sufficient size, recently established industry becomes the driving force of growth and relegates exporting activity to the subordinate rank of merely maintaining the dynamism of the economy.

If this support should fail, as in the Congo between 1930 and 1935, the crisis in export activity may for a long time jeopardize the development of industry instead of stimulating it, as Seers observed in Latin America.

From 1946 to 1957, on the contrary, the regular growth of primary production for export (5 per cent per year) made possible a much more rapid growth of industrial production for the domestic market (12.7 per cent).

In the older industrialized countries the perpetual shift of the economic structure towards rapidly growing activities is not complete. Here, however, there is no risk of taking the effect for the cause and confusing the dynamism of supply with the appeal of demand. In the industrialized countries technical progress and not import substitution determines the appearance of new leading activities. The electronic, atomic or space industries take over from old growth leaders: chemical industries or iron and steel.

In all cases demand plays only a permissive role in view of the dynamism of supply. Consequently, the fundamental aspect of the economic development of Latin America, observed by Seers, is not the reorientation of economic activity towards domestic demand; that is secondary. The essential point is the establishment of industrial activities whose output and productivity have rates of growth higher than those of the traditional primary activity. It matters little then where the market for the new industries lies: within the country if the market is relatively large in relation to the level of income per head, abroad in the contrary case.
It should finally be noted that the reorientation of economic activity towards the domestic market does not necessarily bring about greater independence of foreign countries.

In this respect it is necessary to revise the old patterns with regard to the economic imperialism of the industrial countries. It has been shown above that economic domination did not consist in imposing the famous colonial pact but in freezing the economic evolution of a developing country at the first stage of its development. However, this form of domination is usually now a thing of the past.

Just as Belgium, for reasons over which it had no control, did not oppose the start-up of Congolese industry, so the former colonial powers are today willingly encouraging the industrialization of their ex-colonies.

Economic dependence cannot be analysed solely in terms of demand, either; a purely exporting country but one relatively free in the choice of its markets may be more independent than an industrializing country closely dependent on certain sources of supply of raw materials, spare parts or capital goods.

In this case, the economic domination is of a different nature; to understand the mechanisms one must analyse another aspect of the IS process: changes in the structure of imports.

3. Changes in the structure of imports

Changes in the structure of imports are much more closely connected to the industrialization process than the reduction of the overall import ratio. In this sense IS basically means the substitution of certain categories of imports for others in order to ensure that their effect on the rate of growth of the GDP is as great as possible.

Import capacity is considered here as an overall restrictive factor for the planner and not as a variable of decreasing magnitude. Indeed it is of little value if the import ratio is reduced and at the same time demand for imports from expanding industry increases faster than import capacity (see below).
The first phase of industrialization generally begins with the production of consumer goods. The fact that this has been the case for all industrializing countries obviously does not prove the necessity of such an evolution. Destanne de Bernis, for example, shows the possibility of industrialization starting up with the production of material inputs (chemical industries, iron and steel) for the agricultural sector (45).

However, the production of consumer goods is certainly the easiest way of starting up an industrialization process because their technology is simpler; the methods of production are less capital-intensive and because, finally, the size of the available market rises more quickly to the threshold of minimum capacity (46).

The development of local industry producing consumer goods therefore brings about a progressive substitution of material inputs and capital goods for consumer goods in imports. However, the infant industry is protected from competition from the industrial countries only by the incidence of transport costs on the prices of imported products.

This protection does not always compensate for the lack of external savings and economies of scale in the first stages of industrialization (47). The infant industry therefore requires Customs protection, which accelerates changes in the import structure.

When industrialization coincides with a deterioration in relations between social groups, inflationary pressure is seen to appear, as the monetary expression of the collapse of social structures.

However, the flexibility of domestic prices and the rigidity of the rate of exchange further impair the competitive position of local industry with regard to imports.

Exchange control is therefore necessary to channel excess demand towards the infant industry rather than towards imports. To maintain imports of material inputs and capital goods at a level compatible with the requirements of increased production, industry in fact exerts
pressure on the monetary authorities to ensure that it is guaranteed priority in the allocation of foreign exchange, at the expense of current imports of consumer goods. The first phase of industrialization therefore brings a rapid and fairly spontaneous change in the structure of imports so that

\[ \frac{dM_c}{dt} < \frac{d(M_a + M_q)}{dt} \]

where \(M_c = \) imports of consumer goods;

\(M_a = \) imports of material inputs;

\(M_q = \) imports of capital goods.

