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Internal Adjustments to External Shocks in Developing Countries during the 1980s.

by

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Section I. <u>The Setting of the Problem.</u>

1. The 1980s so far has been a decade of disappointing economic performance, <u>both</u> in the South and in the North. The momentum of industrial growth, measured by the index of manufacturing value added, has markedly slowed down in the global economy, compared to the statistical "trend rate" of industrial growth of the 1970s. Thus, the average percentage growth rate in manufacturing value added was 6.2 per cent in the South as a whole during 1970-79, which has markedly declined to an average of only 2.5 per cent during 1980-85. A similar statistical picture also emerges for the North: its average manufacturing growth of about 3.8 percent during 1970-79, dramatically fell to an average of about 2.1 per cent during 1980-85.[1] In short, the growth rate of the manufacturing sector declined by 1.7 percentage points in the North, accounting for a 45 percent decrease in its average growth rate from the 1970s. In the South, the decline was steeper at 3.7 percentage points, which accounted for 60 per cent fall from the average growth rate of the 1970s.

2. Allthough in recent years the global economy presents this uniformly bleak picture of sluggish industrial growth in <u>both</u> the North and the South, the underlying causes and events contributing to slower industrial growth have been divergent. It is typically suggested that in the North, a general tendency to resort to restrictive monetary and fiscal policies, often induced by persisting fear of inflation and labour market rigidities have contributed greatly to poor economic performance. Allthough many countries of the South, especially in Latin America, have also pursued restrictive monetary and fiscal policies in resent years and almost chronically face the problem of inflation, their policy stances have largely been a <u>consequence</u> (e.g, pursual of "austarity measures" advised by the I.M.F.), more in the nature of internal adjustment to economic shocks emanating from the external environment. Thus, <u>apparently similar</u> economic policies eg, restrictive monetary and/or fiscal policies have often been pursned with quite

diff:rent aims in view, in the North and in the South. In many northern countries, such policies were tried in the first half of the 1980s to increase the scope of the private sector and private initiative in economic management, to contain inflation and, to reduce labour market rigidities. In contrast, restrictive monetary and fiscal policies, almost in every country of Latin America since 1982 was part of an "austerity programme" imposed by the need to service external debt in accordance with received doctrines from the I.M.F.

3. While in general restrictive economic policies were motivated by somewhat different circumstances in the North and in the South, there is an additional dimension to the problem which is of special concern. It is the issue of economic interdependence of an asymmetrical nature:the restrictive policies of the North have often generated and transmitted severe negative, external economic shocks to the South. In consequence, there has been internal or domestic adjustments in the South in response to such external shocks which has typically depressed their level of economic activity. The asymmetrical nature of the relationship arises from the fact that, while the North actively pursued a restrictive economic policy for reasons of its own economic objectives, the South in most cases passively responded to it by pursuing restrictive economic policies in various forms. Indeed, in relative quantitative Terms. this burden of r'justment seems to have been disproportionately heavier on the South. Thus, gross domestic product per capita in the North rose by 8 per cent between 1980 and 1985; in contrast and, also given the higher population growth, per capita GDP rose by a negligible 0.5 per cent in the same five years in the South. In Africa, GDP per head actually fell by 11 per cent, In Latin America and the Caribbean by 7.5 per cent and, in the Middle East by a massive 19.2 per cent.[2] Only South Asia and China did not deviate significantly from their "trend rate" of growth, whereas South East Asia recorded the highest rate of industrial growth among developing countries, averaging around 10.2 per cent for 1980-85.[3]

4. Even from this cursory excursion to data, it should be abundantly clear that the impact of a similar set of external shocks tended to be very unevenly distributed among the developing countries in terms of their internal adjustment processes in the industrial sector. The reasons for this uneven impact can be analysed under three separate aspects: (a) geographical and locational effect (b) asymmetry in the composition of foreign trade effect and, (c) the transmission mechanism of the external shock. Each of these aspects deserves some elaboration to concretise the underlying economic processes.

5. Geographical and locational effect: Usually the external shock eg. decline in world trade is not uniformly distributed among regions, even for the same commodity. The main reasons why the extent of such external shocks varies from region to region are threefold. First, locational factors including transport and shipping cost consideration places countries or regions at relative advantage over time, depending on the nature of the product-cycles in international trade. Second, traditional historical/colonial ties among regions make them especially sensitive to the economic performance of the dominant or leading country in the region (e.g, the U.S. in the Americas, Japan in South East and the Pacific region etc.). Thus, part of the difference explaining uneven impact of an external shock arises from the strength or weakness in economic performance of the leading/dominant country of the region. Finally, in the 1980s, the geographical effect also operated in a rather special way in terms of commercial credit from international banks. Both because of the procedure of "sovereign risk" calculation as well as the nature of syndicated lending by banks, regions or several countries in the same region often tended to be lumped together by banks for lending purposes. Thus, during the massive "recycling" phase of the 1970s, without sufficiently finer distinction many central and Latin American countries were more or less uniformly considered creditworthy by banks. Obversely, the initial fear of default by Mexico in 1982 clouded the climate of availability of external loans for many Latin American countries in the region, almost irrespective of their then-existing credit-rating. According to

some commentators, a similar tendency by banks to lump together
several countries of East Europe occured, following the surfacing
of the Polish debt crisis. This regional grouping of several
countries together in terms of international commercial credit-
worthiness particularly following a crisis, has come to be known
as the "contagion effect" in the banking literature. This "conta-
gion effect" has been an important geographical or locational factor
in the 1980s which has further contributed to the uneven impact
of external shocks on developing countries in their industriali-
zation process.

