CHAPTER   2

LITERATURE REVIEW

LITERATURE REVIEW

The international economy has assumed profound importance and a significant place in the exploration of traditional theories of economic growth & development since the time of Adam Smith, David Ricardo, and in later times, Raul Prebisch, Ragnar Nurkse, W.A. Lewis etc. The proponents of the growth theory or development economics, as it is commonly understood , regard trade and openness as an engine of growth[1]. Over time trade will bring in new technology and innovations which will seep into the growth process of the economy and ultimately take it to higher levels.

The impact of external orientation on the economy, as a stimulus to growth has been analysed in traditional literature on various aspects of external orientation. Over the past few decades, the experience of various economies in this regard has compelled economists to classify them on the basis of their trade orientation. A clear division of the economies on the basis of their external orientation has been documented in a study of 41 Countries by the World Bank,classifying them as strongly or moderated, outward oriented and strongly or moderately inward oriented i.e. positive and negative trade orientation respectively[2].

The objective of this chapter is to review the available literature on different aspects of external orientation.

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1. Lewis W.A. - "The State of Development Theory,"American Economic Review. March 1984. Pp 1-10.

2. World Bank, World Development Report, 1987, Pp.82

The literature takes into account the country's external orientation analysed on the basis of different broad parameters such as trade, capital and technology flows, which will be reviewed under specific headings. The broad classification of outward and inward orientation as given by the World Bank, underlines the entire review.

2.1 Trade Orientation : Inward vs Outward

A major study on the aspect of countries' trade orientation has been extensively carried out by the World Bank (1987). The study classifies 41 countries on the basis of the four kinds of trade strategies mentioned earlier in the chapter. Though the links between trade strategy and macro economic performance are not entirely clear, certain specific indicators of such performance of the 41 countries are analysed. The indicators are average annual growth rates of real GDP and per capita income, the gross domestic savings ratio, average incremental capital-output ratio,average inflation rates and average annual growth rates of real manufactured exports. The study is divided into two time-periods- 1963-73 and 1973-85.

A clear suggestion that emerges from the figures is that the economic performance of the outward-oriented economies has been broadly superior to the of the inward-oriented ones, both, strong as well as moderate. For the 1963-73 period the average annual GDP growth was 9.5 percent for the former group which was more than double of the 4.1 percent attained by the latter. The respective rates for the second period indicates that the gap widened. Owing to such trends in GDP, the average annual

real GNP per capita growth for the first period was highest in the strongly outwatd-oriented economies and lowest in the strongly inward-oriented ones (6.9 and 1.6 percent respectively). Even during the second period, 1973-85, which was characterized by a general economic slowdown, The per capita income in the same groups grew by 5.9 percent and fell by 0.1 percent on an average respectively. On the whole, with respect to other macro economic indicators also, the outward-oriented group showed a better and healthier eonomic performance as compared to the inward oriented group.

In the same study several indicators of industrialization performance have also been analysed under the alternative regimes of trade strategy. The summary results are presented in Table 2.1 The above results indicate that though promotion of industrialization is adopted by inward-oriented economies mainly through import substitution, it is observed that countries have industrialized faster under an outward-oriented trade regime.

2.2 Exports and Economic Growth :

One ofthe key indicators of a country's external orientation and thus the degree of openness that has widely been recognised in all traditional literature is exports. Greater the incentives and encouragement to export, greater would be the country's degree of openness. Since an outward-oriented strategy does not discriminate between exports and imports and is geared to both, foreign as well as domestic markets, it is considered to be a superior strategy than an inward - oriented one which favours production for domestic markets over exorts and restricts imports

TABLE 2.1

Indicators of industrialization performance in 41 conutries grouped by trade orientation.

Trade Strategy	Average Anuual Growth Rates						Average Shares			
	Real Manufacturing Value Added		Real Agricultural Value Added		Employment in manufacturing		Manufacturing Value Added in GDP		Labour Force in industry	
	1963-73	1973-85	1963-73	1973-85	1963-73	1973-85	1963	1985	1963	1985
Outward Oriented	10.3	5.2	3.7	3.3	6.1	4.9	20.1	23.0	13.2	23.0
Inward Oriented	6.8	4.3	2.6	2.1	3.3	4.2	15.2	15.8	12.7	14.1

Source : World Bank, World Development Report 1987,Pp 87.

through excessive protection of the import - competing domestic industries. Outward - orientation is characterised by a virtually free trade regime, whereas inward - orientation is characterised by restrictionist trade policies. Acknowledging exports as a key ingredient of the growth package, researchers provide substantial empirical evidence to support their arguments for a positive external orientation in terms of export growth so as to in turn, enhance the levels of economic growth.