Theoretically, the process could continue in such a way that in a second phase

\[ \frac{dM_a}{dt} < \frac{dM_q}{dt} \]

In practice, such a development encounters serious obstacles.

3.1. Normal development

In almost all the industrial countries the rate of expansion of heavy industry (48) over a long period (1850-1950) has been one-and-a-half times more rapid than that of light industry (49). This feature is not peculiar to a few large countries like the United States and the USSR. Hoffmann, who distinguishes three stages of industrialization according to the ratio between the production of consumer goods and material inputs plus capital goods (5:1, 2.5:1 and 1:1) (49a), states that the structure of the manufacturing industry has always evolved on the same pattern despite differences in the distribution of factors of production, factors of location or the state of technology (50).

If the growth of inter-industrial consumption of manufactured products (51) is proportionately greater than the growth of total production, the dependence of the economy on imports of material inputs and capital goods increases more quickly than the local production of consumer goods.
In fact, African imports (excluding South Africa) of material inputs increased by 200 per cent between 1950 and 1960 whereas imports of capital goods increased by 204 per cent; in the same time the output of the industrial sector, whose rate of growth, however, was higher than that of the other sectors, increased only by 90 per cent (52).

Under these conditions, the expansion of the industrial sector may be blocked if the local production is limited to satisfying final consumers' demand. Import substitution reaches a certain level only from this second stage of industrialization onwards, when local production begins to take over from imports for the supply of material inputs and capital goods intended for other sectors of the economy. Chenery observes that IS in material inputs and capital goods accounts for 70 per cent of the total IS (53).

The strategic role of material inputs appears just as clearly in a study on Brazil; the authors note that "the most pronounced growth took place in such key import-substituting industries as transport equipment, machinery, electric machinery and appliances, chemicals" (54).
### TABLE 4

Structure and evolution of industrial production throughout the world

<table>
<thead>
<tr>
<th></th>
<th>1938</th>
<th>1948</th>
<th>1958</th>
<th>1938-1958</th>
<th>1948 to 58</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WORLD</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy industry A/</td>
<td>45.5</td>
<td>52.7</td>
<td>59.5</td>
<td>5.8</td>
<td>6.1</td>
</tr>
<tr>
<td>Light industry B/</td>
<td>54.5</td>
<td>47.3</td>
<td>40.5</td>
<td>3.7</td>
<td>3.1</td>
</tr>
<tr>
<td><strong>INDUSTRIAL COUNTRIES a/</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A/</td>
<td>47.4</td>
<td>55.3</td>
<td>61.2</td>
<td>5.9</td>
<td>5.3</td>
</tr>
<tr>
<td>B/</td>
<td>52.6</td>
<td>44.7</td>
<td>55.3</td>
<td>2.8</td>
<td>2.8</td>
</tr>
<tr>
<td><strong>DEVELOPING COUNTRIES b/</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Asia A/</td>
<td>22.3</td>
<td>25.7</td>
<td>36.-</td>
<td>6.9</td>
<td>9.7</td>
</tr>
<tr>
<td>East Asia B/</td>
<td>77.7</td>
<td>74.3</td>
<td>64.-</td>
<td>3.1</td>
<td>4.6</td>
</tr>
</tbody>
</table>

**Source:** United Nations, Patterns of Industrial Growth, 1938 to 1958, New York, 1960, table 10, pp. 108-111.

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/A/ Major groups 27 and 31-38 of ISIC.

/B/ Major groups 20-26, 28-30 and 39 of ISIC.

/a/ Countries of Class I.

/b/ Countries of Class IV, i.e. all countries of Africa and the Middle East except South Africa; all countries of Latin America except Uruguay, Argentina, Chile, Mexico and Venezuela; all Asian countries except Japan; Greece and Turkey.
3.2. The difficulties of transition to the second stage of industrialization

The social and political tensions to be foreseen are of the same order as those described by Seers for the closed economy in the phase of difficult import substitution (55); without claiming to re-analyse these tensions, one must note their side effects in the field of theory and ideology.