6. Asymmetry in the composition of foreign trade: Since
export of less processed raw material and primary products continue
to be the main source of export revenue for developing countries
as a whole, a general movement in the terms of trade against primary
products would constitute an unfavourable external shock to the
South. Nevertheless, when disaggregated by regions or countries,
this effect is considerably more complex. For instance, some in-
dividual, newly industrializing countries in particular are often
net importers of a wide range of primary products. Consequently,
a movement in the terms of trade against such primary products
may actually turn out to be favourable for them on two distinct
counts. On the one hand, they gain from cheaper, imported raw
material cost and on the other, their export markets being mostly
in the North, is not unfavourably affected by such adverse movement
in the terms of trade against primary products. Thus, at least
in part, this asymmetrical effect of the terms of trade movement
on individual developing countries is also a reflection of the re-
latively low, quantitative importance of South-South trade.[4] This
type of compositional asymmetry is probably most strikingly brought
out in the case of energy/oil trade. Decline in oil price in recent
years posed an acute negative external shock for oil-exporters in
the OPEC as well as for countries like Mexico. But at the same time,
this was a positive external stimulus to heary net oil importers,
especially countries like South Korea and Brazil. Thus, the two
major external debtors of the South - Brazil and Mexico - were

pushed at opposite sides of their foreign debt servicing problem. Between 1984 and 1985, export revenue from oil fell by 1.9 billions dollars for Mexico and it was projected to fall by another 1.5 billion dollars between 1985 and 1986. In contrast, Brazil saved 0.7 billion dollars on its oil import bill between 1984 and 1985 and is expected to save another 0.5 billion dollars during 1986.[5] Such contrary effects of the terms of trade movement on individual developing countries have been another important source of the differtial impact of external shocks on developing countries and regions. Indeed, as the case of oil price illustrates, what constitutes a negative external shock for some developing countries may provide positive economic stimulus to others.

7. **The transmission mechanism of external shock:**An external shock is not transmitted to the domestic economy in the same manner in all developing countries. At one level, this is a mere reflection of the fact that the South consist- of a very heterogeneous group of countries with different economic structures and initial conditions. However, at another level, these differences in the transmission mechanism of external shocks permits one to analyse how developing countries differ in terms of their vulnerability to changes in the external economic environment. Concentrating on the immediate, short-term or "first round" effect, one can analytically distinguish among <u>three types of vulnerability to external shocks</u> namely.

    (a) Vulnerability of the <u>financial</u> structure
    (b) Vulnerability of the <u>pattern of trade</u>
    (c) Vulnerability of the domestic
        <u>industrial</u> structure.

For further conceptual clarity, it is necessary to examine the underlying economic factors on which the above typology of external vulnerability is based.

8. **Financial vulnerability** is statistically reflected on two counts. It can be statistically captured broadly through the <u>capital accounts</u> and the net <u>factor payments</u> of the current

(invisible) account of the balance of payments. In other words, the entire array of international transactions, ignoring only trade in goods and services (of the current account), are relevant for judging the extent of financial vulnerability of a developing country.[6]

Allthough traditional discussions have mostly dwelt on trade openness centering around the question of the relative merits and demerits of free trade vs. protectionism or export promotion vs. import substitution[7], the experiences of the 1930s, especially in Latin America, abundantly make clear that such traditional discussions miss a very important dimension of the problem. The degree of openness of the capital and foreign exchange market, or international financial openness in short, has been a crucial element in defining financial vulnerability expecially in situations of rapidly changing economic expectations. Thus, expectations of national currency devaluation in a situation of financial openness can make the economy exceptionally vulnerable through capital flights, which feed on itself by strengthening speculation of further devaluation and more capital flights. Existing estimates suggest that at least one out of every three dollars of gross external borrowing by eight major external debtors among the developing countries, went out during the period 1974-82 as capital flight.[8]

The financial vulnerability of a country due to capital flights assumes special significance when the level of external debt as "initial condition" tends to become higher in relation to export revenue. Because, the requirements of servicing the debt in terms of interest payments and ammortization introduce a high degree of inflexibility in the international payments position of the country. The manoeuvrability is further reduced as the percentage of floating-rate loan in total loan increases or the maturity periods of loans get shortened. The transmission mechanism of an external shock operating through the financial vulnerability of a country can lead to a vicious circle of cumulative disequilibrium in these circumstances. A sudden rise in the

rate of interest (on external debt) or deterioration in the terms
of trade immediately manifests itself in the worsening of the
current account of the balance of payments due to corresponding
increase of debt servicing requirement of a highly indebted
country. The already inflexible international payments position
sets up speculation of currency devaluation and induces capital
flights. This, in turn, further weakens the international payments
position, often forcing such a country to devalue which may en-
courage another round of destabilizing speculation about further
devaluation of the currency and, in this manner, keep the foreign
exchange market in a state of cumulative disequilibrium. Therefore,
for examining the issue of the exchange rate policy in the course
of internal adjustment to external shocks during the 1980s, it is
necessary not only to consider the "trade effect" of devaluation,
as for instance captured by the price elasticities of exports and
imports[9], but it is also essential to understand the exchange
rate dynamics induced by the nature of financial vulnerability in
the case of several heavily indebted countries, especially in
Latin America.

It is not always appreciated that the degree of external
financial openness and vulnerability also react back on the in-
ternal financial and credit structure of an economy. For in-
stance, raising the domestic interest rates (on bank deposits)
in an attempt to reduce to the pace of capital flight abroad
may actually aggravate the internal, public debt servicing
problem. Frequently, this may lead to larger government budget
deficit which in turm puts further pressure on the current account
of the balance of payments and leads to more capital flights. In
short, external financial vulnerability and inadequate manoeuvrabi-
lity in international payments position often entails corresponding
lack of manoeuvrability in the domestic or internal financial
structure, reducing the effectiveness of domestic monetary policies
in internal adjustments to external shocks.

