EXPORTS IN INDIA'S GROWTH PROCESS

I. INTRODUCTION :

A broad political consensus has emerged over the last decade about the imperative need for India to achieve and maintain a seven per cent plus annual growth rate of real Gross Domestic Product (GDP) in order to make a significant and durable dent on the long-standing problem of abject poverty. However, an inextricable link between the socially accepted objective of rapid economic growth and globalisation that has been on the national economic agenda since the inception of the 1991 economic policy reforms has not been perceived and accepted by a wide cross-section of intelligentsia including policy-makers, economists and political leaders. In this context, the present paper is a part of the wider study that seeks to explore the positive instrumental role that export-orientation is capable of playing in India's quest for a sustainable rapid economic growth. It attempts to do this by placing the Indian experience in the international context of nine other countries which have either used the export-orientation in achieving rapid economic growth or are embarking on trade policy liberalisation in their effort to step up the rate of economic growth.

The basic purpose of the study is to address the Indian mindset that has always been and continues to be dominated by a deep-seated distrust of the market forces - both domestic and international - but much more so of the global market forces. The origin of this mindset goes back to the Independence movement since the second half of the nineteenth century. The Indian intelligentsia held the British colonial policy of laissez-faire free trade responsible for India's economic under development. A typical and widely accepted reaction of this type is expressed by Pandit Nehru, the first Prime Minister of Independent India in <u>Discovery of India</u> (1946, pp.403) while

reporting on the deliberations in 1938 of the National Planning committee which he chaired. To quote :

" The objective for the country as a whole was the attainment, as far as possible, of national self-sufficiency. International trade was certainly not excluded but we were anxious to avoid being drawn into whirlpool of economic imperialism. We wanted to be neither victims of imperial power nor to develop such tendencies ourselves ".

The international trade policy after Independence was permeated by this vision of self-sufficiency as distinct from self-reliance[1] and consequently minimising the dependence on international trade through a variety of restrictions on imports and exports. A major change in this policy formally took place with the economic policy reforms undertaken since July 1991. One of the major and prominent components of reforms relates to globalisation or progressive integration of the Indian economy with the global economy by reducing the tariff and non-tariff barriers to trade. The process gathered further momentum with India signing the Marrakesh Treaty which brought into existence the World Trade Organisation (WTO) on January 1,1995 to replace the General Agreement on Trade and Tariffs (GATT) that had been set up since the end of the Second World War. In spite of these major changes in the formal stance toward international integration, globalisation, as in the past, is still being looked upon with suspicion, apprehension and hence an inevitable imposition rather than approaching it for a healthy contribution it is capable of making to the development process. The latest instance of this mindset is available in the

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[1] Self-sufficiency relates to autarchy. Self-reliance in the context of foreign exchange constrained low-income economies is taken to be achieved when, with appropriate changes in the domestic changes in the domestic industrial structure, the country acquires the ability to maintain a certain minimum desirable growth rate without relying on concessional capital inflows so that temporary imbalances between export earnings and import outlays on current account are accommodated through autonomous capital flows.

Thirty-fifth report on INDIA AND THE WTO submitted in December 1998 by the parliamentary standing committee on Commerce headed by a well-known economist member of the Parliament and with a wide cross-section of ideological representation from various political parties. The committee expresses apprehension about the membership of this new international organisation (WTO) as entailing 'an erosion of a country's sovereign rights' (para 5) and criticizes as 'self-inflicted injury' the government decision to 'lower tariff rates much beyond what the WTO provisions had allowed us for the transitional period' (para 41). It reluctantly admits, however, that there will not be much support 'for the point of view that India should withdraw or suspend its membership of the WTO' (para 9). The suspicion of international trading arrangements reflected in the report as late as in 1998 is symptomatic of viewing them through the lenses of economic imperialism of the pre-Second World War period.