Balassa (1971) provides one of the earliest evidence on the positive contribution of exports to economic growth in his study on two NICs - Taiwan and Korea. Rapid expansion of exports during 1960-69 raised Taiwan's GDP to 9.9 percent and Korea's to 9.2 percent as against approximately 4.5 percent on an average in the same period for the non-oil producing developing countries. The two countries provide ample evidence that exports can contribute to economic growth in many ways. Some economists, hint at the contribution of large amounts of foreign aid received by both NICs to their remarkable economic performance [3]. In this regard, Balassa accounts that this can not be the case since reduction of aid in later years of their development process correspondingly accompanied increased growth rates especially in Korea where ratio of foreign aid to GNP declined from 8-10 % in 1960 to below 2 % in 1969 thus leading Balassa to conclude that contribution of exports exceeded that of foreign aid in the case of Korea and Taiwan by a considerable margin.However, researches argue that it

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3. op. Cit. Balassa B.-"Industrial Policies in Taiwan and Korea", in L.E.DiMarco (ed.),"International Economics and Development, 1972,Academic Press, New York,Pp.179.

is quite incorrect to compare small nations like Korea and Taiwan which have tiny domestic markets,with large countries like India which are characterised by expansive domestic markets. This issue of relatig the size of a country with its exports finds mention in one of the earlier works of Bhagwati (Bhagwati and Cheh : 1971). He tried to examine two aspects of the exports of a LDCs. (a) whether the size of a country correlates with its export share in the National income and (b) whether the share of manufacturing exports of a country in its total exports leads to reflect the share of value added in manufacturing in its national income which in turn may reflect its per capita income. Bhagwati used three proxies for size - GDP, population and area. As for share of exports in income, he took share of exports in GDP. He tested his hypotheses using the following equations in their linear as well as log-linear forms using four years data of 1958,1963,1965 and 1967 for approximately 61 - 77 countries[4]

(i)   (Export / GDP) (%) = a + b (Population) + u

(ii)   (Export / GDP) (%) = a + b (GDP) + u

(iii)   (Export / GDP) (%) = a + b (Area) + u

The regression results obtained by him establish a statistically significant relationship between export shares and both population and GDP. All the regression coefficients for population and GDP were negative and significantly different from zero the 5% level.

Although the coefficients for area were still negative and significant in the linear regression for 1958 and negative and significant in log-linear form for 1958 and 1963, the result were somewhat inferior to those with population and GDP. He arrives at

the conclusion that "size (of a country) corelates negatively and well with export shares in all the proxies and that large countries do tend to have lower export shares whereas small countries tend to have a higher export share "[5].

For the second hypothesis, Bhagwati used data for the same years to test the following equation in linear as well as log-linear forms.

(i) % GDP in manufacturing $-$ a+b (GDP/Population) + u

(ii) Manufactured Exports/Total Exports = a+b(GDP/Population) + u

(iii) Manufactured Exports/Total Export = a+b (% GDP in manufacturing) + u

The range of the sample differed for each equation. His results bring out the following conclusions :

[1] For a sample of LDCs ranging from 33-50 in number, all the regressions registered a positive relationship between GDP per capita and percentage of GDP in manufacturing, the coefficients uniformly being significant at the 5% level.

4,5. op.Cit. Bhagwati J.N. and Cheh J. , "LDC Exports: A Cross-Sectional Analysis", in DiMarço (ed.), "International Economics and Development",1972,Academic Press,New York,Pp.182

[2] The relationship between share of manufactured exports and GDP per capita was significant for the log-linear form for 1963. 1965 and 1967 and for linear form for 1967.

[3] The regressions of share of manufactured exports on percentage share go GDP in manufacturing were the least satisfactory. The sample renged from 18-33 countries. In any case,the regressions had positive coefficients and were statistcally significant in the log-linear form[6].

It is quite possible that an attempt to explain GNP growth in terms of export growth may result in the omission of other variables. This discrepency was remedied by michalopoulos Constantine and Keith Jay (1973) by including domestic and foreign capital as well as labour in their regression equations. They used data for 39 developing countries for the period 1960-68 and found that these variables explained 53 percent of the inter-country variation in the GNP growth rates. By adding the export variable the coefficient of determinatin (R^2) rose to .71 indicating the significant contribution of exports to economic growth.

Criticism against the method of relating exports to economic growth came from Michaely who argued that "since exports are themselves a part of national income, an auto-corelation is

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6. Bhagwati and Cheh, op. cit. Pp. 187.

persent so that a positive correlation between the two variables is inevitable whatever the true relationship to each other"[7]. Instead, Michaely adopted the procedure of correlating growth rate of exports share of output with output growth rate. In a sample of 41 countries, MIchaely obtained a rank correlation coeficient of .38 between change in export - GNP ratio and per capita GNP growth rate for the period 1950-73. He combined data for countries at different levels of development[8].

On the other hand replacing exports by incremental export - GNP ratio and using a sample of only 11 developing countries that have extablished an industrial base, a rank correlation coefficient of .71 in 1960-66 and .86 in 1966-73 for incremental export - GNP ratio was obtained by Balassa (1977). Balassa preferred the incremental export - GNP ratio over changes in exports since the former, and not the latter, would indicate differences in the relative contribution of exports of GNP across countries. Balassa further adopted the method used by MIchalopoulos and Jay of including domestic and foreign capital and labour and applied it to pooled data of ten out of his 11 country sample, omitting Singapore due to lacl of relevant data.