9. Vulnerability of the pattern of trade. There are at least
two aspects to vulnerability arising from the pattern of trade that

need to be distinguished in the present context. Its one aspect is the <u>commodity composition</u> of trade by imports and exports, whereas its other aspect is the <u>spatial pattern of trade</u> by origin (for imports) and destination (for exports). For examining the transmission of an external shock to the domestic economy, it is conceptually helpful to consider the relative price or terms of trade effect as linked to the commodity composition of trade. In sofar as the index of import price rises relative to the index of export price, the commodity composition must entail a negative <u>price effect</u>. Although as a rule of thumb, both the quantitative importance of primary products in total exports as well as the lack of diversification of exported commodities would be positively related to trade vulnerability arising from adverse price or terms of trade effect, the more difficult question is the <u>income effect</u> embedded in international trade relations. Differently put, this "income effect" is the resultant of a whole array of factors which determine the behaviour of export volume of a developing country in relation to income change in the "rest of the world", especially in developed countries. Thus, when the income in the developed countries (as "destination" of trade) grow, the export volume in a developing country (as "origin" of trade) would generally tend to be higher (lower) in accordance with the following five factors[10] :-

(i) The greater (smaller) is the share of the developing country in the market for a commodity in developed countries.

(ii) The lower (higher) the elasticity of substitution between competing products in the market.

(iii) The higher (lower) the income elasticity of demand for a product.

(iv) The lower (higher) the elasticity of supply of rival countries and products.

(v) The greater (smaller) the elasticity of supply of the product of the exporting country.

It should be clear from the above that, the five factors enumerated above as well as the related values of the parameters

would vary both from product to product as well as from country
to country. For instance, the elasticity of substitution among
competing products (see (ii) above) may depend both on the parti-
cular product as well as an considerations of transport and shipping
cost related to the location of trade rivals. Consequently, vul-
nerab_lity in terms of the volume of trade captured by the strength
of the "income effect" (i.e, how the export level of a developing
country is influenced by income change in developed countries)
depend <u>both</u> on the commodity composition as well as on the spatial
pattern of trade.

10. <u>Vulnerability of the domestic industrial structure</u> can
be analytically separated into considerations on the supply- and
on the demand-side respectively. The <u>supply-side vulnerability</u>
to an external shock leading to import squeeze, depends most
crucially on the degree of vertical integration of the domestic
industrial structure. The product of an industry can be considered
absolutely "basic", if it enters either directly or indirectly in
the production of all other industries.[11] By definition then,
such an industry is "basic" as a direct or indirect provider of
raw material to other industries. In the case of basic or nearly
basic industries, having high indices of "forward linkage" (e.g,
power, transport, steel, heavy chemicals, to mention a few typical
cases), it is essential to maintain supply at the required level,
so that other user industries of their products do not suffer.
Therefore, the industrial structure becomes highly vulnerable on
the supply-side when, basic or nearly basic industries with high
indices of forward linkage also have a high ratio of import to
domestic output. Because, in this case an import squeeze can trigger
off a chain reaction of lower supplies in many other industries
due to the crucial supply bottleneck in that basic, raw-material-
supplying industry. Indeed, the term "import strangulation" has
been coined by some Latin American economists in recent years
to emphasise this type of situations. In such situations, lowering
of import in a basic (i.e, high forward linkage) industry leads
to small saving in foreign exchange but much larger reduction in
the outputs of other industries through the supply-side chain reac-
tion mentioned above and frequently, ultimately to a disproportionate

increase in the import bill. In short, developing countries having industries with high forward linkages which depend crucially on import to maintain their production and supply, can be said to have vulnerable domestic industrial structure from the supply side.

High backward linkage of an industry on the other hand captures its importance as a demander from other industries in an interindustrial context. A high share of import to domestic output of such highly backward - linkaged industries implies corresponding leakage of interindustrial demand. When a highly backward, linkaged industry has to cut down production due to (say) squeeze of imported raw material, it may also set off a chain reaction of shrinking demand faced by other industries which supply to it.[12] In this sense, highly forward and backward linkaged industries are mirror images of each other, showing possibilities of inter-industrial chain reactions from the supply- and the demand-side respectively.

However, the   and side effect cannot be adequately appreciated unless   demands (in contrast to interindustrial demand) are also broug   into consideration. The most important possibilities here are twofold. First, a fall in final consumption in response to an external shock; when this involves essential goods like food, this can have disastrous welfare consequences and such a process of internal adjustment to external shock can be most painful in terms of loss of welfare. Second, and more complex, is the case of a fall in final investment due to external shock. This not only reduces the long-term rate of creation of productive capacity in the economy, but even in the short run, a reduction in the domestic investment level, say due to the in-ability to import crucial complementary machinery and equipment needed for carrying out investment, may set up through the "multi-lier mechanism" severely binding constraint on the level of domestic demand. A domestic industrial structure which can support domestic investment only by allowing crucial complementary capital goods imports (e.g, an underdeveloped domestic capital goods sector) thus

become vulnerable from the demand side even in the short run in
the case of an external shock. In addition, it would also be
vulnerable in the longer run from the supply side in so far as
the rate of expansion of productive capacity in an economy is
largely determined by the rate of investment over time. However,
insofar as investment continues to be sluggish tue to lack ot
complementary import of capital goods, the lower investment
generates lower effective demand and lower industrial capacity
utilization through the "multiplier mechanism" in the short
run. Lower capacity utilization, in turn, tends to depress in-
vestment further through the "accelerator mechanism" and thus,
slows down capacity creation in the longer run. In this way,
complex interaction takes place between the short term demand-
side effect and the longer term supply-side effect. Therefore,
in the course of an actual internal adjustment process to the
external shcck, it may become impossible to separate either the
demand-side from the supply-side effect or the short-run from
the longer run consequences. And yet, it is essential to make
these conceptual distinctions in order to provide any analytical
description of the process of internal adjustment in a developing
economy to external shocks.