The present author takes an explicit view following Kravis(1970) and Lewis(1980) that active participation in international trade is capable of playing a positive instrumental role in helping the country step up its rate of economic growth at the margin. This requires a clear recognition of the fact that globalisation is a two-way interactive process that results in mutually gainful repetitive exchanges provided (a) the country under consideration is willing and able to put its internal house in order, and (b) reasonably impartial policing arrangements of multilateral trade are provided by WTO. Among the components of 'putting the internal house in order', we may mention competent governance in the political, social and economic spheres and a stable economic policy environment both of which providing the broad institutional framework that reduces the transaction costs of economic exchange. In this view, the outcome of globalisation depends as much on the impartiality of multilateral trading arrangements as on the acceptance of the reciprocal discipline by the society, polity and economy. Under these circumstances, more competitive

markets domestically and <u>freer</u> multilateral trading arrangements internationally are expected to generate dynamic positive-sum game involving mutually gainful exchanges. However, it is important to emphasize simultaneously that the process of globalisation, like any other process of major economic change, creates gainers as well as losers although for the society, gains are expected to outweigh losses. In this situation, actual or potential losers from globalisation may be expected to exploit the dominant mindset of suspicion about globalisation in their efforts to stall that process.

The need for addressing the mindset of suspicion about the process of globalisation should be obvious as India has consciously foregone gains from international division of labour by adopting restrictive trade policies over several decades. The present paper attempts to do this by making the case for accelerating the pace of active export-orientation policies for achieving rapid economic growth in India. For this purpose, it draws on international experience regarding export performance and examines empirical evidence to deduce reasonably clear propositions about exports and their instrumental role in the economic growth process.

It is useful to clarify in the beginning that we have used the term increased export-orientation to indicate changing the policy-induced incentives toward raising the profitability of selling in the international markets relative to selling in the domestic market. These policies include those relating to foreign exchange rate, liberalisation of restrictions on imports as well as direct or indirect export incentives. These policies provide an enabling environment for the domestic producers of exportables to perform better in the international market. This paper focuses on exports for three major reasons. One, exports reflect the outcome of interaction between the domestic policy environment and cost-reducing, quality-improving and productivity-enhancing efforts of the domestic producers of exportables on the one hand, and the available external trading opportunities on the other. Two, foreign exchange earnings from exports

play a crucial role in improving the viability of balance-of-payments of low-income foreign-exchange constrained economies and contribute economies and contribute toward the attainment of the self-reliance objective. Three, import-capacity of export-earnings, reflected in the income-terms-of-trade provide a valuable facility for adjusting the magnitude and composition of imports so as to relax critical bottlenecks to economic growth and thereby help enhance the rate of growth. The focus of the paper on exports should not be construed to mean that imports are any less important in the growth process. It is also important to keep in mind that import-restrictions, by providing protection to the domestic producers of import-competing products, reduce the incentive to sell in the international markets and thereby adversely affect the export-orientation.

The paper is organised as follows. Section II explores the relationship between the volume growth of world exports and the volume growth in the world output/GDP in aggregate terms over the long historical period of nearly three centuries and in greater detail during the post-Second World War period over the three distinct phases in the world trade environment. Section III attempts to verify the instrumental role of exports in the economic growth process during the three distinct phases of the world trade environment during the post-Second World War period. This exercise is based on an econometric relationship estimated for a sample of 31 semi-industrialised and marginally semi-industrialised countries. Section IV examines the question whether the instrumental role of exports is conditional on the favourable world trade environment. For this purpose, we consider nine other countries besides India over the post-1973 period that was marked by increased volatility in the world trade environment in comparison with the earlier period from 1950 to 1973. Section V seeks to compare over the period from 1980 to 1996 the Indian export performance with that of China, the country with larger size than India and with factor-endowments similar to those of India for the two countries to compete in

the world markets. The final section VI provides a recapitulation of major results.

II. RELATIONSHIP BETWEEN VOLUME GROWTH OF WORLD EXPORTS AND WORLD OUTPUT : HISTORICAL EXPERIENCE

Historically, over the last nearly three centuries, with the exception of the inter-war period in the twentieth century, the estimated volume growth of world merchandise exports has exceeded the volume growth of world production / real GDP (Table 1). During the nineteenth century, with the industrial transformations in the presently developed countries of Europe and America and the reduction in the real costs of transport and communications both the volumes grew at a much faster rate than in the eighteenth century. The inter-war period in the twentieth century was marked by the disruption of international trade and capital flows resulting in a slower growth in the volume of exports than in the volume of world output. This long-term historical experience upto the Second World War generated conflicting interpretations regarding the role of international trade in the development process of the low-income countries during the immediate post-Second World War period.