The opposition of the dominant economies to the industrialization of the young nations was given theoretical expression in the theory of international division of labour, itself founded on a purely static conception of comparative costs.

The theory was progressively abandoned from the time when the dominating economies lost political control of the countries exporting primary products.

Today, opposition to the development of "heavy" industry in the developing countries takes various forms. First of all, it occurs as indulgent irony with regard to "great projects", often without distinction between prestige-operations and attempts to transform economic and social structures (56). At a more advanced level of theoretical elaboration, reference is made to "the proportion of factors": being capital-intensive, the industries supplying material inputs and capital goods could not relieve the heavy burden of apparent or disguised under-employment borne by the developing countries (57). The argument obviously takes no account of the development of services, which accompanies the expansion of industry. The establishment of iron and steel or chemical industries, for example, is inconceivable without a parallel, if not a previous, adaptation of banking, administrative, commercial, insurance, transport services etc.

In addition, the material inputs industry does not merely ease the dependence of existing industries on imports; it also generates new possibilities of investment in industry oriented towards the final consumer.


Setting aside the arguments in ideological justification of vested interests, it is true that the transition to the second phase of industrialization encounters very real obstacles inherent in the economic structure of the countries concerned, or even caused by policies of aid to consumer goods industry. The few obstacles analysed here do not exhaust the list; they have been selected because of their particular bearing on the case of the Congo.

3.2.1. Rigidity of the economic structure

When industrial production is limited to consumer goods and to the few material inputs (e.g. cement) not intended for industry, economic structures acquire a certain degree of rigidity.

It is first of all seen at the domestic level. The rigidity introduced by IS is due inter alia to the appearance of monopolistic situations protected from external competition: this may maintain industrial prices at an artificially high level and does not encourage the growth of productivity.

In the case of Chile, Grunwald explains these monopoly situations by the restricted nature of the domestic market, with respect to minimum production capacity (58).

In the Congo, however, it has been noted that domestic competition has arisen for most import substituting industrial products.

The position is therefore exactly as if the local industry had altered the size of its own market, thus providing a later competitor with an opportunity for investment.

The rigidity introduced by IS in foreign economic relations may be more serious. If the capital goods or material inputs industries are established late, an excessive share of the total volume of imports may be devoted solely to current supplies and to the re-equipment of consumer goods industries.
TABLE 5

Domestic competition and consumption covered by local production in the Congo in 1957

<table>
<thead>
<tr>
<th>Products</th>
<th>Percentage of coverage</th>
<th>Number of enterprises a/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar</td>
<td>83</td>
<td>2</td>
</tr>
<tr>
<td>Mineral water and lemonade</td>
<td>99</td>
<td>13</td>
</tr>
<tr>
<td>Beer</td>
<td>99</td>
<td>3</td>
</tr>
<tr>
<td>Cement</td>
<td>82</td>
<td>3</td>
</tr>
<tr>
<td>Cotton cloth</td>
<td>49</td>
<td>4</td>
</tr>
<tr>
<td>Blankets</td>
<td>57</td>
<td>2</td>
</tr>
<tr>
<td>Soap</td>
<td>95</td>
<td>2</td>
</tr>
<tr>
<td>Shoes and sandals</td>
<td>62</td>
<td>3</td>
</tr>
<tr>
<td>Cigarettes</td>
<td>96</td>
<td>2</td>
</tr>
</tbody>
</table>

a/ Sometimes a number of establishments belong to the same enterprise.
b/ In 1962.
c/ Three enterprises in the east of the country; these do not compete with those producing in the West of the country.

It has been seen above that the industrial sector demands and often obtains priority allocation of foreign exchange when the total demand for such exchange exceeds the current supply.

Under these conditions, the full brunt of even the slightest reduction in import capacity is borne by residual imports; the higher the share of "guaranteed" imports, the greater will be the impact on domestic supply and on the price system.

On the other hand the difficulties of transition to the second phase of industrialization are accentuated under these conditions. It becomes very difficult to substitute capital goods for other categories...
of imports when imports of consumer goods are already reduced as far as possible and when there is absolutely no more flexibility in imports of material inputs.