Section II. <u>Some Analytical Issues in Internal Adjustments.</u>

11. The distinction among <u>financial</u>, <u>trade</u> and <u>industrial</u>
<u>vulnerabilities</u> of a developing country to external shocks made
in the last section is at best a first-order approximation. Such
a classification intends to characterise the transmission mechanism
of an external shock and, thus captures only the immediate, <u>short-</u>
<u>run</u> route by which external shock is transmitted to the domestic
economy. It needs to be emphasised however that, once the shock
is transmitted, its impact manifests itself ex post in the <u>same</u>
manner in the case of all three types of vunerability distinguished
above namely, it results in a further tightening of the balance
of payments or foreign exchange constraint. In short, financial,
trade and industrial vulnerability can be thought of as different
"causes" or illnesses producing the same "effect" or symptom in
terms of deterioration in the foreign exchange position of a deve-
loping county.

12. Depending on its particular circumstances, history and
initial conditions, each developing country will try to cope with
its worsened balance of payments problem in a specific way. Neverthe-
less, in this very process of coping with the payments problem,
there may result a <u>general feature of transition from one type of</u>
<u>vulnerability to another type of vulnerability</u> in the developing
country. Consider, for example, a country which is initially
financially vunerable due to its heavy external indebtedness
and becomes subject to a negative external shock through higher
debt servicing cost. If the country pays for this higher service
cost of external debt by reducing domestic industrial investment
over several periods in successive short-term adjustments, then
the cumulative, longer-term effect of such internal adjustment
may turn out to be a weak and unbalanced industrial structure.
Although the initial external shock was transmitted in this case
through the <u>financial</u> vulnerability of the country, the longer run
effect of internal adjustment results in greater <u>industrial</u>
vulnerability of the country. Therefore, a useful analytical
characterisation of internal adjustments in all such cases would
be the nature of <u>transition</u> from one type of vulnerability to

another which accompanies the process of internal adjustments.
In this context, it may not be at all beside the point to examine
the cases of some of the heavily indebted Latin American countries,
whose acute financial vulnerability of the early 1980s has also
led them to greater industrial vulnerability by mid-1980s.

13. Although typically a developing country would suffer
on account of financial, trade as well as industrial vulnerability
in an unfavourable external environment, the possibility of one
type of vulnerability <u>dominating</u> at one point of time and another
type dominating at a different point of time,[13] as well as the
possibility of transition from one type to the other, suggest a
somewhat different way of looking <u>at the industrial strategies and
policies</u> in developing countries. First, the choice between <u>import-
substituting</u> and "inward-looking" vs. <u>export-promoting</u> and "outward-
looking" industrial strategies may often be motivated by the general
attitudes of the policy makers in a developing country to vul-
nerability to external shocks.[14] The design of an import-substi-
tuting policy with greater relaince on the domestic market often
stems from an attempt to reduce the degree of trade and industrial
vunerability in particular in large economies (e.g, India, China)
even if it means some degree of economic inefficiency in the domestic
industries due to lack of external competition. Similarly, the
pace of industrialization insofar as it is governed by degree
of reliance on outside commercial borrowing is determined, to
some extent, by the attitude of the policy makers to financial
vulnerability in a developing country.

14. The problem of characterising industrial strategies
and policies however become far more complex, once it is recog-
nized that such strategies as well as policy responses to external
shocks are <u>processes</u> over time. Consequently, there is almost al-
ways a <u>trade-off</u> involving the short-term and the long-term aspect
of the process. As an illustration of this point, one can see
how experiences among the developing countries varied in this
respect, particularly during the 1980s. Many of the major Latin
American debtors (e.g, Mexico and Brazil) chose a strategy of

short-term financial vulnerability in order to reduce longer-
term industrial and perhaps, trade vulnerability by launching
on long-term industrial development programmes, heavily financed
by international commercial borrowing with high and floating
interest rates and short naturity of loans. In pursuing this
strategy, there was an implied trade-off between greater exposure
to financial vulnerability in the shorter run in order to attain
a more powerful industrial structure with a more developed domestic
capital goods sector in particular in the longer run, which would
reduce the degree of vulnerability of the domestic industrial
structure to external shocks. This strategy of transition to a
lower industrial vulnerability in the longer-run has not been so
successful (especially in the case of Mexico), because the process
of transition was interrupted by acceptance of high exposure to
financial vulnerability in the short-run, which ultimately preci-
pitated an unmanagable debt crisis and massive reverse transfer
of financial resources from Latin America (Table 2, Appendix) that
brought the very process of economic growth and industrialization
to a halt in Latin America (Table 3, Appendix).

15. Although the strategy of high exposure to short-term
financial vulnerability in an attempt to reduce longer-term in-
dustrial (and trade) vulnerability has not been quite successful
in most countries of Latin America, a similar strategy seem to
have been far more effective at least in the case of some of the
more successful export-promoting countries of South East Asia
(especially, Taiwan, South Korea, Singapore and Hong Kong). At
least four factors have been identified by several researchers
to partly explain this contrasting experience: -
(a) Difference in domestic wage policy[15)]
(b) Difference in the policy of international financial openness -
Latin American countries having been far more prone to capital
flight compared to the South East Asian countries (see Table 1,
Appendix).
(c) Contrast in exchange rate policy - while most countries of Latin
America have undergone successive rounds of massive devaluation of
their currencies in recent years, the currencies of these South East

Asian countries have been largely stable and according to some
opinion, heavily undervalued in terms of the U.S. dollar. (Between
February, 1985 and December, 1986 the Japanese yen and the D-mark
rose between 60-70 % against the dollar. In contrast, the Hong-
Kong dollar has been pegged since 1983; Taiwan and South Korea
had managed float with Korean won actually falling by 2 % against
the dollar whereas, the New Taiwan dollar has risen by only 9 %
against the dollar.)[16] In contrast, it is widely believed that
many of the Latin American countries tried to maintain overvalued
currencies until the debt-crisis of the early 1980s forced them
to drastically devalue.