The nineteenth century record of acceleration in the volume of world trade prompted Robertson (1938) to coin the metaphor of international trade as an engine of economic growth. The growing autonomous external demand for foodgrains, primary raw materials and minerals in the then industrializing countries resulted in a faster utilisation of domestic unused natural resources (including land) in the underdeveloped countries and helped initiate the process of economic growth. Nurkse (1953,1959), while conceding the external stimulus to economic growth provided by international trade during the

nineteenth century, predicted the slowdown of the engine in the twentieth century mainly drawing on (what in retrospect turned out to be) the exceptional inter-war period and backed it up with <u>a priori</u> reasoning. His conclusion was that the predominant primary exports of low-income countries would be constrained by limited external demand in the twentieth century. His prescription for development was, therefore, to minimize the reliance on international trade in the development process and focus, instead, on the development of the domestic market through what he termed as the 'balanced growth'.The Nurksian interpretation was contested by Cairncross and Haberler and subjected to closer empirical scrutiny by Kravis(1970) who questioned the Robertson-Nurkse engine metaphor. He forcefully argued that rapid economic growth of the low-income countries was not a general phenomenon in the nineteenth century even though

the global trading environment was similar for all the countries and that wherever rapid growth occurred, it resulted from a mutually reinforcing interaction of external trading opportunities with the favourable waves of internal growth promoting impulses within the economy. Contrary to the Nurksian prediction of slowdown, he noted (p.861), an 'unprecedented magnitude' of expansion of world markets following the Second World War and observed that the exports of low-income counties were constrained not by external demand, as suggested by Nurkse, but by the inability to expand supplies. In the light of his analysis of historical as well as contemporary experience, Kravis suggested the role of international trade as an instrument in reinforcing the mainsprings of the internal autonomous growth impulses.

The development experience including that for the post-Second World War period upto 1980 surveyed by Raynolds (1983) provided a further conformation of the Kravis interpretation. He observed that both in the nineteenth and in the twentieth centuries, those low-income countries which experienced economic growth did so with the help of a high volume growth of exports with one

difference. It was mainly the primary commodity exporters among the low-income countries who benefited during the nineteenth century whereas it was mainly the manufactured commodity exporters during the twentieth century. While the restrictive trade policy suggested by the Nurksian prescription held sway in a large majority of low-income countries till the late nineteen seventies, the nineteen eighties saw a unilateral trade liberalisation by the same set of countries - a possible acceptance of the Kravis interpretation that was reinforced by the phenomenally rapid export-oriented growth of the East Asian economies. The post-Second World War period was marked by major changes in the international trading environment.

The period 1950-73 is generally described as the golden age of capitalism. The multilateral trading arrangements were governed by the Bretton Woods arrangements involving fixed exchange rage regime. Industrial developed economies managed to maintain reasonable full employment following the standard Keynesian prescriptions that contributed towards minimising the length and amplitude of business cycles. Simultaneously there has been a progressive reduction in trade barriers under the rounds of GATT negotiations. In addition, the emergence of the welfare state in reaction to the challenge from the USSR and Eastern Europe managed to bring about equitable distribution of the prosperity enjoyed by the developed by the developed countries(DCs). The continued prosperity in DCs during this period had three major consequences for the less developed countries(LDCs). One, the DC chose to put a blind eye to a large variety of trade restrictions imposed by LDCs under balance-of-payments(BoP) cover and following the Nurkisian prescriptions. Two, with increasing cost of labour-intensive manufacturing industries got relocated in LDCs. Three, access to the DC markets by LDCs was relatively easy due to rising real incomes. During this period, a large number of LDCs had been following the import-substitution-oriented restrictive trade policies which were inevitably resulted in a slowdown in the rate of economic growth due to the

limited size of the domestic markets at low levels or per capita real incomes. On the other hand, Japan followed by the East Asian countries (South Korea, Taiwan, Singapore, Hong Kong) followed export-oriented policies that resulted in rapid growth in real incomes.

