Import Substitution, Export Expansion And Consumption Liberalization:

A Preliminary Report

by

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In recent literature attempts have been made (notably by Hollis B. Chenery[1]) to analyse the factors responsible for industrialization. Based on an interindustry input-output table, this type of analysis relates the growth of industrial output to factors such as import substitution, domestic and foreign final demand expansion, and the expansion of intermediate demand.

A similar analytical framework applied to the case of Pakistan would be extremely useful in determining the pattern and characteristic features of our industrial expansion. Attempts to prepare a workable input-output table are, however, thwarted by the absence of necessary quantitative information[2]. One, therefore, has to settle for a much more modest analytical framework in order to pursue a not very different objective.

THE PURPOSE OF THE STUDY

Consumer-goods industries, such as cotton textiles, started growing in Pakistan with the policy of replacing imports by domestic production. It is widely believed that in an import-competing industry any increase in domestic output represents import substitution since in its absence imports would have been necessary to maintain the same availabilities. The proposition however is incorrect. Once the production of a commodity that was formerly imported is undertaken at home, its domestic absorption frequently exceeds what would have been absorbed or demanded if the commodity had continued to be imported. If the commodity is a consumption good, the effect of this is to liberalize consumption, and the contribution to aggregate national saving and the development effort is consequently diminished.

To look at the same problem from another side, one can proceed as follows: A country's commitment to achieve an increased rate of growth has

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[1]H. B. Chenery, "Patterns of Industrial Growth", *American Economic Review*, pp. 624-654, 1960.

[2]The results of a preliminary attempt undertaken at the Institute of Development Economics are reported in: John C.H. Fei, *et al.*, "A Preliminary Input-Output Table for Large-Scale Industries in Pakistan", *Pakistan Development Review*, Spring 1962.

implications for a number of things. An increased marginal saving rate has to be achieved. This means that the growth of aggregate consumption has to be limited which in turn means that the domestic consumption of individual commodities must be limited to some "normal" level. This normal level of consumption (absorption) for a commodity can be calculated on the basis of the permissible increase of aggregate consumption expenditure together with the "normal" expenditure elasticity of demand for that commodity. If in the process of import substitution, the output of a consumption commodity becomes so great that normal domestic absorption is exceeded, we shall say that domestic absorption of this commodity is being liberalized.

A similar result may occur in an export industry. Output may increase much more rapidly than exports with the result that normal domestic absorption is exceeded. This again would mean, for a consumption good, liberalization of domestic consumption[3].

Let us put this more precisely by using an accounting relationship: change in production (X) plus change in import (M) of any commodity always equals change in domestic absorption (A) plus change in exports (E)

$$X + M = A + E \quad \ldots\ldots (1)$$

Change in domestic absorption is the sum of the changes in normal absorption (A_n) and liberalized absorption (A_I)

$$A = A_n + A_I \quad \ldots\ldots (2)$$

Substituting (2) into (1) and making some rearrangements, we get

$$X = (A_n - M) + A_I + E \quad \ldots\ldots (3)$$

The first term of the right-hand side of Equation (3) shows the amount of import substitution, the second shows liberalization of domestic absorption and the third shows export expansion. Thus defined, a change in the output of an import-competing industry will mean import substitution as long as it does not exceed the change in normal domestic absorption less the change in import. Any increase in output leading to a level of absorption in excess of normal means liberalization of domestic absorption. The last statement holds also for an export industry.

The purpose of this study is to measure the amounts of import substitu-

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[3]For a consumption good, the terms consumption liberalization and absorption liberalization can be used interchangeably.

tion, consumption liberalization and export expansion for a number of important consumption-goods industries and to see what this suggests about the impact of the pattern of industrial growth on aggregate savings and the development effort.

THE MEASUREMENT OF NORMAL ABSORPTION

As stated above normal absorption has to be defined in relation to the growth target or, to be more precise, to the target marginal rate of saving. In this study the four immediate pre-plan years (1951/52 to 1954/55) are taken as the base. Normal absorption for a commodity for each year of the First-Five-Year-Plan period is then measured as follows:

Using the target rate of marginal saving proposed by the First Plan, we measure for each year the level to which aggregate consumption has to be constrained. Then, an expenditure elasticity of demand (based usually on Pakistan and Indian estimates obtained from cross-section data) is used to measure the level to which the consumption of a particular commodity has to be constrained.

It is possible to measure normal absorption in a number of other ways. For example, a second measure of normal absorption may be obtained on the assumption of a more heroic growth target. One can contemplate as a "practical maximum" a growth path that requires per-capita aggregate consumption to remain unchanged. This would in turn mean that per-capita consumption of individual commodities should remain unchanged[4].