(d) Finally, both the role of the state as well as the geographical
and locational effect[17] (especially proximity to Japan in the case
of South East Asian countries) have operated in radically different
manner in shaping the contrasting experiences of the two regions.
Perhaps the main analytical lesson to be drawn from these under-
lying elements contributing to the contrasting experiences of the
two regions is the importance of monoeuvrability in terms of in-
ternal adjustment processes, even when two regions or countries
follow somewhat similar strategies of high exposure to short-term
financial vulnerability (as in South Korea and Latin America) in
order to achieve stronger industrial base in the longer-run. When
internal adjustment responses are devoid of considerable flexibi-
lity in terms of wage policy, exchange rate policy and capital
market control policy, reliance on strategies characterized by
high short-term financial vulnerability for achieving longer term
objective of industrialization, may be beset with many more dangers
and uncertainties.

16. This issue of the relation between exposure to short-term
financial vulnerability and reduction in the vulnerability of the
domestic industrial structure in the longer run can be analytically
captured by means of a simple diagram. In Diagram 1 we measure the
growth rate of the industrial (manufacturing) sector on the
horizontal and the balance of trade position on the vertical axis.
In the short-run, any attempt to push up the rate of growth of

DIAGRAM 1
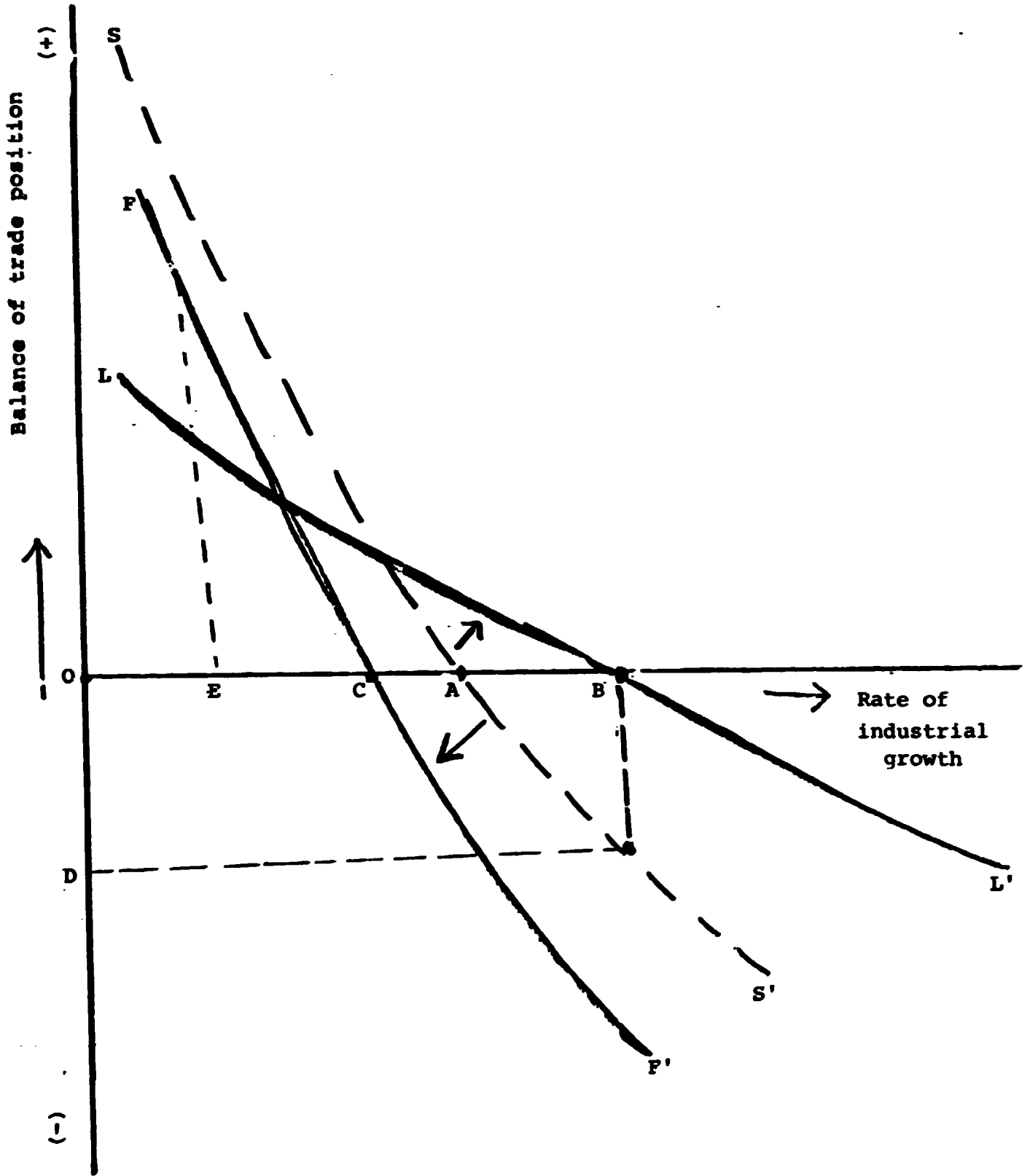
capacity creation and utilization in the manufacturing sector of
a developing economy would typically mean larger import bill of
capital and intermediate goods[18] and,this would tend to worsen
the balance of trade position. This short-run inverse relations-
ship between the rate of industrial growth and the balance ot
trade position is exhibited by the SS'-curve, where the trade
balance is in deficit for all attempts to push up the growth
rate beyond OA. However, if the industrial growth rate is sustained
at a sufficiently high rate of say OB and,the corresponding deficit
in the balance of trade OD is met through commercial borrowing
abroad, the economy would, in the longer run, be in a better po-
sition to maintain the same growth rate OB with no trade deficit.
Because, the more well-developed industrial structure e.g, develop-
ment of domestic capital goods industries,will substitute for
imports, wheras export promotion of manufactured goods may also
relieve the pressure on the balance of trade. This longer-run
position corresponding to a less vulnerable industrial structure
is shown by the curve LL'. It is obtainable through a gradual
process of the shift of the short-term curve ss' by maintaining
high growth at OB through foreign borrowing and high exposure
to financial vulnerability in the short-run. However, a negative
external shock like higher interest rate or unfavourable movement
in the terms of trade may be so powerfully transmitted through
this financially vulnerable situation of the economy that this
strategy of attaining lower industrial vulnerability in the longer-
run (represented by LL') collapses. Thus, instead of the short-
run curve SS' shifting to the long-run intended position LL', it
actually shifts to FF', where the economy is both financially
and industrially more vulnerable. Therefore, the economic success
of internal adjustment to external shock can largely be judged
by the ability of the economy to continue moving towards its long-
term intended position (LL' in Diagram 1) from its existing short-
period position (SS' in Diagramm 1) despite external shocks. In
case the direction of movement towards the long-term position (LL')
is actually reversed (to FF' in Diagramm 1), the economy may be
judged to be unsuccessful in adjusting to external shocks. In case