The second period 1973-80/1973-83 was marked by the turbulence in the international trading environment caused by the break-up of the Bretton-Woods arrangements and two steep hikes in oil prices by the OPEC cartel, resulting in sharp increases in energy prices. As a consequence, the oil exporters gained at the cost of oil-importers. These factors led to persistent BoP deficits, resulting adverse effects on economic growth, frequent, unexpected and large changes in currency alignments and world-wide inflationary pressures.

The third period 1983-95 was one of completed adjustment to the changed world trade environment and resumption of economic growth and growth in world trade.

Both the periods 1973-83 and 1983-95 saw the re-emergence of business cycles in DCs, instability in the primary commodity (especially oil) prices, turbulence in the world financial markets, and the persistence of double-digit rates of unemployment in the European Industrial countries. While the degree of turbulence was lower during 1983-95 than during 1973-83, the world trade environment had doubtless undergone a radical change. For descriptive purposes, we refer to 1973-80/1973-83 as the period of turbulence and instability and 1983-95 as one of adjustment. Our choice terminal years 1980/1983 is indeed arbitrary and based on judgement but the periods considered capture reasonably well the characterising events.

Table 2 provides trend growth rates (per cent per annum) of volume of total merchandise, agricultural and manufacturing exports of the world along with their corresponding gross elasticities with respect to world production / world GDP for five sub-periods : 1963-73 corresponding to the golden age of capitalism, 1973-80 and 1973-83 corresponding to the period of two oil price

hikes and the breakdown of the fixed exchange rate regime, 1984-90 and 1984-95 marked by gradual adjustment to and recovery from the shocks of the 1970s. The following salient points emerge from an examination of this table. One, volume growth of manufacturing exports has been consistently faster than that of agricultural exports. Two, there has been a considerable slowdown in the volume growth of exports between 1973-83 followed by a recovery between 1984-95. However, volume of world trading opportunities always grew faster than the volume of world output/GDP not only during the golden age of capitalism but also during the period of turbulence and instability and much more so during the period of adjustment. This has also been so historically over the last nearly three centuries with the exception of the inter-war period in the twentieth century

(Table 1). Three, there was a sharp decline in gross-elasticities with respect to world output between 1963-73 and 1973-83 but they not only regained during 1984-95 but exceeded in magnitude their pre-1973 levels. Four, there has been a sharp decline in the gross elasticity of volume of world agricultural exports with respect to world manufacturing production. After introducing the price effect in a crude fashion, the partial elasticities (after netting out the price effect) of manufacturing exports with respect to world real GDP turn out to be higher than gross elasticities (Table 3). We conclude, therefore, that despite the emergence of cyclical variations in world economic activity and despite the slowdown in volume growth compared to pre-1973 period, the prospects for manufacturing exports, as judged by the "net"or "gross"elasticities[2] appear to be bright during the recent period. In other words, world trade offered opportunities irrespective of the conditions of the world trade environment. Freer multilateral trade, by bringing about positive sum-game, would continue to benefit low-income countries if they successfully switch to manufacturing exports.

III. EXPORTS AND ECONOMIC GROWTH : ECONOMETRIC SPECIFICATION AND ESTIMATION

It is the observation of Raynolds (1983) noted above that provides the backdrop for our exploration of the relationship between exports and economic growth on the basis of international cross-section of industrializing countries. The countries included in our study consist of those countries classified as "semi-industrialised" and "marginally semi-industrialised" in the unpublished study of Chenery (1980) cited in Feder (1983) for which the data are available in the latest version of the World Tables published by the World Bank. In addition, we have also included countries (depending again on data availability in the quoted source) which are covered in the study of trade regimes reported in the World Development Report 1987. Our final sample consists of 31 countries. The World Tables provide the data from 1966 to 1995. This period was divided into three sub-periods : 1966-73, 1973-83 and 1983-95 belonging respectively to the golden age of capitalism, the period of turbulence and instability and the period of adjustment characterised in Section II.