The above-mentioned ECLA document puts it that it is therefore absolutely essential to begin the local production of intermediate products before the structure of imports has become so rigid as to jeopardize a continuation of the process (59).

Unfortunately the Congo allowed such rigidity to set in. Figure 1 shows that the dynamism of the consumer goods industry was already exhausted in 1954. The transition to the second phase of industrialization should have started between 1954 and 1956 to ensure that gross domestic product maintained its former rate of growth.

Instead of that, the Congolese economy continued for several years along the line of purely quantitative growth without any qualitative development: the structure of imports and local production remained practically the same until the announcement of independence.

<table>
<thead>
<tr>
<th>Year</th>
<th>Imports a/</th>
<th>Industrial production b/</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consumer goods</td>
<td>Material inputs</td>
</tr>
<tr>
<td>1950</td>
<td>38</td>
<td>22</td>
</tr>
<tr>
<td>1951</td>
<td>38</td>
<td>24</td>
</tr>
<tr>
<td>1952</td>
<td>31</td>
<td>25</td>
</tr>
<tr>
<td>1953</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>1954</td>
<td>32</td>
<td>29</td>
</tr>
<tr>
<td>1955</td>
<td>30</td>
<td>33</td>
</tr>
<tr>
<td>1956</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td>1957</td>
<td>31</td>
<td>32</td>
</tr>
<tr>
<td>1958</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Average</td>
<td>32</td>
<td>28</td>
</tr>
</tbody>
</table>

a/ Based on c.i.f. values at current prices.
b/ Based on value of sales (cf. table in annex).
After the country gained its independence, the reduction of export activity and the inflationary expansion of domestic demand further increased the proportion of consumer goods in the total output of local industry.

**TABLE 7**

<table>
<thead>
<tr>
<th>Origin of the supply of consumer goods and structure of imports into the Congo, 1958 - 1963</th>
</tr>
</thead>
<tbody>
<tr>
<td>(percentages and thousand million francs at constant prices)</td>
</tr>
<tr>
<td>Consumer goods</td>
</tr>
<tr>
<td>Local industry</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>4,620</td>
</tr>
<tr>
<td>Imports</td>
</tr>
<tr>
<td>2,495</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Imports</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Consumer goods</td>
</tr>
<tr>
<td>30.5</td>
</tr>
<tr>
<td>Material inputs</td>
</tr>
<tr>
<td>31.3</td>
</tr>
<tr>
<td>Capital goods</td>
</tr>
<tr>
<td>35.5</td>
</tr>
<tr>
<td>Total (plus postal packages)</td>
</tr>
<tr>
<td>100.0</td>
</tr>
</tbody>
</table>

and /: same note as for table 6.

Fortunately, local production increased enough to make good the reduction of consumer goods imports; however, the structure of imports became extremely rigid (cf. table 7). In fact, it would be extremely difficult to reduce imports of material inputs (40 per cent of the total in 1963) so as to be able to import more capital goods without endangering the volume of industrial output.

Then it would be necessary to rely on inflow of foreign capital to transform the economic structure of the country; it is highly improbable that such an aim would today coincide with the interests of any contributors of capital.
3.2.2. The case of frustrated take-off

This would seem to be the case of Pakistan (60), despite the very rapid expansion of industrial production (index 625 in 1960 on the basis of 1948 = 100). In this country, the transition to the second phase of industrialization is hampered by the measures taken to help industry in the initial phase.

Cohen concludes in fact that the stimulants and protection granted to industry neutralize its backward linkage effects.

The final result of the structure of Customs duties, the system of import control and the export bonus scheme for industry (cf. 61) is that a much higher value is placed on foreign exchange with import-substituting consumer goods than with goods intended to satisfy intermediate demand.

Under these conditions Pakistan industry does not receive much encouragement to develop the local production of intermediate goods; it has obtained a guarantee that it can import at a rate that is undervalued in relation to domestic prices and can sell its products sheltered from any foreign competition.

In the Congo the consumer goods industry was not given much protection before 1960. Customs duties were kept fairly low to avoid the disappearance of the tax base (62) whereas imports were practically unrestricted.