of such unsuccessful adjustment, the economy may be forced to
reduce its growth to OE (which may even be negative, see Table 3
Appendix), mostly by reducing the degree of industrial capacity
utilization and thus, forcing some net saving of import at a dis-
proportionately high cost of foregone domestic output, employment
and capacity utilization.[19)]

17. In the absence of adequate access to foreign inflow of
capital, any reduction in import capacity due to negative external
shock causes adjustment by reducing industrial output through three
distinct routes (see Appendix, Tables 2,3). On the supply side, it
reduces the rate of capacity expansion by restricting more severely
import of capital goods and equipment. In addition, on the supply
side, it may reduce the degree of capacity utilization caused by
shortage of imported raw materials. How strong this capacity uti-
lization effect from the supply side would be, depends to a large
extent on the degree of vertical integration of the domestic in-
dustrial structure and the degree of dependence of the "basic"
industries on imports.[20)] However, contraction of import capacity
also reduces the ability (and incentive) to invest in an economy
with a weakly developed capital goods sector (as especially in the
case of Africa)[21)]. Consequently, the domestic level of effective
demand is depressed through the multiplier mechanism due to the
lower level of investment. Thus, from the demand side also, there
is a tendency to reduce industrial output when import capacity is
reduced. Therefore, constraints operate both on the supply and
on the demand side as a result of reduced import capacity and,
analytically speaking, the effective or binding constraint may
arise either from the demand or the supply side in particular
situations (see mathematical appendix for elaboration). It
follows that corresponding to each level of import capacity and
its distribution between final and intermediate goods determined
by the level of export and net inflow of foreign capital (i.e,
the "permissible" level of trade deficit), there would be a cer-
tain level of industrial output maintainable in each short period.
(This was captured in Diagram 1 by the short period SS' curve).
In this context, the logic of internal adjustments to external

shocks can be appropriately understood only by examining how the
constraints on the supply and, on the demand side operate in each
particular case. In particular the lack of an adequately developed
domestic capital goods industries restricts the possibility of
domestic investment without complementary import of capital goods
and thus, may set up powerful demand contraints in addition to
other constraints on the supply side due to lack of adequate imports.
Although an inward-- or outward-looking industrial strategy may
influence how import <u>capacity</u> is affected by particular external
shocks in given circumstances, the ultimate response in terms of
internal adjustments in a developing country must depend critically
on how the various constraints from the demand and from the supply
side become effective in determining the level of industrial pro-
duction as import capacity is reduced.

Section III. <u>Policy Considerations Underlying Internal Adjustments</u>.

In recent years, it has become somewhat conventional wisdom
to identify the industrial policies of developing countries as
"inward- or outward-looking" in order to evaluate their internal
response to external shocks.[22] The present paper makes a departure
from this conventional style of analysis by using the notion of
"<u>vulnerability</u>" to external shocks as a central analytical concept.
It is suggested that this concept of vulnerability can be made
operational by examining the <u>mechanism of transmission</u> of an ex-
ternal shock to the domestic economy. There can be three major
transmission routes, classified as <u>vulnerability of the financial</u>,
<u>trade or industrial structure of the domestic economy</u>. From this
point of view, inward- or outward-looking economic policies or in-
dustrial strategies can be understood as choices made by the policy
makers in terms of different combinations of those three types
of vulnerability.

Therefore, a real issue in industrial strategy and policy
formulation has always been the basis of this choice among different
types of vulnerability. In other words, it is necessary to under-
stand how the <u>trade-offs</u> among different types of vulnerability
are conceived by policy makers and how, in reality these trade-offs
may turn out to be very different due to external shocks. Since,
in reality, these trade-offs are not in static terms, but are
<u>processes</u> extending over time, typically there would be <u>short-
period</u> trade-offs in policy formulation for attaining <u>longer term</u>
objectives. External shocks may force a country to respond through
internal adjustment in a manner which <u>deviates</u> from these intended
or planned course of trade-offs.