Beginning with Balassa (1978), there have been a large number of studies exploring the linkage between the volume growth of exports and the rate of economic growth (measured by the rate of growth of real GDP). Since exports constitute a part of real GDP, a rapid volume growth would obviously contribute ceteris paribus to rapid growth in real GDP. However, various studies have argued that the importance of exports transcended this formal relationship. At the aggregate level, in the foreign exchange constrained economies, export-earnings ease the foreign exchange constraint and directly contribute to growth. In most countries, rapid volume growth of exports have also brought about a rapid growth in income terms-of-trade with fluctuating barter terms-of-trade

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2 [2] The elasticities are termed "gross"because they are based on the (log linear) regression of export volume index on the index of volume of world production/GDP and excludes other

without any trend in most cases. In a few cases where barter terms-of-trade show a trend deterioration, the rate of deterioration in absolute terms has been much smaller in magnitude than the volume growth of exports. The contribution of volume growth of exports to economic growth has varied from country to country depending on how the import-capacity (reflected in income terms-of-trade) has been deployed to promote overall economic growth. At the micro-level, exposure to competitive global markets enables the exporting firms to reap economies of scale, offer greater incentives for technological improvements and induce them to adopt more efficient management, marketing and organizational techniques.

In econometric specification, the spillover effects of expansion in volume of exports have been incorporated in two alternative ways. Tyler (1981) includes export volume variable along with labour and capital in a Cobb-Douglas production function invoking scale effects and externalities generated by exports. Kavoussi (1984), on the other hand, makes the time-rate of change of the efficiency parameter in Cobb-Douglas function a linear function of the growth rate of volume of exports. These two specification make GDP growth a linear function of rates of change in labour, capital and volume growth of export with intercept (Tyler) or without intercept (Kavoussi). However, the numerical estimates of the rate of change of capital stock is not available across countries. Hence, the studies using this specification approximate the rate of change of capital stock by the rate of growth of investment in real terms. This does not seem to be appropriate.

A better specification is suggested by Feder(1983) where he divides the economy into two vertically integrated export(X) and non-export(N) sectors. Externalities generated by exports for the non-export sector are incorporated by assuming "disembodied" form :

(1) $\qquad N = F(K_n, L_n, X) \ = \ X^{\gamma} \Phi(K_n, L_n)$

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determinants like relative prices.

where K_n and L_n are capital and labour in non-export sector.

He also postulates that marginal factor productivities in the export-sector are higher than those in the non-export sector by a constant δ. Following Bruno(1968), he assumes that the marginal product of labour in non-export sector is proportional to the overall average labour productivity in the economy. Taking GDP(Y) to be a sum of N and X, he derives the following estimation equation :

(2) $\qquad r_y = \alpha(I/Y) + \beta r_L + [\frac{\delta}{1+\delta} - \beta(\frac{X}{Y})](r_X) + \gamma r_X$

where $\frac{I}{Y}$ is rate of investment

$\frac{X}{Y}$ is share of exports in GDP

r_Y, r_L, r_X are rates of growth of GDP, workforce and exports respectively.

Apart from the volume growth of exports and growth rate of workforce, the Feder specification introduces a new variable $(\frac{X}{Y}).r_X$ which we call the " Feder variable ".

From the <u>World Tables</u> published by the World Bank, we have used the following variables for estimating (2).

Growth rate of GDP (r_Y) is given by the exponential growth rate from a semi-log time trend regression over the specified period for GDP at constant 1987 prices in local currency units.

Rate of investment $\frac{I}{Y}$ is the average over the specified period with both investment and GDP being measured at constant 1987 prices in local currency units.

Rate of growth of workforce (r_L) is approximated by the rate of growth of population over the specified period.

Ratio of exports to GDP $(\frac{X}{Y})$ is the average over the specified period with both exports and GDP being measured at constant 1987 prices in local currency units.

Rate of growth of volume of exports (r_X) is given by the exponential growth rate from a semi-log time trend regression over the specified period for exports at constant 1987 prices in local currency units.