According to this measure, per-capita absorption of each commodity in each of the first-plan years would be the same as in the base period. It is obvious that normal absorption measured in this way would differ significantly from that measured in the former way only if per-capita national income changes are significant. Since per-capita income changed very little over the relevant period, it does not seem useful to obtain a second measure of normal absorption on the assumption of such a "practical maximum" growth target.

We are now in a position to define the *rates* of import substitution, consumption liberalization and export expansion on the basis of accounting identity (3) above. By dividing (3) by X, we have

$$\frac{(A_n - M)}{(X)} + \frac{A_I}{X} + \frac{E}{X} = 1 \quad \ldots\ldots (4)$$

[4]This ignores the effects of autonomous supply changes.

The first term of the left-hand side of Equation (4) is the rate of import substitution. This is the ratio of the change in normal absorption less the change in imports to the change in production. The second term (the ratio of the change in liberalized absorption to the change in production) is the rate of consumption liberalization. The third term (the ratio of the change in exports to the change in production) is the rate of export expansion.

The fact that the sum of the three rates equals one shows that together they account for the entire change in production.

Statistical Methodology

Comparable data on production, import and export are available only for a few commodities. While production in general is shown in quantity terms, trade data are shown in values. The difficulty is a real one in view of the fact that import and export prices are available only for very few commodities. To express trade data in quantity terms we use domestic wholesale prices (where import and export prices are not available)[5].

Normal absorption of a commodity for each of the first-plan years was measured with the four immediate pre-plan years as base. The First Plan had as its objectives a 15-per-cent increase in national income and a 20-per-cent marginal saving rate[6]. When the Planning Commission formulated its marginal saving target it must have done so on the basis of expected gains in *per-capita* income. It is very difficult to imagine that the Planning Commission would try to achieve a marginal saving rate higher than the average without any gain in per-capita income. Thus, it is necessary to interpret the saving target of the First Plan in terms of gains in per-capita (rather than total) national income.

According to the expectation of its authors roughly half of the increase in national income during the First Plan was meant for sustaining the increased population at the pre-plan per-capita income level (we call this part of increased national income $\triangle Y_1$). The other half was to provide an increase in per-capita income (we call this part $\triangle Y_2$). Thus, if income increases by 100 we have:

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[5]The details about these prices and their sources are stated in the Appendix B.

[6]The first-plan saving target was to achieve a 7-per-cent average saving rate in 1959/60 as against 5 per cent in the immediate pre-plan year, 1954/55. *See*, Planning Commission, *First Five Year Plan*. (Karachi: Manager of Government Publications), p. 135. But index of income was to increase from 100 in 1954/55 to 115 in 1959/60 (15-per-cent increase). Thus, the index of saving was to rise from 5 in 1954/55 to 8.05 in 1959/60. The change in the index of saving is, therefore, 3.05 percentage points while the change in national income index is 15. The implied marginal saving rate is $\frac{\triangle S}{\triangle Y} = \frac{3.05}{15}$ or approximately 20 per cent.

$$\triangle Y = 100 = \triangle Y_1 + \triangle Y_2$$

$$\triangle Y_1 = \triangle Y_2 = 50$$

Increased saving ($\triangle S$) must be 20. But increased saving out of $\triangle Y_1$ can be no greater than that indicated by the base period average saving ratio ($\triangle S_1 = 0.05, \triangle Y_1 = 2.5$). Hence, an additional 17.5 has to be saved out of $\triangle Y_2$. This means a marginal saving rate out of the increase in per-capita income of 35 per cent.

Such a saving target implies that consumption expenditure for each year of the first-plan period has to be constrained to a certain level. This constrained level of per-capita consumption (which we call normal aggregate per-capita consumption) is found by applying the following formula:

For $\bar{Y}_t \geq \bar{Y}_o$ we have $\bar{C}_t = C_o\bar{Y}_o + 0.65(\bar{Y}_t - \bar{Y}_o)$ .....(5a)

and for $\bar{Y}_t < \bar{Y}_o$ we have $\bar{C}_t = C_o\bar{Y}_t$ .....(5b)

where

$\bar{Y}$	=	per-capita income
$\bar{C}$	=	per-capita normal aggregate consumption
C_o	=	average consumption ratio in the base period (0.95)
0.65	=	planned marginal consumption ratio out of increase in per-capita income
t	=	current period
0	=	base period

The above seems to be a plausible and realistic interpretation of the saving target of the First Plan. A different formula (5b) is used to measure normal consumption for the years in which per-capita income decreases while formula (5a) is used for all other years. This is done just to recognize that a reduction in per-capita income is not likely to reduce per-capita consumption as much as is suggested by formula (5a). In such a situation per-capita consumption is more likely to be indicated by formula (5b).