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7. Michaely M.,"Exports and Economic Growth:An Empirical Investigation",Journal of Development Economics,March, Vol. 4,No.1,1976,Pp.50.

8. However, the same criticism of multi - colinearity against Michaely's procedure was put forward by Heller and Porter (1978) who proposed to replace output growth rate by output growth rate net of exports. They obtained a high positive correlation between the two variables in a cross-section investigation of the same sample used by Michaely.

He found that addition of the export variable in the regression equation raised R^2 from .58 to .77and also that there was hardly any effect on the result if exports were replaced either by incremental export - GNP ratio or by the purchasing power of exports.

A condensed form of the results obtained by Michalopoulos and Jay and Balasa is reproduced in Table 2.2.Balassa's results are based on both Michalopoulos and Jay's method of including domestic and foreign capital as well as labour besides exports [equations (3) and (4)] and Michaely's method of replacing exports by incremental exports - GNP ratio or purchasing power of exports [equation (5) and (6)]. The results indicate amongst the obvious.that a1percent increment in exports is assiated with a.05 of one percent increment in GNP.

The above estimates can be compared to those obtained by Anne Krueger (1978) who concluded that a growth rate of 1% in exports would tend to increase the rate of growth of GNP by .60 of 1% . She also found that on an average, countries which had adopted liberalized trade regimes had a GNP growth rate .7 percent higher than others even after differences in export performance are taken into account.

Krueger's study also showed that a 1% rise in export growth rate could explain a 0.1% rise in GDP growth rate with the level of significance of beta coefficient at 99%. For a similar growth rate of exports, 1.6% of growth rate of GDP could be observed

TABLE : 2.2

INTER COUNTRY REGRESSION ANALYSIS OF THE GROWTH OF GNP

Equation No.	Dependent Variable	COEFFICIENTS OF INDEPEDENT VARIABLES						R^2
		K_D	K_F	L	X	PPX	IXR	
Michalopoulos and Jay								
1.	GNP	0.25 (7.81)	0.20 (3.35)	0.66 (2.44)	—	—	—	0.53
2.	GNP	0.24 (9.62)	0.12 (2.33)	0.60 (2.81)	0.04 (4.82)	—	—	0.71
Balassa								
3.	GNP	0.18 (3.23)	0.30 (2.42)	1.09 (1.74)	—	—	—	0.58
4.	GNP	0.15 (3.33)	0.23 (2.40)	0.97 (1.99)	0.04 (3.57)	—	—	0.77
5.	GNP	0.16 (3.59)	0.24 (2.44)	0.92 (1.82)	—	0.05 (3.34)	—	0.75
6.	GNP	0.14 (2.32)	0.26 (2.32)	0.98 (1.66)	—	—.	0.006 (1.86)	0.65

Note : K_D = Domestic Capital [average curreat account balance expressed as a proportion of initial year GNP] L = Labour

K_F = Foreign Capital [average difference between gross fixed capital formation & current account balance as a proportion of intial year GNP] X = Exports

IXR = Incremental export-GNP ratio

Source : Michalopoulos & Jay (1973), Balassa (1977b) adapted from Balassa (1982), Pp.56.

under liberalized trade regimes, but the explanatory power of the variable was observed to comedown to 0.8 percent with strict controls in the domestic economy[9].

Feder (1982) separated the effects of exports on economic growth into two parts - productivity differentials between export and non-export activitles and externalities generated by exports. He developed an analytical frame work for the quantitative assessment of factor productivity differentials between exports and non-exports using agregate data and used it in an empirical study of sources of growth in a sampie of semi-industrialized less-developed countries (SILDCs) for the period 1964-73. The results obtained by him, adopting econometiric analysis, reveal that marginal factor productivities are significantly higher in the export sector and those economies which shift resources into exports will gain more than inwardoriented economies. Export oriented policies adopted by such economies bring them closer to

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9. A review of a more recent study by Krueger is discussed in the next section.

an optimal allocation of resources. Moreover, externality effects are shown to be generated largely by industrial exports. Feder thus concludes that growth can be generated not only by increases in the aggreate levels of labour and capital [as shown by Michalopoulos and Jay (1973)], but also by the reallocation of existing resources from the less efficient non-export sector to the higher productivity export sector [10].

Reidel (1983) in his paper tried to establish a statistical link between exports and economic growth based on the hypothesis that growth of exports of LDCs (Less Developed Countries) depend upon the growth of DCs (Developed Countries) income. He regressed the logarithm of the quantum index of world trade in primary products (Xf), which was taken as a proxy for LDC exports, on the logarithm of an index of world production of manufactures (Im), which was taken as a proxy for growth in DCs' prosperity. He obtained the following results using data for the period 1953-77 (t-statistics in parantheses).

$$\log X_f = -1.179 + 0.832 \log Im$$
$$\qquad\qquad (7.822) \quad (36.541)$$

$R^2 = .982 \qquad\qquad SEE = 0.43 \qquad DW = .467$

However, as Reidel himself agress, "measures of any linkage obtained by regressing LDC exports on DC income prove to be far too unstable to be interpreted as gears of an engine of growth [11]. The relationship between exports and economic growth may

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10. Feder G.- "On Exports and Economic Growth",World Bank Staff Working Paper 508,1982,World Bank, Washington D.C.