For many countries in Latin America and also, for some
countries in Asia (e.g, South Korea, Philliphines, Taiwan, Singapore)
a fairly typical strategy until the early 1980s had been to accept
rather high exposure to short-term financial vulnerability through
heavy international concessional or commercial borrowing in order
to attain a more sound industrial structure and lower industrial

and perhaps trade vulnerability in the longer run. However, with
external shocks and the ensuing debt crisis this policy of trading
off short-term higher financial vulnerability for longer-term
lower industrial vulnerability did not work satisfactorily in
most countries of Latin America. In contrast some of the open
economies of South East Asia performed much better. It has been
argued that one aspect of their relative success lies in greater
flexibility of response to external shocks in terms of domestic
wage policy, exchange rate policy as well as policy towards control
over the degree of openness of the financial/capital market. To
the extent this diagnosis is true, it should be recognized that
the strategy of trade off of higher short-term financial vulnerability
for lower industrial (and perhaps) trade vulnerability in the longer
run can be particularly dangerous for countries which donot have
adequate flexibilities in these respects in their internal adjust-
ments in face of external shocks. In short, the choice of an indu-
strial strategy in an uncertain external environment is not merely
a matter of logic, but it crucially depends on the kind and extent
of control that the policy makers can actually exert on the domestic
economy in case of sudden external shocks.

The expost effect of negative external shocks is almost in-
-variably to reduce the import capacity of a developing economy in
one way or another. It has been argued in this paper that such
sudden reduction in import capacity leads to further tightening
of constraints on the level of domestic economic activity, both
from the supply and from the demand side. The severeness of the
supply constraints, in the short run, would depend mostly on the
lack of vertical integration of the domestic industrial structure
and on the dependence of "basic" industries (i.e, especially those
with high forward linkages) on imports. It is not always recognized
however that, the severeness of the demand constraint depends
crucially on the state of development of the domestic capital
goods industries. When, domestic capital goods industries are
especially underdeveloped, especially as in most of Africa, an
import-squeeze also squeezes, often disproportionately, domestic
investment due to lack of availability of complementary, imported

machines and equipment. The consequent multiplier process depresses
the level of effective demand to set up powerful constraint also
from the side of demand. From an analytical point of view therefore,
the correctness of internal adjustments and policy responses to
external shocks must depend, in the first place, in accurately
identifying the nature of the supply or the demand constraint
that sets the barrier to expansion of industrial output in each
specific situation as import capacity falls. In this sense, the
link between lower import capacity and the nature of the binding
constraint has been the main analytical thrust around which much
of the experiences of the 1980s in developing countries can be
understood.

Footnotes

[1] UNIDO. Global Report 1986. p. 93.

[2] Based on IMF sources; quoted from South, January, 1987 p. 39.

[3] Domputed from UNIDO, World Industrial Development Indicators.

[4] According to World Bank data relating to 1985, South-South trade
in raw materials and primary products constitute about 20 % of
total imports and 25-30% of total exports (excluding oil). The
UNIDO Global Report, 1985 calculates that in 1979, import from
South accounted for 25 % of total Southern import; whereas this
figures were higher for agricultural products (37 %), raw
materials (33 %) and energy (33 %), they were considerably lower
for equipment (7 %), processed intermediate products (19 %) and
consumer durables (15 4). These figures confirm the generally
expected pattern that South-South trade is far more restricted
in manufacturing products, for which the Northern market is
of crucial importance.

[5] Sources: Banco de México,   Informe Anual, various issues and,
Boletin do Banco Central, various issues.

[6] These definitions correspond to the classification used by the
I.M.F. e.g, in the International Financial Statistics annual
series.

[7] This traditional emphasis on trade rather than financial open-
ness is to be found in Bela Balassa, "Policy response to
exogenous shocks in developing countries", American Economic
Review (Papers and Proceedings), vol. 76. no. 2; Bela Balassa,
"Adjustment policies in developing countries: a reassessment",
World Development, 1984 vol. 12 no. 9. Balassa's analysis is

fundamentally based on a distinction between" inward-oriented"
and "outward-oriented" policies based upon trade and industria-
lization strategies, with very little discussion of financial
openness.

8) See, M.P. Dooley, W. Helkie, R. Tyron and J. Underwood, "An
analysis of external debt position of eight developing countries
through 1990", Federal Reserve Bcard, International Finance
Discussion Paper 227, Washington, Board of Governors of the
Federal Reserve System, August, 1983; J.T. Cuddington, "Capital
flight: issues, estimates and explanations" (unpublished),
Washington, World Bank, Development Research Department, March,
1985; M.S. Khan and N. ul. Haque, "Foreign borrowing and capital
flight", IMF Staff Papers, December, 1985 vol. 32, no. 4. See
also, Table 1 at the end of this paper for more detailed
estimates of capital flight by countries.

9) It may be recalled that the simplest condition (when supplies
are perfectly elastic) for devaluation to improve trade balance
is given by the so-called Marshall-Lerner condition i.e, the
(absolute values) of the price elasticies of export and of
import for a country must add up to a number greater than
unity.

10) These five factors conform to elementary economic theory. They
also appear in "computable general equilibrium models" of world
trade in the reduced form equations of simultaneous demand and
supply determination for different commodities and regions.

11) In this sense all industries would be "basic" in a strictly in-
decomposable input-output matrix. Contrariwise, when the input-
output table has a triangular structure (as is often empirically
the case, in the case of countries with underdeveloped domestic
industrial structure), a hierarchy of industries in terms of
their degree of vertical integration is implied. Thus, the concept
of "basic" industries becomes a usefully discriminatory concept
when the input-output table has (roughly) triangular structure.

12) E.g, in a triangular input-output table, when outputs of industries placed near the base of the "triangle" are reduced such chain reaction of shrinking interindustrial demand may be pronounced.