Once per-capita normal aggregate consumption is measured for each year, the next step is to estimate the normal absorption of an individual consumption good by applying the following formula:

$$\bar{C}_{it} = \bar{C}_{io} + (\bar{C}_t - \bar{C}_o)\left(\frac{\bar{C}_{io}}{\bar{C}_o}\right) e_i \quad \text{..... (6)}$$

where $\bar{C}_i$ = per-capita normal absorption of the *i*-th good, and
e_i = expenditure elasticity of demand for the *i*-th good.

Total normal absorption of i in the period t (A_{nt}) is found by multiplying $\bar{C}_{it}$ by the population in period t.

Thus, normal absorption of a commodity is determined by two factors. The first is the aggregate consumption constraint within which consumers must operate in order to achieve the planned saving target. The second factor is consumer preference as to the distribution of consumption expenditure among different commodities (represented by the expenditure elasticities) within the overall consumption constraint.

Some differences exist between aggregate normal consumption measured from the Central Statistical Office (C.S.O.) national income estimates and that measured from the Planning-Commission estimates of GNP[7]. The latter estimates are higher than the former mainly for two reasons: *a*) Planning-Commission estimates, unlike C.S.O. estimates, are not adjusted for changes in terms of trade; *b*) Planning Commission estimates are in gross terms, while depreciation is subtracted from gross capital formation in C.S.O. estimates. Since the second factor affects the estimates of all years more or less uniformly, it is no great cause for concern. The first factor has, however, been changing over time—during the pre-plan years (base period in our analysis) its effect was positive while in the first-plan period it was negative and large. Thus, the exclusion of this factor in the Planning-Commission estimates results in a higher growth rate than that shown by the C.S.O. estimates. Actually, by the end of the first-plan period, the C.S.O. estimates indicate a decline in per-capita income from the base period, while the Planning-Commission estimates indicate a slight increase.

Although the Planning-Commission estimate is superior from the standpoint of present-day methodology of national accounts, the C.S.O. estimate (with its correction for terms-of-trade change) is perhaps a better measure of welfare and capacity to save. We have used the C.S.O. estimates as our basic data. However, we have also estimated the rates of import substitution, consumption liberalization and export expansion on the basis of Planning-Commission estimates of GNP for the terminal year of our period of analysis (1959/60).

EMPIRICAL FINDINGS

The rates of import substitution, consumption liberalization and export expansion were measured for four import-competing industries (cotton cloth, sugar, cigarettes and paper). We selected these industries because they produce comparatively homogeneous consumption goods, the output of which has increased very rapidly over the period studied, and because the relevant data are relatively easily available. In addition, an export industry (tea) was studied in order to view the problem of consumption liberalization in a different context.

[7]Both C.S.O. and Planning-Commission estimates are in constant (average 1949/50 through 1952/53) prices. Sources of these data are mentioned in the Appendix B.

Cotton Cloth

Cotton cloth is by far the most important import-competing industry of Pakistan. During the period under consideration (1951/52 to 1959/60) there was a four-fold increase in its output. While in the beginning of this period nearly 70 per cent of domestically absorbed cotton cloth was imported, in the later years Pakistan emerged as a net exporter of this commodity.

Expenditure elasticity for cloth as a whole was found to be about 0.90 for rural West Pakistan on the basis of a subsample drawn from the National Sample Survey[8]. While elasticity is likely to be higher in urban areas, the elasticity for *cotton* cloth is likely to be lower than that for cloth as a whole. Elasticities measured for cotton cloth on the basis of Indian National Sample Survey are somewhat lower. We decided to use an elasticity of 0.90 in calculating normal absorption of cotton cloth, recognizing that this is probably a liberal estimate.

Calculation of normal absorption by use of the formula (6) above resulted in values far smaller than actual absorption for all of the years. Consequently, the measured rate of consumption liberalization was very high. By the end of the first-plan period, 46 per cent of the increased cotton-cloth production (over the base period) represented consumption liberalization and 44 per cent represented import substitution (Table 1). The use of

TABLE I

COTTON CLOTH: RATES OF IMPORT SUBSTITUTION, CONSUMPTION LIBERALIZATION AND EXPORT EXPANSION, 1955/56—1959/60
(Base period=1951/52—1954/55)

Period	Import substitution		Consumption liberalization		Export expansion
	CSO national income	Planning Commission GNP	CSO national income	Planning Commission GNP	
1955/56	0.2044	—	0.7854	—	0.0102
1956/57	0.4773	—	0.4652	—	0.0575
1957/58	0.4691	—	0.5190	—	0.0119
1958/59	0.4099	—	0.5674	—	0.0227
1959/60	0.4356	0.4787	0.4632	0.4201	0.1012

[8]The sources of this and all other measures of expenditure elasticity are mentioned in the Appendix B.