After the country gained its independence, the import duties on consumer goods were lowered still further but exchange control provided local industry with complete protection. There was therefore reason to fear that Congolese industry would be in a situation similar to that of Pakistan industry.

However, the monetary measures decided on in November 1963 to halt the monetary inflation instituted a double rate of exchange (63). The rate was raised to the index 300 with regard to 1960 for all foreign exchange receipts and to the 360 rate for all payments in foreign
exchange. The Congolese State therefore levies a 20 per cent tax on all imports of goods and on all payments for services.

The productive enterprises thus carry a fiscal burden directly proportional to their degree of dependence on foreign countries. That is \( \mu X = \) fiscal assessment for the double rate.

Enterprises therefore have every interest in reducing the ratio \( \mu \) as much as possible: a cigarette factory, for example, will be encouraged to develop tobacco plantations so that it can increase its production without also increasing its imports (64).

It is too early for a definite judgement on the effects of the double rate; it seems, however, that in a relatively stable price framework this system might effectively protect local industry without causing the blockages observed in Pakistan.

3.2.3. Stagnation in exports

Maizels aptly indicates the importance of IS in the course of the industrialization process. Observation shows that the expansion of demand is greater in its effects than import substitution.

### TABLE 8

**Effects of IS and the expansion of demand on the volume of imports throughout the world**

<table>
<thead>
<tr>
<th>Importers</th>
<th>Total imports in 1913</th>
<th>IS Expansion of demand</th>
<th>Total imports in 1959</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial countries</td>
<td>8.9</td>
<td>-3.1</td>
<td>+16.8</td>
</tr>
<tr>
<td>Semi-industrial countries</td>
<td>4.1</td>
<td>-0.9</td>
<td>+11.6</td>
</tr>
<tr>
<td>Rest of world</td>
<td>4.8</td>
<td></td>
<td>+9.2</td>
</tr>
<tr>
<td>Total</td>
<td>17.9</td>
<td></td>
<td>+25.5</td>
</tr>
</tbody>
</table>


- **a/** IS = \( S_1 (1 - \mu / \mu) \): negative aspect
- **b/** Expansion of demand = \( \mu (S_1 - S_0) \)
- **c/** Australia, New Zealand, South Africa, India, Pakistan, Argentina, Brazil, Chile, Colombia, Mexico, Turkey, Israel, Yugoslavia.
If the import capacity stagnates or decreases, industrial expansion may be interrupted, since IS makes possible only:

\[ \frac{dX}{dt} > \frac{dE}{dt} > 0 \]

Industrial expansion therefore supposes the development of traditional exports or the orientation of local industry towards foreign markets.

The development of exports of primary products is partially determined by the development of demand in the industrial countries; the rate of growth of such demand is lower than the rate of income growth in countries importing primary products. The exportation of primary products cannot therefore by itself guarantee the developing countries a rate of growth compatible with their development requirements; it may however sustain an industrialization process if it grows at the same rate as demand for imports not offset by IS.

However, it is not sufficient for foreign demand to grow at an adequate rate; supplies must also be adequate to the situation. In this respect there may be interaction between the development of exports of primary products and the expansion of industry orientated towards the domestic market (65). The increase in the supply of manufactured products in fact stimulates the production and marketing of agricultural products. That is one of the chief arguments in favour of an industrialization policy that begins with the production of consumer goods, in countries where there is a fairly large amount of subsistence production; the Congo showed this a contrario in 1962 and 1963 (66).

The orientation of industry towards foreign markets raises difficult problems. An apparently ideal development of international trade would imply complementary transformations in the economic structures of the industrial and the industrializing countries: the industrial countries opening their markets to consumer goods exported by the third world and supplying the latter with the capital goods it needs.
The development of trade relations between the United Kingdom and its former Asian colonies has sometimes been presented in this way.