11. op.cit.Reidel J - "Trade as an Engine of Growth : A Reappraisal", World Bank Staff Working Paper 555,1983, World Bank,Washington D.C, Pp.39.

show itself in a negative direction [12]   If, for any reason, exports fail to expand or even decline, some of the links between trade and growth may begin to operate in reverse and development tends to slow down by a lack of stimulus and dynamism as well as by lack of imported inputs and market demand.

"As a result of these links", Keesing argues, "exports and imoprt substitution are, on the whole, complementary. If exports do not grow and overall growth is sluggish the process of import substitution is slowed sharply through diffculties on both demand and supply sides. Feasible opportunities become exhausted because markets are too small to make new industries profitable, while the 'import - intensity of import - substitution' - heavy requirements for imports of equipment,intermediate inputs, fuel, etc. - adds to the obstacles" [13].

Outward - orientation has both, the externality effect (as shown by Feder), as well as the shortage reducing effect. It is necessary to differentiate between the two. While the former can be achieved only through export - promotion policies, the latter can also be the result of foreign borrowing or assistance. The shortage reducing effect of exports has been analysed in a recent study by Hadi Salehi Esfahani (1991). His contribution to the traditional literature has been to analyse, among other effects, the function of exports in the SICs (Semi-industrialized Countries) as the main source of foreign exchange for the much

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12. Keesing D. -"Trade Policy for Developing Countries",World Bank Staff Working Paper 353, 1970,World Bank, Washington D.C.
13. op.cit., ibid. Pp13.

needed imports of intermediate and capital goods Of course, this is important only if the country suffers from an 'import shortage'. As mentioned above, this 'import shortage' can also be reduced by foreign borrowing or assistance, as has been the case of India, to an extent. Nonetheless, it is quite obvious that the benefit of exports as the 'shortage reducer' easily surphasses that of foreign asistance or borrowing. Esfahani, in making a case for his argument regarding the importance of exports in the SICs as a means of reducing import-shortage, argues that imports must also be added to the list of input requirements for domestic production basides capital and labour and since exports and imports are correlated it implies that imports should be added to the right-hand side of the regression of GDP growth rate on capital, labour and export growth rates failing which the regression may bias the coefficient of exports upward and thus exaggerate the effects. Following Feder, Esfahani also chooses a data set consisting of a sample of 31 countries which are both semi-industrialized, including Korea and marginally industrialized, including India.

The empirical findings by Esfahani support his argument and show that once the import supply effect of exports has been taken into account, there is no significant externality effect left. His paper also throws some light on the causes of variations in the export 'externality' effects through time and across samples found by various authors. His analysis suggests that the sources of these changes must be traced back to the changes in the availability of foreign exchange for the SICs during each period. In the 1970s, the shortage of foreign exchange for the SICs was

reduced as a result of increased supply of petro-dollars following the oil price hikes, while inthe 1980, the world recession and debt crises tightended the external constraint for most SICs.,

2.3 Protection vs Incentives and Export Performance :

It is quite clear outward - orientation or positive external orientation is characterised by promotion of exports through various incentive schemes. On the other hand, inward - orientation or negative external orientation (also often termed as import - substitution strategy) is generally marked by heavy protection given to import - competing domestic industries and gearing production to the domestic market rather than for exports. The experience of countries which have adopted either kind of strategy essentially brings out the benefits and limitations of such policies.

There is enough empirical evidence to support the view that countries that have managed to shift to improved export performance by reducing export bias have also managed to register acceleration of their growth rates. A cross-sectionally most telling contrast is between the success of South Korea and failure of India.

In classifying and describing actual trade regimes in developing countries. Bhagwati, Srinivasan (1978) and their associates use the 'phase' approach in their NBER study, to create a common analytical framework in their comparative study of trade policies in developing countries. These 'phases' refer to different degrees of restricitiveness of the trade regime and has been the basis for analysis in most of such NBER studies.

Phase I primarily initiates, in a simple way, the QR (Quantititive restrictions) regime, Phase II represent proliferation of QRs and increased restrictiveness, Phase III is attempted liberalization, Phase IV represents successful movement toward liberalization and Phase V is a full - shift to a liberal payments regime.

Krueger (1978) in her NBER volume uses dummies to represent the above five phases in her regressions. Her results indicate that PLDEERs[14] on exports seem to effect both tradiditonal and non-traditional export values and that Phase IV and V do seem to affect export performance favourably. Almost all the NBER studies underline the argument that it is really a shift to successful liberalization and therefore contiuning liberalization that is critical to improved export performance on a sustained basis i.e. a shift from Phase II to Phase IV. Occasional attempts at liberalization will eventually result in a relapse into Phase II from Phase III liberalization attempts. Thus, it is the sustained transtion during the 1960s and later from Phase II to Phase IV by South Korea, Taiwan and Brazil that has been characterized by high rates of export growth. India, on the other hand, presents a typical case of Phase III

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14. Price Level Deflated Effective Exchange Rates or Real Effective Exchange Rate.

liberalization attempts, initiated during the late 1970s, resulting in an eventual relapse to Phase II. The Indian case also points out that not just the price aspect but rather the whole framework of exchange controls in Phase II rebels against export performance.