Planning-Commission estimates of GNP changes the results only very slightly. The rate of consumption liberalization between the base period and the terminal year (1959/60), in this case, is somewhat lower (42 per cent of the increased production) and the rate of import substitution is correspondingly higher (48 per cent).

Only 10 per cent of the increased production represents export expansion of cotton cloth between the base and terminal periods.

Sugar

Sugar is another important import-competing consumption-good industry. During the period under review its output more than doubled and imports declined from about 20 per cent of total absorption during early 1950's to almost nothing in 1959/60.

Expenditure elasticity for sugar was found to be about 1.60 on the basis of a subsample drawn from the National Sample Survey (rural West Pakistan). This seems too high when we compare it with the elasticities found for India. Urban and rural elasticities found on the basis of Indian National Sample Survey are 1.08 and 0.93 respectively. The estimates used by Coale and Hoover to project food requirement for India also suggest a smaller elasticity.

While for West Pakistan, elasticity for sugar was found to be very high that for gur[9] and sugar together was found to be considerably lower—about 1.06. The high expenditure-elasticity for sugar is probably due to the fact that, as income goes up, a process of substitution of sugar for gur takes place. This substitution itself is clearly undesirable from the standpoint of maximizing saving and conserving foreign exchange.

We nevertheless used both the expenditure elasticities: measure A is based on the lower elasticity (1.06) and measure B is based on the higher elasticity (1.60). The use of either elasticity gives very high rates of consumption liberalization for all the years. Before 1958/59 the rates of import substitution were negative. This is because in all these years the increases in imports exceeded the increases in normal absorption. By the year 1959/60 the rate of consumption liberalization was the lowest of all years but still very high in an absolute sense. By this year 49 and 51 per cent of increased output represent consumption liberalization according to measures A and B respectively. The corresponding rates of import substitution are 47 and 45 per cent. The use of Planning-Commission estimates of GNP gives somewhat smaller rates of consumption liberalization (41 per cent according to measure A and 40 per cent according to measure B) and correspondingly higher rates of import substi-

[9]Gur is a kind of raw sugar, a close substitute of sugar and probably an inferior good.

TABLE II

SUGAR: RATES OF IMPORT SUBSTITUTION, CONSUMPTION LIBERALIZATION AND EXPORT EXPANSION, 1955/56—1959/60

(Base period=1952/53—1954/55)

Period	Import substitution				Consumption liberalization				Export expansion
	C.S.O. national income		Planning-Commission GNP		C.S.O. national income		Planning-Commission GNP		
	Measure A	Measure B	Measure A	Measure B	Measure A	Measure B	Measure A	Measure B	
1955/56	—0.8776	—0.9689	—	—	1.8777	1.9689	—	—	—
1956/57	—0.0945	0.0002	—	—	1.0045	0.9998	—	—	—
1957/58	—0.1381	—0.1461	—	—	1.1381	1.1461	—	—	—
1958/59	0.1411	0.1150	—	—	0.8541	0.8802	—	—	0.0048
1959/60	0.4657	0.4456	0.5397	0.5573	0.4871	0.5073	0.4132	0.3956	0.0471

tution (54 per cent and 56 per cent) for the year 1959/60. Export expansion was less important, the rate being less than 5 per cent.

Cigarettes

Cigarettes represent a consumption good which is supplied almost entirely by domestic production. Whatever negligible amount was imported during the early 1950's has now almost completely been replaced by domestic production. Domestic production over the period under consideration increased nearly four times resulting in large increases in total and per-capita domestic absorption.

No estimate of expenditure elasticity based on Pakistan and Indian data is available for cigarettes. We have expenditure elasticities for tobacco, however, (0.77 in urban, and 0.88 in rural areas) based on the Indian National Sample Survey. Since the elasticity for cigarettes is likely to be higher than for tobacco, we used an elasticity of one, which is considerably higher than both urban and rural elasticities for tobacco[10].

TABLE III

CIGARETTES: RATES OF IMPORT SUBSTITUTION, CONSUMPTION LIBERALIZATION AND EXPORT EXPANSION, 1955/56—1959/60

(Base period = 1951/52—1954/55)

Period	Import substitution		Consumption liberalization		Export expansion
	C.S.O. national income	Planning Commission GNP	C.S.O. national income	Planning Commission GNP	
1955/56	0.0705	—	0.9295	—	—
1956/57	0.1542	—	0.8458	—	—
1957/58	0.1283	—	0.8717	—	—
1958/59	0.0787	—	0.9213	—	—
1959/60	0.0933	0.1254	0.9067	0.8746	—

As is shown in Table III most of the increased output represents consumption liberalization (on the average 90 per cent for every year). Consequently, only about 10 per cent of the increased output represents import substitution.