### TABLE 9

<table>
<thead>
<tr>
<th>Year</th>
<th>Manufactures</th>
<th>Textiles</th>
<th>Metal products and capital goods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1830</td>
<td>91</td>
<td>67</td>
<td>11</td>
</tr>
<tr>
<td>1850</td>
<td>93</td>
<td>63</td>
<td>18</td>
</tr>
<tr>
<td>1870</td>
<td>91</td>
<td>66</td>
<td>21</td>
</tr>
<tr>
<td>1890</td>
<td>86</td>
<td>43</td>
<td>25</td>
</tr>
<tr>
<td>1913</td>
<td>79</td>
<td>34</td>
<td>27</td>
</tr>
<tr>
<td>1937</td>
<td>78</td>
<td>24</td>
<td>35</td>
</tr>
<tr>
<td>1951</td>
<td>88</td>
<td>29</td>
<td>49</td>
</tr>
</tbody>
</table>


A complementary evolution appears in the countries of Asia and the Far East that belong to the sterling area: in 1960, 34 percent of their exports to the United Kingdom consisted of manufactured products; in five cases out of eight, the United Kingdom imported more manufactured products than corresponding primary products.

It seems, however, that this is not so very promising a line for developing countries to follow if international trade develops in this way, there will merely be a repetition, at a higher level, of the traditional cleavage between developed and developing countries, the former dominating the leading growth industries.
By a fortunate paradox, the protection that most industrial countries give their traditional industries will perhaps prevent the developing countries from taking the easy way.

The economic history of Japan is an indication to this effect.

One may moreover wonder whether the import-substituting consumer goods produced in the under-developed countries do not simply have a tendency to disappear from international trade. It has been noted in fact that the evolution of the volume of imports by category of goods takes the same direction in industrial, semi-industrial and non-industrial countries.

Between 1899 and 1959 the share of textiles in imports fell from 38 to 11 per cent in the industrial countries, from 55 to 9 per cent in the semi-industrial countries, and from 44 to 15 per cent in the non-industrial countries, whereas the proportion of imports of capital goods and transport equipment rose in these three groups of countries from 10 to 35 per cent, 11 to 50 per cent, and 17 to 39 per cent, respectively (68).

Under these conditions it would be just as dangerous to base the development of the industrializing countries today on the exportation of consumer goods as it would be futile to rely solely on the export of primary products.
4. CONCLUSION

IS, as a reduction of the overall import ratio, does not explain industrial expansion; it is only a secondary aspect of the industrialization process occurring when productive activity turns again towards the domestic market. IS also refers to the transformation of the import structure that accompanies the general transformation in a country's economic structure.

Being an ambiguous concept that often leads to the confusion of cause and effect, IS is a bad instrument of planning.

The advocates of IS claim to orientate the industrial development strategy towards a systematic reduction of import coefficients. Then "net saving" in foreign exchange is made an investment criterion. What is at issue is the difference between the gross amount of foreign exchange saved by import substitution and the foreign exchange used for the import of capital equipment and material inputs intended for local industry, taking account of the non-export of raw materials used by this industry (69).

Knowing "the net saving in foreign exchange" and the minimum scale of the enterprises, one could select the various industrial investment projects on the basis of "a careful examination of import statistics" (70).

This conception is to be entirely rejected: it shows excessive preoccupation with present demand, which is conditioned by the state of the very economic and social structures that must be transformed.

Using such an investment criterion, one would, for example, give priority to the construction of assembly lines for vehicles over the establishment of an iron and steel industry.

It will without doubt be said that IS and net savings of foreign exchange are only two of many investment criteria.
It seems that an ambiguous concept and an ill-chosen criterion will not fundamentally change their nature when they are corrected by other criteria or by common sense.

Import capacity is the overriding factor that circumscribes the field of possibilities open to the planner.

Within these limits, development strategies may be appreciated according as to whether they are more or less suited to generating cumulative progress; it matters little whether they are more or less import-substituting.
Annex to table 2 (p. 17): Origin of supply to the Congo, 1950 - 1958