A study by Balassa (1977b) analyses the effectiveness of export incentives on enhancing export performance. His results indicate that greater export orientation is associated with higher export growth rates and better growth performance and is further acclearated following introduction of export incentive schemes. He argues that liberalization of economic policies have provided a boost to exports whereas constraints on investments and import allocation, have greatly reduced the effects of export incentives as is the case with India. Keesing (1979) emphasises the parado observed in countries lile Japan, Taiwan & Korea, where import substitution has turned out to have been exceptionally rapid and successful due to the unusually strong attention and incentives provided to industrial exports. In Korea and Taiwan, some industries set up to subtitute imports have been sufficiently large and efficient from the start so that they have been rapidly able to compete in export markets also.

In the case of Korea, export incentives and growth of exports appear to be related. Frank, Kim and Westphal (1975) developed and estimated a simultaneous equation model to demostrate that, at their historical values, the official exchange rate, import tariffs and export incentives taken together, achieved close to the maximum possible GNP growth rate,

given the inflow of foreign capital. Regressions of real exports against gross real effective exdhange rate and real non-agricultural output indicate that after 1963, there was a sharp change in the responsiveness of exports to exchange rate policy. Such sensitivity was lacing before 1963.

Krueger (1986) claims that import substitution leads to complex quantitative controls over imports and domestic activities which undermines whatever incentives may be provided. It also leads to discouragement of exports via overvaluation of the currency and above all a wider ing BoP deficit. She examined the relationship between growth of exports and GDP for a group of ten countries over various time periods depending upon their trade orientation and found a positive relationship between the two which was significant.Her results are presented in table 2.3.

Krueger finds that a one percent increase in growth rate of exports resulted in about 0.1 percent increase in GDP growth rate. Nevertheless, such a significant positive relationship may not necessarily be a perfect one, however strong the relationship between export growth and overall growth rate shown by the results. As the table indicates for Brazil, while real GDP growth rate was almost 7 percent during 1955-60, export earnings actually showed a deline of -2.3 percent. Similar observation could be made for Korea, Columbia and Pakistan. Such a negative relationship could, very logically, be attributed to the particular trade strategy followed during the time period, since shifting
/to export promotion policy resulted in a pusitive and much higher export earnings for the same countries. Nevertheless, she asserts

TABLE 2.3

Trade Strategy, Export Growth and GDP Growth in Ten Countries
(Average annual growth rate)

Country	Period	Trade strategy	Export Earnings	Real GDP
Brazil	1950-60	IS	-2.3	6.9
	1960-65	IS	4.6	4.2
	1965-70	EP	28.2	7.6
	1970-76	EP	24.3	10.6
Chile	1960-70	IS	9.7	4.2
Columbia	1955-60	IS	-0.8	4.6
	1960-65	IS	-1.9	1.9
	1970-76	EP	16.9	6.5
Indonesia	1965-73	MIS	18.9	6.8
Ivory Coast	1960-72	EP	11.2	7.8
Korea	1953-60	IS	-1.6	5.2
	1960-70	EP	40.2	8.5
	1970-76	EP	43.9	10.3
Pakistan	1953-60	IS	-1.5	3.5
	1960-70	IS	6.2	6.8
Thailand	1960-70	MIS	5.5	8.2
	1970-76	MIS	26.6	6.5
Tunisia	1960-70	IS	6.8	4.6
	1970-76	MIS	23.4	9.4
Uruguay	1955-70	IS	1.6	0.7

Note : EP = Export Promotion
       IS = Import Substitution
       MIS = Moderate Import Substitution.

Source : Krueger A.0.(1986) - "The Effects of Trade Stratgies on
Growth" in Baldwin R. and J. David   Richardson   (eds.)
"International Trade & Finance:Readings", Little Brown & Co.,
Canada.

that though there is a strong evidence of better economic perfor-
mance under the policy of export-promotion, the reasons are
manifold and the relative importance of each contributing factor
is not known.

As cited earlier, exchange rate policy of an economy also
affects its export performance and in turn, its rate of economic
growth. The central role of the exchange rate in determining
exports and economic growth has been analysed by various authors,
a few of which are discussed below.