[10]This measure is quite arbitrary and elasticity of cigarettes may actually be still higher in view of the fact that here too a process of substitution of cigarettes for *bidis* probably takes place as income rises. However, we do not have any quantitative knowledge about this.

The use of the Planning Commission estimates to calculate these rates for the terminal year (1959/60) changes the results only very slightly. The rates of consumption liberalization and import substitution, thus measured, are 87 per cent and 13 per cent respectively for 1959/60 (as against 91 per cent and 9 per cent based on C.S.O. estimates of national income).

Writing and Printing Paper

Domestic production of paper started early in the 1950's. Imports, however, have not been replaced significantly because domestic absorption has been increasing rather rapidly.

The problem of measurement is complicated by the fact that no estimate of expenditure elasticity for paper is available for Pakistan or India. Expenditure elasticity for education was found to be 1.6 and 1.8 respectively for urban and rural India on the basis of National Sample Survey. We assumed the elasticity for paper to be 1.8 on the assumption that absorption of paper for writing and printing purposes may vary directly with the rate of expansion of education.

As is shown in Table IV (except in the year 1958/59) consumption liberalization has been very great and correspondingly a very small percentage of increased output represents import substitution. For the terminal year (1959/60) the rates of import substitution (based both on C.S.O. and Planning Commission estimates of national income) are negative—the increase in imports in that year exceeded the increase in normal absorption (measured on

TABLE IV

PAPER: RATES OF IMPORT SUBSTITUTION, CONSUMPTION LIBERALIZATION AND EXPORT EXPANSION, 1955/56—1959/60

(Base period=1951/52—1954/55)

Period	Import substitution		Consumption liberalization		Export expansion
	C.S.O. national income	Planning Commission GNP	C.S.O. national income	Planning Commission GNP	
1955/56	0.0725	—	0.9275	—	—
1956/57	0.1838	—	0.8162	—	—
1957/58	0.1078	—	0.8922	—	—
1958/59	0.4272	—	0.5728	—	—
1959/60	—0.2806	—0.1685	1.2806	1.1685	—

the basis of either estimate of national income). Correspondingly, consumption liberalization represents more than 100 per cent of the increased production for that year (128 per cent on the basis of C.S.O. national income and 117 per cent on the basis of Planning-Commission GNP).

Tea

The case of tea presents altogether a different story. Tea is an export item rather than an import substitute. Over the 1950's its output increased very little, the annual growth rate being just below one per cent. Domestic absorption nevertheless increased very rapidly. As a result (since production was more or less stagnant) the volume of exports declined sharply. Average annual export during the first-plan period amounted to only about half of that during the pre-plan years.

No Pakistan or Indian estimate of expenditure elasticity for tea is available. In calculating normal absorption we used for tea the expenditure elasticity for gur and sugar (1.06). Since tea and these goods are to a large extent complementary in use, their expenditure elasticities are unlikely to be vastly different.

TABLE V

TEA: RATES OF IMPORT SUBSTITUTION, CONSUMPTION LIBERALIZATION AND EXPORT EXPANSION, 1955/56—1959/60

(Base period = 1951/52—1954/55)

Period	Import substitution		Consumption liberalization		Export expansion
	C.S.O. national income	Planning Commission GNP	C.S.O. national income	Planning Commission GNP	
1955/56	9.1321	—	234.2075	—	—242.3396
1956/57	1.1191	—	2.6135	—	—2.7326
1958/59	2.0262	—	12.7813	—	—13.8074
1959/60	1.0435	1.4080	3.2190	2.8546	—3.2626

Note: The rates for 1957/58 are not shown. Since the change in production for that year was negative, the measured rates do not have their normal meaning.

The resulting estimates (Table V) show very high rates of consumption liberalization for all the years. Since production remained more or less stagnant, this required a corresponding contraction of exports. Thus, the rate of export expansion is shown as negative and large in absolute value. The rates for the terminal year have again been calculated on the basis of both C.S.O.

and Planning-Commission estimates of national income. As can be seen from Table V, the two measures differ only slightly.

SUMMARY AND CONCLUSIONS

If the expansion of domestic production of a commodity aims only at import substitution, such expansion need be no greater than the increase in normal absorption less the change in imports. If domestic production expands beyond this level (without a corresponding increase in exports) domestic consumption can be said to have been liberalized. Likewise, in the case of an export good, consumption liberalization occurs when domestic production expands beyond the increase in normal absorption plus the change in exports (without a corresponding decrease in imports).

In either case, there is a diversion of resources away from the output of investment goods, exports or other import substitutes, with a corresponding shortfall of domestic saving. Thus, the ability of the economy to increase investment and the rate of growth or to reduce its dependence on foreign finance is to that extent retarded.