The estimation results for the three sub-periods are given below :

$$r_y = const + \alpha(I/Y) + \beta r_X$$

Period	No.of obs.	$const.$	I/Y	r	ADJ. R^2
1966-73	31	0.014	0.117 (2.618)	0.273 (4.958)	0.549
1973-83	31	-0.006	0.13 (2.583)	0.294 (3.55)	0.418
1983-95	31	-0.029	0.201 (4.091)	0.262 (2.857)	0.734

The estimation of the Feder equation over the three sub-periods 1966-73, 1973-83 and 1983-95 showed that both r_L and the Feder variable were statistically insignificant. From equation (2), we interpret it to imply the existence of surplus labour and that the marginal factor productivity differential $(\frac{\alpha}{1+\alpha})$ and "disembodied" externality factor (θ) were mutually offsetting. The volume growth of exports turned out to be statistically significant in all the three sub-periods. However, the value of the squared (adjusted) multiple correlation coefficient falls sharply from 1966-73 to 1973-83 period, a possible reflection of major changes in the world trading environment. While the estimated coefficient of the export volume growth varied within a narrow range between 0.26 and 0.29, the upper limit in the range is registered for the period 1973-83 - the period of instability in international trade and dislocation caused by the two oil-price hikes. We take these results to confirm that the ceteris paribus

contribution of export volume growth to economic growth has been obtained under virtually three widely different regimes governing the world trade and is consequently independent of the world trade situation. We take this to be the confirmation of the Kravis-Raynolds position of international trade playing an important instrumental role in reinforcing the domestic mainsprings of the economic growth process.

A limitation of this econometric exercise may be noted before we end this section. Consistent with the view of globalisation as a two-way interactive process taken in the introduction, an econometric exercise to verify the instrumental role of exports in the growth process warranted a simultaneous equation formulation. On the other hand, the econometric estimation undertaken in this section is based on a single equation formulation postulating a one-way causal relationship running from exports to economic growth. There is, therefore, a clear need for improving the formulation. We hope to undertake this in the second phase of the study. We do not, however, expect the broad directional conclusion noted above to be reversed in the improved formulation and estimation of the relationship.

IV. VOLUME GROWTH OF EXPORTS AND ECONOMIC GROWTH : AN INTERNATIONAL COMPARISON WITH INDIA

Is the instrumental role of exports in the economic growth process of a country dependent on the favourable world trading environment ? While the 1950-73 period of the golden age of capitalism proved the Nurkse-Prebisch-Singer predictions regarding the bleak export prospects for the low-income countries to be wrong, the increased volatility in the world trade environment since 1973 has given rise to another form of export pessimism. The new version attributed the spectacular export-performance of the east Asian rapidly growing economics till 1973 to the favourable world trade situation and advocated export pessimism on the basis of increased instability in the changed world trading environment. It is, therefore, essentitial to examine empirical evidence to address this question.

For the empirical examination, it is necessary to state the view discussed in the introduction that we regard globalisation as a two way interactive process. The outcome of rapid economic growth is taken to emerge from the interaction of the internal mainsprings of the growth process with the external trading opportunities. Conceptually, following Harberler (1959,1968), one can distinguish between the autonomous outward shifts in the production possibility frontier (PPF) of a given country resulting from domestic growth impulses and the trade induced shifts in PPF emerging from the interaction with the global trading opportunities. It is the latter shifts in which we regard as representing the instrumental role. Consequently, the observed growth performance cannot be attributed entirely to the growth in export volume. What one can expect to observe in data is that rapid economic growth is more likely to be associated with the growth in export volume. The observed growth performance is the result of <u>both</u> the autonomous shifts in PPF which are not identifiable in aggregate data and the trade-induced shifts which are taken to be influenced by the following factors :

(a) The gross elasticity of country's export volume with respect to the world trade volume. This reflects the degree of success of a given country in exploiting the world trading opportunities.

(b) The volume growth of country's exports which indicates the success of a country in generating exportable surpluses.

(c) The net-barter-terms-of-trade which represent the terms of exchange associated with the export volume growth.

(d) The income-terms-of-trade which reflect the import-capacity of export earnings which may be taken to contribute to the growth process by relaxing the foreign exchange constraint and by removing specific bottlenecks removable through imports.

In the broad framework discussed above, the expected positive association between the rate of economic growth and the volume growth of exports is taken

to be mediated through the movement in the net-barter-terms-of-trade and the resulting impact on the income-terms-of-trade. All these factors are expected to be affected by the volatility in the world trade environment.