2.4 The Role of Exchange Rate in Export Growth :

Besides incentives given to exports in the form of subsidies
etc. and protection given to domestic industries, a powerful
instrument for promoting growth is in the from of exchange rate
policy. It is a central tool of trade policy with far reaching
effects. As pointed out by Keesing (1979), the success of an
outward-oriented development strategy lies in the use of
'realistic' exchange rates. Encouragement to exports and thereby
making exports more profitable, depends, basically, upon the real
exchange rate in relation to domestic costs and prices. It also
determines how far saving foreign exchange by producing import
competing goods is benefecial. Moreover, import substitution is
rewarded also by shifting the real exchange rate such that
imports are made expensive, side by side with exports. Even when
imports are made artificially cheap and exports are poorly
rewarded through an overvalued exchange rate, so that export
earnings dwindle and import substitution is discouraged, it
should be equally compensated by extensive use of quantitative
restrication (QRs) on imports, exchange controls, tariffs,

subsidies etc. A high price of foreign exchange, in terms of domestic currency, corresponds to a high growth rate while a low price of foreign exchange corresponds to a lower growth rate. To achieve equilibrium in the balance of payments (BoP) at higher and higher growth rates, higher and higher real rates of exchanges will be needed to generate the requisite foreign exchange earnings and savings. This amounts to undervaluing the currency for low growth purposes.

One of the earliest studies on exchange rate effect on exports was carried out by Cooper (1971). In order to mearure the effects of devaluation on exports, Cooper reviewed two dozen devaluations occuring over the period 1953-66. He concluded that develuation improves the trade balance and the BoP after the first year. In another study, Donovan (1981) concluded that export performance exhibited a striking improvement following the devaluation of the currency. Thus, while exports, in twelve developing countries which adopted stabilization programs in the 1970-76 period, declined on an average by 1.3% in the year to depreciation, they increased by 9.2 in the first , post-depreciation year although the rate of expansion of world exports hardly changed [15].

Bhagwati and Srinivasan (1978) cite the type of evidence that, after successful liberalization normally accompained by devaluation, exports, having generally declined, tend to show responsiveness. In traditional literature on devaluation, this is

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15. Chenery H. and Srinivasan T.N.-"Handbook of Development Economics",Vol.II,1989,Ansterdam,North Holland,Pp. 1675.

termed as the J-curve behaviour, with initial decline and later rise. India showed this type of pattern of export behaviour after the June 1966 devaluation and liberalization policy package even after the exogenous effect of two serious agricultural droughts was taken into account.

Houthakker and Magee (1969), Khan and Ross (1975). Warner and Kreinin (1983) and Bahmani — Oskooee (1985) have estimated traditional import and export demand functions i determining international trade flows and also analysed the J-curve phenomena for about 14 to 19 countries including Korea and India. They found that the Marshall-Learner condition proves to be true for almost all the countries and that the price elasticity of imports and exports are found to be greater than one so that a devaluation does improve the trade balance albeit only over a long period of time. In other words, Bahmani and Oskooee (1985) prove that the J-curve phenomena does hold true also for India and Korea. The trade balance, consequent to devaluation, behaves in a J-form, deteriorating in the initial years and later over a long period of time, improving once the elasticities of demand have a chance to improve. Moreover all these researchers find that exchange rate and export/import price are significant determinants of exports and imports.

2.5 The Role of Foreign Capital in Growth :

Among the literature on the role of foreign capital, one of the major works that stands out in particular is the famous two-gap model formulated by Chenery and Strout (1966). The model emphasises the contribution of foreign aid and capital in filling

the gap between domestic savings and investment on the one hand and imports and exports, on the other and thus analyses the effectiveness of foreign capital in removing the bottlenecks to growth.

In essence the model recognises that growth requires investment which, in turn, entials savings-domestic and/or foreign. Foreign savings may take the form of mainly private capital flows, public loans of aid. The first gap arises if domestic savings in inadequate to support the rate of capital formation required to achieve a given growth target. Moreover, if the economy does not possess the necessary flexibility to transform domestic resources into foreign ones, a further botteneck may emerge. If investment is import intensive, then domestic savings is not adequate to guarantee growth since these may not be translatable into foreign exchange earnings with which to acquire imports. This latter gap is identified as the foreign exchange gap which emerges where domestic and foreign resources cannot be substituted in capital formation and where the economy is unable to acquire foreign exchange by exporting or borrowing. Thus, in general, the model concludes that in theevent that availability of foreign exchange constrains growth, foreign capital raises growth not by raising resources available for saving but by increasing the availability of foreign exchange to import capital goods. However, it is also argued that any growth that is achieved by means of foreign capital under such circumstances would be lower then that achieved through increased export earnings.

Another, most recent study is by the World Bank (1991) which has analysed the relationship between capital flows, investment and GDP growth. The aggregate results of the study are presented in table 2.4.

The study reveals that for the developing countries as a whole,DFI was the only capital inflow that was strongly associated with higher GDP growth during the 1970-89 period. However, the study also agrees that the direction of causation is not clear since, if DFI is likely to promote growth, it is also for the couverse.

2.6 Studies on the NICs : Brazil, South Korea & India :

A major work on the NICs relevant to the present study is Balassa's (1980a) work which examines the experience of the NICs during 1973-74 and 1974-75 the period following the quadrupling of oil prices and the world recession respecetively. The paper provides estimates of the BoP effects of external shocks in the form of terms of trade deterioration and slowdown in world export demand for twelve NICs and their policy responses to these shocks.