The findings of the present study reveal very substantial liberalization of domestic consumption for the five commodities studied. Moreover, from these cases, we can distinguish several types of interrelationships among production, imports and exports that can be associated with consumption liberalization.

Cotton cloth and sugar represent, perhaps, the classic case, with increased production permitting an evolution from dependence on imports to modest export surplus. The fact that domestic absorption rose abnormally, however, means that the export surplus was less than it would otherwise have been.

In the case of cigarettes, imports and exports were negligible or nil throughout the period studied. Some import substitution occurred because normal absorption would have required rising imports in the absence of any increase in domestic production. But domestic production increased far beyond this requirement to permit a very great liberalization of consumption.

Imports of paper actually increased over the entire period by more tanh the rise in normal absorption, *i.e.*, import substitution was negative. Since the rise in domestic production just matched the rise in normal absorption, consumption liberalization was just equal to the rise in imports.

Finally, in the case of tea, imports were negligible and the rise in domestic production was not very great. Accordingly, consumption liberalization was roughly matched by the decline of exports.

The fact that actual consumption of each of these commodities rose faster than the stipulated normal rate needs explanation. Our estimate of normal absorption is based on what we consider to be normal consumer behaviour (given the planned consumption constraints, population growth, per-capita income change and income elasticities reflecting consumer preferences). Why did actual consumer behaviour greatly deviate from this norm?

The high degree of protection that precedes the process of import substitution usually allows (probably induces) an excessive concentration of investment in the protected industries. Once the capacity is created (export possibilities being nonexistent or unexplored) the tendency is to utilize the capacity by inducing domestic consumption through sales promotion, as well as pressures to keep taxes and other constraints on the consumption of these goods at a minimum.

Moreover, an automatic "decontrol" of consumption takes place as the process of import substitution goes on. In an economy where the only effective control of consumption consists of import licensing, the replacement of imports by domestic production gradually renders such consumption controls ineffective. Thus, domestic absorption of the import-substituting goods is likely to grow at a faster rate than for other goods.

Part of the mechanism producing this result might be the removal of rationing or other direct controls on consumption of the import substitutes. In the absence of direct controls, changes in relative prices would serve a similar purpose.

Consumption of those goods which are not produced domestically (or whose production expands slowly) would continue to be controlled by quantitative import restrictions. The result would be relatively high prices which ration the consumption of these goods. In the protected import-substituting industries, however, output expands much more rapidly (for reasons discussed above) and as a result prices would decline relatively, inducing greater consumption.

The case of the import substitutes considered in this paper closely approximates the above situation. The production of these four commodities (cotton cloth, sugar, cigarettes and paper) increased much more rapidly than national income and, in the aggregate, their growth rate exceeded that of industrial production as well. Moreover, domestic absorption of these commodities increased at a rate so far in excess of the rate of increase of aggregate consumption that no conceivable set of expenditure elasticities could explain the divergence. Correspondingly, as is shown in Table VI, the prices of these four commodities increased at a slower rate than that of the general price level.

TABLE VI

PRICE MOVEMENTS, 1955/56—1959/60

(1951/52—1954/55=100)

Year	General price index	Cotton cloth	Sugar	Cigarettes	Paper	Tea
1955/56	97.30	82.38	91.44	99.44	96.12	139.91
1956/57	126.83	88.21	88.87	107.75	96.12	125.44
1957/58	122.75	97.12	105.51	86.98	97.25	132.89
1958/59	127.16	97.44	122.86	82.11	94.36	140.35
1959/60	134.21	119.86	114.87	80.84	97.52	168.86

Source: I.D.E., *A Measure of Inflation in Pakistan, 1951-60.* (Karachi: Institute of Development Economics, 1961).

In the case of tea (which is an export good and not an import substitute) liberalization was made possible by quantitative restrictions on the volume of exports.

Finally, the divergence between actual and normal absorption may be explained in part by the fact that our estimate of the latter does not take into account the possible effects of shifts in the distribution of population and income as, for example, the shift in favour of the urban sector at the expense of the rural. The fact that in the course of economic development this kind of structural change is likely to create upward pressures on the consumption function, however, only emphasizes more strongly the need for curbing the growth of urban demand for import substitutes.

The question may be asked whether consumption liberalization of the goods considered above meant entirely a substitution of these products for others which became relatively dearer, or, at least partly, an upward shift in the consumption function. If it was only a substitution process arising out of autonomous supply changes then it should be regarded as simply a distortion of the pattern of consumption with no effect on aggregate saving. It might be argued that since per-capita income change over the period was insignificant (slight decline according to C.S.O. and slight increase according to the Planning Commission) the whole process of consumption liberalization should be viewed in this light.