Table 4 presents (i) gross elasticity of country's export volume with respect to the volume of world exports and (ii) exponential growth rates per annum of export volume, net barter-terms-of-trade, income-terms-of-trade, and (iii) exponential growth rate per annum of real GDP for a set of ten countries including India which either have used export-orientation in the past to achieve rapid economic growth or are embarking on trade liberalisation with a view to stepping up the rate of economic growth. The magnitudes (i) to (iii) are presented for the two sub-periods of the post-1973 period : the period of turbulence and instability 1973-83 and the period of adjustment 1984-95. While the selection of countries is subjective, the objective is to assess whether certain countries have succeeded in using the instrumental role of exports despite major changes in the world trading environment including increased volatility. This possibility arises precisely because of our treatment of globalisation as a two-way-interactive process.

We start the discussion by providing the rationale for the choice of countries in Table 4 for comparison with India. The choice of China is suggested by the similarity in factor-endowments leading to a potential competition in the third-country market for

(mostly labour-intensive) products. China opened up its economy in the late 1970s at a very rapid pace and increased its share in world exports from 0.9 percent in 1980 to as high as 3.3 percent in 1997. In comparison, India managed only to double its share from 0.4 percent to 0.8 percent over the same period.

Bangladesh and Pakistan have been selected because of their being India's neighbours in the South Asian region and their competition with India in the third country markets for labour-intensive products. Both the countries are still small players in the world markets with their shares in world exports rising

marginally from 0.04 to 0.06 percent between 1980-96 for Bangladesh and from 0.14 to 0.18 percent for Pakistan over the same period. They also recorded impressive growth in volume of exports of nearly 11 percent per annum (Bangladesh) and 9 percent per annum (Pakistan) during 1984-95.

The next two countries - South Korea and Taiwan - have been following export-oriented industrialisation since the mid-1960s. The volume growth of exports slowed down from 14 percent for Korea and 10 percent for Taiwan during 1973-83 to 9 percent and 7 percent per annum respectively.

The remaining four countries belong to the Association of South East Asian Nations (ASEAN), namely, Thailand, Malaysia, Indonesia, and the Philippines. Unlike their East-Asian counterparts South Korea and Taiwan which have been natural-resource deficient but labour-abundant, Thailand, Malaysia and Indonesia have been relatively more natural-resource abundant than South Asian countries as well as South Korea and Taiwan. These three countries opened up at a rapid rate in the nineteen eighties and experienced a phenomenal average annual volume growth of exports of 17 percent (Thailand), 13 percent (Malaysia) and nearly 10 percent (Indonesia) during 1984-95. Even though part of the ASEAN, the Philippines has remained much less open to international trade on the same lines as the three South Asian countries (India, Bangladesh and Pakistan).

As noted in Section II, the volume growth of world exports declined from 8.6 percent per annum between 1950-73 to 3.25 percent per annum between 1973-83 with greater instability around the lower growth rate (Table 1). Many oil-importing export-oriented countries experienced sharp deterioration in barter terms-of-trade and the consequent disruption of the growth process during this period. On the other hand, oil-exporting countries gained from favourable barter terms-of-trade. The second period 1984-95 was one of recovery from the oil shocks and resumption of steady growth in volume of world exports at 5.6 percent per annum - a rate lower than that during the pre-oil shock 1950-73

period (Table 2). Oil prices declined in real terms during this period so that oil-importers gained at the cost of oil-exporters. Of the ten countries covered in this study, Indonesia, Malaysia and China have oil reserves whereas the remaining seven countries have been oil-importers.

Taking the period 1973-83 of turbulence and instability, all the seven oil-importing countries in the present study experienced deterioration in barter terms-of-trade ranging between nearly 2 percent per annum for South Korea and Bangladesh to as high as 6 percent per annum for the Philippines. In contrast, the oil-exporters like Indonesia and Malaysia improved their barter terms-of-trade at the rate of 8 percent and 3.5 percent per annum respectively. China with self-sufficiency in oil, experienced fluctuations without any trend in barter terms-of-trade. Among the oil-importing countries, despite terms-of-trade deterioration, the export-oriented early industrialisers South Korea and Taiwan expanded their export volumes nearly 3.5 to 4 times as fast as the (slowed-down) global export volume growth and experienced improved income terms-of-trade at the rate of 12 percent (South Korea) and 8 percent (Taiwan). Thailand too was in the same league as regards gross elasticity with respect to the world export volume. However, terms-of-trade deterioration at 3.3 percent per annum offset nearly 9 percent volume growth of Thailand's exports. At the other extreme were the Philippines and Pakistan whose reasonable volume growth of exports was offset by a sharp deterioration in barter terms-of-trade. Both the countries recorded just about 1.5 percent annual growth in income terms-of-trade with export volume growth exceeding 7.5 percent annually. India and China offer interesting contrasts over this period. This period marked India's reluctant entry into the world trade forced by the need to meet the rising oil-import bill. China opened up its economy at a fast pace in the second half of this period. The volume growth of exports at around 10 percent per annum for China was nearly twice that of India. On top of the slower growth in export volume, a sharp deterioration in barter terms-of-trade for India at the rate of 4.4