The study reveals that among the NICs in Brazil, the immediate response to external shocks was to increase foreign borrowing for the sake of maintaining a high rate of economic growth.Foreign borrowing fully financed the resultant BoP deterioration in 1974 and 1975. Whatever increases in export market shares were offset by the rise in imports that accomparied higher GNP growth rates and import substitution was virtually nil.Besides permitting continued incrases in current consumption, the amounts borrowed were ulitized to finance large investments in

TABLE 2.4
Investment, Growth and net flows of capital, 1970-89.
(Percent of GDP)

Period and Corelation	Offical flows/ GDP	DFI/GDP	Private flows/ GDP
Between Domestic investment/GDP and flows			
1970-75	0.14	0.50 [a]	0.45
1975-82	0.13	0.26 [a]	0.26
1982-89	0.10	0.24	0.24
1970-89	0.16	0.39 [a]	0.31
Between GDP growth and flows			
1970-75	0.34	0.52 [a]	0.21
1975-82	0.17	0.24	0.23
1982-89	-0.07	0.15	-0.05
1970-89	0.16	0.33 [a]	-0.02

       : all values are period averages for 60 developing
         countries
Note   : a = Statistically significant at the 5% level.
Source : Adapted from World Bank, World Development Report, 1991
         Pp. 96.

high-cost import substituting industries which were highly capital intensive producing intermediate goods for the domestic market. This resulted ina substantial rise in incremental capital output ratios. As a reflection of such a policy response the rate of growth of GNP declined after 1976 as Brazil failed to utilize the proceeds of foreign credits to raise the share of investment in GNP. At the same time that GNP declived, foreign debt increased.

S.Korea, in turn did not modi its outward oriented strategy but also increased reliance on foreign capital for specifically the same reason as Brazil. Correspond ingly, Korea's external debt reached 25 percent of GNP in 1978. However, the gross debt service ratio was limited to 20 percent which was made possible by rapid increases in exports basically due to its continued outward-orientation. In 1979, the situation deteriorated when exports declined as thecurrency became increasingly overvalued and certain large-scale, capital intensive investments were undertaken.

On the other hand, India's response to the shocks was a failure to modify substantially the system of incentives and inward-orientation. Rather, it chose to accumulate reserves. Consequently, export market shares experinced further losses and GNP growth rate did not significantly rise above that of the previous decades level.

On the basis of these observations, Balassa further provides empirical evidence to support his analysis. For the group as a whole, he found a high correlation between relative export performance and rate of economic growth. This, he hypothesises,

was explained by the efficient use of resources and rapid technological change under a strategy of outward-orientatin which provides, simular incentives to export and to IS. Secondly, there was a negative correlation, between additional foreign firaning and GNP growth rate and no significant correlation between average gross external debt and GNP Growth rate indicating that domestic policy responses may be advantages over reliance on foreign financing. This, of course, will depend upon whether borrowing is utilized to finance current consumption or channelized into productive investments instead of high-cost import-substituing industries, as was the case with Brazil. In the latter case, growth will declive and indebtedness world increase.

Another work, on Brazil, worth its mention is by Meyers and McCarthy (1985) for the World Bank who developed a macroeconomic projection model in an analytical framework to examine the Brazilian economy, based on a consistent framework for 1980. The model evaluates the effects of exogenons forces on the economic function of Brazil and simullaneonly, also evaluates the effects of policy of lions. Bascally, the paper seeks to investigate the whele inpact of alteruate policy initiatives on the Brazilation economy over the near to mediam term. However, the model, though analysical is quite complex and the authors do not specialy clearly how it works in terms of incorporating and analysing the variables used for the study. Nonetheless, the paper does remain insightful on ceeratin aspects of the Brazchan economy.

Leff (1973) in his study on Brazil noted that growth in

export receipts was one of the major sources which served to grow incomes , in an economy which was otherwise relatively stagrent. Incomes .were raised directly well indirectly with incomes generated in the export see for creating demand for domestically produced manufactured and primary products.

2.7 Studies on India. :

Literature on Indian studies is limited. But one of the earlies studies that is quite prominent and which deserves special mention is by Panchmukhi V. R. (1978) on a quantitative analysis of trade policies of India. Panchmukhi covers two decades from 1950-1970 in his study.

According to the study, the macro-aspects of the trade structure and its changes can be measured in terms of the following parameters -

[a] Share of export / imports to GDP. This indicates the degree of openness or outward-orientation of the economy with regard to .trade activity and reflects the nature of trade strategies adopted. The ratio of exports to GDP also implies the supply capability of the economy or the average propensity to export (APX). Similarly, ratio of change in export to change in GDP indicates the marginal propensity to export (MPX). An increase in MPX implies that the economy is diverting more and more of its incremental GDP to production of exports.

[b] Share of India's exports in the world trade which indicates the importance of India as a trading country in the world economy. Changes in this parameter indicate a shift in the position of comparative advantage of India.