Without claiming to disprove such a contention, two important considerations must be raised against it. While it is true that aggregate consumption per capita could not increase because there was no gain in per-capita income, this is the *ex post* result. But what is crucial for the growth effort is instead the *ex ante* propensities to save and consume. One could equally well argue

that the stagnation in per-capita income itself was due to a high propensity to consume in the first instance. And it is quite plausible that the high propensity to consume was at least partly due to the emphasis on import substitution with its consequent consumption liberalization.

Moreover, a process of pure substitution would presumably require the tightening of constraints on the consumption of other goods (*via* taxes or stricter import licensing) as constraints on the consumption of import substitutes diminished with increased domestic production. Since there is no evidence of this, the presumption is that the liberalization of consumption of import substitutes meant a liberalization of consumption in general[11].

[11]For a comprehensive analysis of the effects of import-substitution policy on growth, *see*, J. H. Power "Industrialization in Pakistan: A case of frustrated take-off?" in this issue of *Development Review*, pp. 191-207.

Appendix A

TABLE A-I

COTTON CLOTH

(in thousand yards)

Year	Production	Import	Export	Domestic absorption	Normal absorption		Liberalized absorption	
					C.S.O. national income	Planning Commission G.N.P.	C.S.O. national income	Planning Commission G.N.P.
Average annual								
1951/52—1954/55	261,733	107,263	501	368,495	368,495	368,495	—	—
1955/56	482,867	69,944	2,752	550,059	367,381	—	173,678	—
1956/57	521,781	13,488	15,464	519,805	398,841	—	120,964	—
1957/58	555,755	3,511	3,987	555,279	402,671	—	152,608	—
1958/59	598,050	1,648	8,146	591,552	400,722	—	190,830	—
1959/60	607,235	4,271	35,476	576,030	415,998	430,909	160,030	145,130

TABLE A-II

SUGAR

(*in tons*)

Year	Production	Import	Export	Domestic absorption	Normal absorption				Liberalized absorption	
					C.S.O. national income		Planning Commission G.N.P.		C.S.O. national income	
					Measure A	Measure B	Measure A	Measure B	Measure A	Measure B
Average annual 1952/53—1954/55	80,303	19,148	—	99,451	99,451	99,451	99,451	99,451	—	—
1955/56	103,576	39,598	—	143,174	99,476	97,352	—	—	43,698	45,822
1956/57	107,799	25,938	—	133,737	106,117	106,246	—	—	27,620	27,491
1957/58	157,352	37,247	—	194,599	106,911	106,295	—	—	87,688	88,304
1958/59	169,094	13,060	422	181,732	105,892	103,574	—	—	75,840	78,158
1959/60	144,576	13	3,028	141,561	110,251	108,957	115,004	116,133	31,310	32,604

Liberalized absorption (Planning-Commission GNP) for 1959/60:
Measure A : 26,557
Measure B : 25,428

TABLE A-III

CIGARETTES

(in million cigarettes)

Year	Production	Import	Domestic absorption	Normal absorption		Liberalized absorption	
				C.S.O. national income	Planning Commission GNP	C.S.O. national income	Planning Commission GNP
Average 1951/52—1954/55	3,860	33	3,893	3,893	3,893	—	—
1955/56	5,038	1	5,039	3,944	—	1,095	—
1956/57	5,903	21	5,924	4,196	—	1,728	—
1957/58	6,963	—	6,963	4,258	—	2,705	—
1958/59	8,142	1	8,143	4,198	—	3,945	—
1959/60	9,275	1	9,276	4,366	4,540	4,910	4,736

TABLE A-IV

PAPER

(in tons)

Year	Production	Import	Domestic absorption	Normal domestic absorption		Liberalized absorption	
				C.S.O. national income	Planning Commission G.N.P.	C.S.O. national income	Planning Commission G.N.P.
Average 1951/52—1954/55	6,363	9,934	16,297	16,297	16,297	—	—
1955-56	21,590	8,467	30,057	15,934	—	14,123	—
1956/57	24,398	7,863	32,261	17,541	—	14,720	—
1957/58	23,752	9,265	33,017	17,503	—	15,514	—
1958/59	19,112	5,142	24,254	16,952	—	7,302	—
1959/60	17,813	14,753	32,566	17,903	19,187	14,663	13,379

TABLE A-V

TEA

(in thousand pounds)

Year	Production	Import	Export	Actual absorption	Normal absorption		Liberalized absorption	
					C.S.O. national income	Planning Commission G.N.P.	C.S.O. national income	Planning Commission G.N.P.
Average 1951/52—1954/55	52,576	605	26,927	26,254	26,254	26,254	—	—
1955/56	52,629	450	14,083	38,996	26,583	—	12,413	—
1956/57	54,734	276	21,030	33,980	28,340	—	5,640	—
1957/58	44,300	271	8,357	36,414	28,559	—	7,855	—
1958/59	53,760	181	10,579	43,362	28,229	—	15,133	—
1959/60	56,000	233	15,756	40,477	29,455	30,703	11,022	9,774

APPENDIX B

Per-Capita Normal Aggregate Consumption Measured from C.S.O. National Income

Table B-I shows the calculation of per-capita normal aggregate consumption on the basis of C.S.O. national income.