(Million francs at current value)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONSUMER GOODS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local industry</td>
<td>1,579</td>
<td>2,343</td>
<td>2,598</td>
<td>2,848</td>
<td>3,552</td>
<td>3,622</td>
<td>3,985</td>
<td>4,375</td>
<td>4,421</td>
</tr>
<tr>
<td>Imports</td>
<td>3,655</td>
<td>5,872</td>
<td>6,266</td>
<td>4,788</td>
<td>5,888</td>
<td>5,657</td>
<td>6,301</td>
<td>6,735</td>
<td>5,519</td>
</tr>
<tr>
<td>Total</td>
<td>5,234</td>
<td>8,215</td>
<td>8,864</td>
<td>7,636</td>
<td>9,440</td>
<td>9,279</td>
<td>10,286</td>
<td>11,110</td>
<td>9,940</td>
</tr>
<tr>
<td>Industry/total</td>
<td>30.1 %</td>
<td>28.5 %</td>
<td>29.3 %</td>
<td>37.2 %</td>
<td>37.6 %</td>
<td>39.1 - %</td>
<td>38.7 %</td>
<td>39.3 %</td>
<td>44.4 %</td>
</tr>
<tr>
<td><strong>MATERIAL INPUTS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local industry</td>
<td>1,083</td>
<td>1,569</td>
<td>1,953</td>
<td>2,713</td>
<td>2,450</td>
<td>2,740</td>
<td>2,645</td>
<td>2,490</td>
<td>2,320</td>
</tr>
<tr>
<td>Imports</td>
<td>2,077</td>
<td>3,672</td>
<td>4,951</td>
<td>4,752</td>
<td>5,434</td>
<td>6,176</td>
<td>6,631</td>
<td>7,137</td>
<td>5,686</td>
</tr>
<tr>
<td>Total</td>
<td>3,160</td>
<td>5,241</td>
<td>6,904</td>
<td>7,465</td>
<td>7,884</td>
<td>8,916</td>
<td>9,276</td>
<td>9,627</td>
<td>8,006</td>
</tr>
<tr>
<td>Industry/total</td>
<td>34.2 %</td>
<td>29.9 %</td>
<td>28.2 %</td>
<td>36.3 %</td>
<td>31.2 %</td>
<td>30.7 %</td>
<td>28.5 %</td>
<td>25.8 %</td>
<td>28.9 %</td>
</tr>
<tr>
<td><strong>CAPITAL GOODS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local industry</td>
<td>375</td>
<td>366</td>
<td>434</td>
<td>670</td>
<td>579</td>
<td>613</td>
<td>664</td>
<td>495</td>
<td>567</td>
</tr>
<tr>
<td>Imports</td>
<td>3,902</td>
<td>5,937</td>
<td>8,962</td>
<td>8,064</td>
<td>6,790</td>
<td>6,636</td>
<td>7,328</td>
<td>7,528</td>
<td>8,425</td>
</tr>
<tr>
<td>Total</td>
<td>4,277</td>
<td>6,303</td>
<td>9,396</td>
<td>8,734</td>
<td>7,369</td>
<td>7,249</td>
<td>7,992</td>
<td>8,023</td>
<td>6,992</td>
</tr>
<tr>
<td>Industry/total</td>
<td>6.5 %</td>
<td>5.8 %</td>
<td>4.6 %</td>
<td>7.6 %</td>
<td>7.8 %</td>
<td>8.4 %</td>
<td>8.3 %</td>
<td>6.1 %</td>
<td>8.1 %</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local industry</td>
<td>2,937</td>
<td>4,278</td>
<td>4,985</td>
<td>6,231</td>
<td>6,581</td>
<td>6,975</td>
<td>7,294</td>
<td>7,320</td>
<td>7,308</td>
</tr>
<tr>
<td>Imports</td>
<td>9,634</td>
<td>15,481</td>
<td>20,179</td>
<td>18,172</td>
<td>18,539</td>
<td>18,952</td>
<td>20,798</td>
<td>21,909</td>
<td>18,063</td>
</tr>
<tr>
<td>Total</td>
<td>12,571</td>
<td>19,759</td>
<td>25,164</td>
<td>24,403</td>
<td>25,120</td>
<td>25,927</td>
<td>28,092</td>
<td>29,229</td>
<td>25,391</td>
</tr>
<tr>
<td>Industry/total</td>
<td>23.3 %</td>
<td>21.6 %</td>
<td>19.8 %</td>
<td>25.5 %</td>
<td>26.1 %</td>
<td>26.9 %</td>
<td>25.9 %</td>
<td>25.0 - %</td>
<td>28.7 %</td>
</tr>
</tbody>
</table>

**Notes:**
- Imports: c.i.f. frontier.
- Local industry: total value of sales (ex-factory).
NOTES

(1) As the French equivalents of Import Substitution are somewhat redundant we shall follow the precedent created for IGOR (Incremental Capital-Output Ratio) of indicating by the letters IS the substitution of the products of local industry for imported goods.