[c] Ratio of Trade Gap (X - M) to GDP

Panchmukhi, further, puts forward certain interesting hypotheses and their role in explaining domestic price behaviour. Among·them are -

[a] International Transmission of price behaviour - the hypothesis about the relationship between degree of openness of the economy and the rate of domestic inflation. He takes three measure of degree of openness - ratios of (i) imports-GDP (ii) Exports - GDP and (iii) Total trade (X+M) - GDP - since these ratios broadly reflect the nature of trade strategies and policies. The testable hypothesis is that larger the degree of openness, larger would be the rate of transmission effect on domestic inflation.

[b] Export instability and • foreign exchange - scarcity hypothesis - According to this hypothesis, inflationary shocks are induced by fluctuations in export earnings, which imply unstable import capabilities. These fluctuations may be the effect of price fluctuations in the international markets or instability in export supplies caused by the unstable export - promotion policies.

The latter part of the hypothesis implies that inflation is induced by foreign exchange scarcity caused by low level of exports and import substitution, leading to higher import bill in the aggregate. Panchmukhi uses a single equation model to identify the role of openness and trade policy factor in domestic price behaviour. The equation is,

$$p^d = X + B_1 p^f + B_2 Y + B_3 M + B_4 Pm + B_5 z + u$$

where

p^d = Rate of change of domestic wholesale prices

p^f = Rate of change of food prices

M = Rate of change of money supply

Y = Rate of change of real GDP

Pm = Rate of change of import prices

Z = Rate of change of an index of openness

u = Residual factor which accounts for trade policy and other random effects on price behaviour.

Panchmukhi uses share of trade (X + M) -GDP ratio as the index of openness. He concludes that import prices was found to be the most significant parameter for developed countries and GDP growth rate for developing countries. For the latter countries, dgree of openness and import prices get lower importance than GDP growth rate and money supply. This result was obtained when the food price variable was omitted. When the same was incorporated in the equation, the highest importance of the food prices with import prices next to it, was brought out by the results.GDP growth rate and money supply came next. Further analysis comfirmed that the role of residual factors is also found quite substantial even in the prsence of other factors. This seems to suggest that the residual factor (u) whose behavour is random and which is largely influenced by the policy variables, plays a singnificant role in the determinantion of price behaviour.

A more recent study is by da Costa (1990) on the analysis of India's trade balance in the 70s and 80s. In his analysis, da Costa identifies the major determinants of India's exports and

imports. These are : Growth of real income in industrial countries(Yic), real exchange (Re) rate and export of crude petroleum for exports and real income of India(Yi), relative ·price of imports (Um/Pi) and import policy for imports. He also indentifies the determinants of terms of trade as-growth in real income of industrial countries (Yic), rate of inflation industrial countries(Pic) , and nominal exchange rate (R). Finally, combining all these determinants, he arrives at the determinants of India's balance of trade viz. growth of real income and inflation in industrial countries, real income of India, real exchange rate, export of crude petroleum and India's import policy. Using dummy variables for the last two determinants as D0 and D1, he employs the ordinary least squares technique of multiple regression analysis to regress the dependent variable on the explanatory variables. A summary of his statistical findings is presented in table 2.5. da Costa's study extends from the period 1970-71 to 1985-86.

TABLE 2.5

Summary of Statistical Findings by da Costa, 1970-71 to 1985-86.

Eq. No.	Dependent Variable	Constant term	Yic	Yic	Yi	Pic	Um/Pi	Re	R	D1	D0	R^2	F	D.W	SEE
1.	Quantum of exports	115.53	1.25 (6.05)					-1.40 (-4.95)			16.67 (2.93)	0.955	128 0	1.44	4 1(
2.	Quantum of imports	-15.96			4.48 (7.35)		-0.3933 (-3.13)			46.40 (4.35)		0.953	123 5	2 29	6 57
3.	Terms of Trade	175.54		2.59 (2.11)		-3.53 (4.13)			-7.23 (-5.30)			0.772	22.3	1.67	7 58
4.	Trade balance	18.06		0.2397 (3.20)	-2732 (-9.05)			-0.0899 (-5.22)		-2.60 (-6.60)	1.63 (4.09)	0.975	116.7	2.98	16 4

Note : t - value in parentheses.
Source : da Costa (1990), adapted.

The present study is, in a way, an extension of the previous works hitherto carried out. But it is also different in that it proposes to develop a single externally-oriented model of economic growth which incorporates all such externally-linked sources of growth as trade, capital and technology flows. Also, the present study is carried out for the entire period of the development process of India and the NICs - mainly S.Korea and Brazil i.e. 1950-1989. The countries have been selected as comparative indicators on the basis of their development strategy pursued during the entire time period and also divides the period into sub-periods depending upon the shift in the basic strategy. The fundamental idea underlying the study is to analyse the countibuters of foreign sources to economic growth in a comparative framework and determine the significance of one or the other source under alternative development strategies so as to arrive at concrete policy conclusions and suggestions for India for the future in view of the emerging changes around the world and the need for global integration to enhance growth and development.