13) After all, developing countries differ from the developed ones, generally in terms of their greater vulnerability on all counts to the external economic environment. However, just as in a multiple inequality-constrained system (e.g, in a linear or non-linear programme) a particular constraint (or set of constraints) is binding and dominant at each point of the feasible set, similarly a particular type of vulnerability may be most effective at particular points of time.

14) The analogy with attitude towards risk in traditional analysis in terms of risk-averting vs. risk-taking behaviour is not far to seek.

15) G.S. Fields, "Employment income distribution and economic growth in seven small open economies", Economic Journal, March, 1984.

16) The Economist, London, December 6, 1986, p. 17.

17) See section 5 of this paper for further explanation.

18) It may also cause higher import of consumption goods induced by the higher level of effective demand resulting from higher investment through the multiplier process.

19) See section 10 of this paper on "vulnerability of the domestic industrial structure" for further elaboration of this point.

20) See section 10 for elaboration of these concepts.

21) For instance, fluctuations in import volume have been shown to be statistically related to investment and output growth in sub-Saharan Africa during the 1960s and 1970s e.g, see G.K. Helleiner, "Outward orientation, import instability and African economic growth", in S. Lall and F. Stewart (edited), Theory and Reality in Economic Development, Macmillan, London, 1986.

22) See, for example, Bela Balassa and F. Desmond McCarthy, "Adjustment policies in developing countries, 1979-83: and update", World Bank Staff Working Paper, no. 675, The World Bank, Washington D.C., 1984; F. Yagci, S. Kamin and V. Rosenbaum, "Structural adjustment lending: an evaluation of program design" World Bank Staff Working Paper no. 735, The World Bank, Washington D.C., 1985.

APPENDIX. Statistical Tables

Table 1. <u>Capital outflow as percentage of change in gross external debt in selected developing countries</u> (1974-'82)

	Estimate I[a]	Estimate II[b]
Argentina	62.0	47.0
Brazil	12.2	0
Chile	0	-1.3[c]
Korea, Republic of	17,6	2.0
Mexico	44,4	4C.0
Peru	29.0	11.0
Philippines	19.6	not available
Venezuela	94.4	40.0

(a) estimates based on Dooleya others opcit (1983).

(b) estimates based on Cuddington (1985).

(c) capital inflow

Table 2. <u>Financial resource transfer to and from Latin America</u>
<u>during 1980-85.</u> (in billion U.S. dollars).

Year	Net Capital Inflow	minus	Net Factor Payment	Net Transfer
1980	30		18	12
1981	37.7		27.7	10
1982	19.3		38.4	-19.1
1983	4.2		34.9	-30.7
1984	9.3		37.6	-28.3
1985	5.3		35.3	-30.0

Sources: (i) U.N. Economic Commission for Latin America (CEPAL),
Balance Preliminar de la Economia Latinoamericana durante 1984,
Table 12;
(ii) Panorama Economics de America
        Latina, 1985, Table 2.

Table 3. Economic decline and industrial output change in selected Latin American countries over 1980-85.

Country	Percent change in per capita GDP from 1980/81 peak to 1985.[a]	Change in industrial output[b]			
		1981-82	1983	1984	1985
Brazil	-5.6	-10.2	-5.5	7.0	7.0
Ecuador	-6.3	-	-	-	-
Mexico	-9.4	-3.0	-8.1	4.8	3.6
Peru	-13.4	-7.4	-	-	-
Chile	-14.4	-	-	-	-
Argentina	-17.2	-16.0	-4.7	10.8	4.4
Venezuela	-17.1	-	-	-	-

Sources: a) Reported in _Time_ Magazine, October, 14, 1985

b) National sources: Boletin do Banco Central, Conjuntura Economica, Indicadores da Indùstria (Brazil); Central Bank data (Argentina, Peru); Secretariá de Programaciony Presupuesto; Cuentas Nacionales, Indicatores de sector Industrial (Mexico).

Mathematical Appendix

The purpose of this short appendix is to show how supply and demand constraint operate through import capacity (under simplified assumptions).

Let, $\bar{M}$ = total permissible import (i.e. export $\bar{E}$ plus net inflow of foreign capital F).
If h 3 proportion of import devoted to final (mostly capital) goods, then $(1-h)\bar{M}$ = import available for raw materials. If, m = non-competing imported raw material per unit of output Y (GDP), then the supply side constraint is defined as,

$$(1-h)\bar{M} = m\, Y^S \quad \text{or,} \quad Y^S = (\frac{1-h}{m})\, \bar{M}..... \quad (1)$$

From the demand side

$$Y^d = C+I+E-M$$
$$= c.Y. + bh\bar{M} + k\bar{M} - \bar{M}$$
$$= c.Y + (bh + k - 1)\, \bar{M} .... \quad (2)$$

where, Y = actual output

c = average and marginal propensity to consume

investment expenditure (I) is in fixed, complementary proportion to imported capital goods i.e,

$$\frac{I}{M_k} = b \quad \text{sothat,} \quad I = bh\bar{M} \quad \text{since,} \quad \frac{M_k}{M} = h.$$

and, $k = \frac{E}{M}.$

Actual output (GDP) is determined by the <u>binding</u> constraint either from the demand or the supply side i.e,

$$Y = \text{Min} (Y^S, Y^d) .... \quad (3)$$

From (1), (2) and (3) we have a determinate system for plotting Y.

Thus, when demand constraint is binding,

$$Y = Y^d = (\frac{bh+k-1}{1-c}) \; \bar{M} \; ;$$

when supply constraint is binding,

$$Y = Y^S = (\frac{1-h}{m}) \; \bar{M}.$$

Therefore, Y^d is an increasing and Y^S is a decreasing (linear) function of h and the inner envelope of the two determines actual GDP for each value of h in the interval (0, 1). Thus, the level of output changes through interaction of demand and supply constraints, as the proportion of import devoted to capital goods is varied.