It is true that the concept of import substitution indicates the direction of the change.

(11) ECLA, op. cit., p.4.

(11a) It is true that the concept of import substitution indicates the direction of the change.

(12) MAIZELS A. op. cit., p. 150.

(13) CHENERY H.B., op. cit., p. 640.

(14) CHENERY H.B., op. cit.


(20) CHENERY H.B., op.cit., p. 644.

(26 - 1, 7(10) = 9 : 29-2(10) = 9)


(25) DUPRIEY L.H., Philosophie des conjonctures économiques-Louvain, 1959, pp.80 and 82.

(26) Through the series of relations described by means of the Harrod-Dorar model.

(27) They are Japan, Mexico, Italy, South Africa, Ireland, the Netherlands, Portugal, Greece, Austria, Venezuela.


(28a) cf. Source of table 1. For this reason, the products of the mechanical industry have been excluded from the calculations for which the results appear in table 1.


(30) SEERS D., op. cit.

(31) For a summary of the discussions relating to SOMMART's law, cf. KINDLEBERGER Foreign Trade and the National Economy, New Haven, 1964, p.179 who quotes the opposed theses of KUZNETS and of DEUTSCH and ECKSTEIN.
(32) SEERS D., The Stages..., op. cit., p. 68.


(34) SEERS D., op. cit., p. 59.

(35) SEERS D., analysed the different impact of inflationary pressure on the economy of the Latin-American countries in terms of their ability or inability to undertake import substitution in: "A Theory of Inflation and Growth in under-developed Economies based on the Experience of Latin America", Economic Growth Centre Paper No.8, Yale, 1962.

(36) SEERS D., The Stages..., op. cit., p. 61.

(37) SEERS D., op. cit., p. 62.

(38) SEERS D., op. cit., p. 60.

(39) Cf. upon this subject, the article by H. LECLERCQ in the same issue of this review as well as the author's: Pôles de développement industriel au Congo, in this revue, II No.2, October 1964, p. 154.


(41) LEWIS A., op. cit., p. 278.

(42) Average 1950-1957; Source: ECA, Economic Bulletin for Africa.


(46) The initiation of industrialization by the production of consumer goods is indispensable not only for reasons of facility, cf., below and LACROIX J.L., op. cit., p. 177.
(47) The absence of external savings in industrializing countries is due in particular to the limited interdependence between the economic structures. A number of external savings appear, moreover, as such to the extent that the existing social order dispenses the enterprises from covering certain costs. In the developing countries, private or public enterprises often bear the expenses that fall to the community in the industrialized capitalist countries (maintenance of roads, education, health organization, etc.).

(48) Heavy industry is equated here with the industry of capital goods and material inputs.


(49a) HOFFMANN W., Stadien und Typen der Industrialisierung, Iena, 1931, pp. 124 and 178-182.


(53) CHENERY H.B., Patterns, op.cit., p. 643... The over-estimation of total IS does not affect the validity of the calculations relating to the breakdown of IS by categories of goods.


(55) Ibid., op.cit., p. 64.

(56) Foreign aid has, nevertheless, sometimes shown a preference for financing the former rather than the latter.

(57) This argument is developed at length in, The Growth and Decline of Import Substitution in Brazil, Economic Bulletin for Latin America, ECLA, IX, No.1, March 1964, p.9.

(59) ECLA, op.cit., p.4.


(62) Cf. on this point, LECLERCQ's article in the same issue of this review.

(63) Cf. LECLERCQ's note in the same issue of this review.

(64) It is likewise advisable for the enterprises to reduce the number of foreign staff employed.


(66) Cf. LACROIX, J.L., op.cit., p. 177.


(68) MAIZELS, A. op.cit., p. 174 and figures p. 175.