TABLE B-I

Year	Constant price national income	Population obtained by interpolation	Constant price per-capita income ($\bar{Y}$)	Constant price per-capita national consumption ($\bar{C}$)
	(1)	(2)	(3)	(4)
1951/52	18,522	77,463	239.11	
1952/53	18,761	79,121	237.12	
1953/54	19,727	80,814	244.10	
1954/55	20,064	82,543	243.07	
			average = 240.85	average = 228.81
1955/56	19,586	84,309	232.31	220.69
1956/57	20,882	86,113	242.50	229.88
1957/58	21,011	87,956	238.88	226.94
1958/59	20,850	89,838	232.08	220.48
1959/60	21,683	91,761	236.30	224.49

Note: national income in million rupees; population in thousands; per-capita income and per-capita national consumption in rupees.

The method of calculation is as follows:

Column (1) is taken from C.S.O., *Statistical Yearbook, 1962*, p. 226. These are in constant (1949/53) prices.

Column (2) is calculated on the basis of annual population growth rate of 2.14 between the years 1951/52 and 1961/62.

Column (3) = Column (1) ÷ Column (2)

Column (4) is obtained by using the following formula: where

$\bar{Y}_t \geq \bar{Y}_o$ we use $\bar{C}_t = C_o \bar{Y}_o + 0.65 (\bar{Y}_t - \bar{Y}_o)$ and where $\bar{Y}_t < \bar{Y}_o$ we use $\bar{C}_t = C_o \bar{Y}_t$. For explanation and meaning of the symbols, *see*, Statistical Methodology on pages 211-213.

Per-Capita Normal Aggregate Consumption (For 1959/60) Measured from Planning Commission GNP

Using our population estimates and the Planning Commission's GNP estimates (taken from Planning Commission, *Revised Estimates of Second Plan*, p. 30) we have per-capita income in constant (1949/53) prices:

1954/55	—	Rs. 250.41
1959/60	—	Rs. 255.45

Such estimates for the other three base years (1951/52 through 1953/54) are not available. We, therefore, estimate the annual average per-capita income during the base period (1951/52 through 1954/55) as follows:

According to the C.S.O. estimates, annual average per capita income during the base period is 0.9909 of that in 1954/55. Assuming that the same ratio holds for the Planning-Commission estimates, we have base period per-capita income (annual average) according to the Planning-Commission estimates as: 0.9909 of 250.41 = Rs. 248.13.

Per-capita normal aggregate consumption for the year 1959/60 is then found by applying the formula used in calculating Column (4) of supporting Table B-I.

Sources of Data

i) Production figures are taken from the sources noted below against the names of the commodities:

Cotton cloth:	C.S.O. *Monthly Bulletins*
Sugar:	-do-
Cigarettes:	-do-
Tea:	Ministry of Food and Agriculture, *Crops, Vegetables and Fruits in Pakistan, 1959* (For 1952/53 through 1957/58); *Report of the Economic Appraisal Commission, 1952* (For 1951/52); C.S.O. *Monthly Bulletin*, October 1960 (For 1958/60).
Paper:	C.S.O. *Monthly Bulletin*; Institute of Development Economics (I.D.E.), *A Measure of Inflation in Pakistan, 1951-1960*, Monograph 4, 1961.

ii) Import data are taken from the following sources:

Cotton cloth and tea:	*C.S.O. Statistical Yearbook, 1962*
Sugar, cigarettes and paper:	Unpublished C.S.O. data

All export data are taken from *C.S.O. Statistical Yearbook, 1962.*

iii) All prices are taken from *A Measure of Inflation in Pakistan, op. cit.*

iv) Expenditure elasticities for Pakistan are those calculated by Dr. Christoph Beringer, Research Adviser at the Institute of Development Economics on the basis of a subsample drawn from the National Sample Survey (West Pakistan, Rural).

Expenditure elasticities for India are taken from the following publications:

a) Indian Statistical Institute, *Studies on Consumer Behaviour, 1960.*

b) National Council of Applied Economic Research, *Long Term Projection of Demand for and Supply of Selected Agricultural Commodities, 1962.*