percent per annum brought down the growth rate of income terms-of-trade to less than 1 percent per annum with considerable instability around the growth rate. In comparison, with domestic oil reserves and rapid opening up, China's income terms-of-trade grew at nearly 10 percent per annum.

What emerges from an examination of the first panel of Table 4 relating to 1973-83 period ? With the obvious exceptions of oil-exporting countries (Malaysia and Indonesia) and baring the outlier observation of Bangladesh, all the other seven countries succeeded in expanding their export volumes faster than the volume of world exports despite volatility in world trade. Again, with the same exceptions, they posted reasonably high volume growth of exports which were associated with six-percent-plus growth rates in real GDP (India and Philippines were exceptions). Many of them did so despite deterioration in barter-terms-of- trade. Malaysia and Indonesia with oil reserves, experienced rapid economic growth despite slow volume growth of exports as they benefited from improvements in income-terms-of-trade.

The second period 1984-95, as mentioned earlier, has been one of recovery from the oil shocks and the resumption of growth in world trade albeit with cyclical fluctuations. The new entrants into the export-oriented industrialisation - Thailand and Malaysia - record high elasticities of 3.1 and 2.4 respectively with respect to the volume of world exports. Corresponding elasticities for South Korea and Taiwan decline from high values exceeding 3 during 1973-83 to 1.7 for South Korea and 1.3 for Taiwan during 1984-95. Interestingly, elasticities for India, China, Indonesia and Pakistan have been in a narrow range around 1.7 for South Korea whereas Bangladesh and the Philippines record low elasticities around unity. Different countries started from different base levels of exports with China, Korea and Taiwan having a large initial base compared to a much lower base of the remaining countries in our study. Nevertheless, the point clearly emerges that while aggressive participants in international trade like China, Thailand, Malaysia and Indonesia shared more than proportionate

growth in the world market for their exports, other countries including India were not left far behind when the volume of world exports accelerated during 1984-95 in comparison with 1973-83.

How did the barter terms-of-trade behave during 1984-95 when the ten countries in our study shared the growth in world trade ? Nine out of ten countries experienced fluctuations without any clear trend. The only exception was Bangladesh with annual trend deterioration at 3 percent per annum. The barter terms-of-trade deteriorated also for the oil-exporting Indonesia at around 4 percent per annum but fluctuations around it had also been larger than in the earlier period.

All the ten countries including Bangladesh and Indonesia recorded impressive growth both in the volume of exports and in income terms-of-trade. Healthy growth of GDP at constant prices exceeding 5 percent per annum was associated with rapid expansion in import-capacity in all the countries except the Philippines and Bangladesh. With the exception of the last mentioned two countries and Pakistan that experienced a minor slowdown in growth, rapid GDP growth of the earlier (1973-83) period was either maintained as in Malaysia and Indonesia or raised as in the case of China, India, Thailand and South Korea. A slowed down growth rate in Taiwan of 7.4 percent (1983-95) from 9 percent per annum (1984-95) is still the third highest next only to China and South Korea**.**

We thus find that even during the period of turbulence and instability in world trade (1973-83), certain countries did experience rapid economic growth that was associated with the rapid volume growth of exports. During the period of adjustment (1984-95) and the resumption of the growth in the world trade, the association between export growth and economic growth tended to become stronger. Our conclusion, therefore, is that in the two-way interactive process of integration with the global economy the instrumental role of exports in a

country's growth process need not be dependent on the favourable world trade environment.

V. EXPORT PERFORMANCE OF MANUFACTURED PRODUCTS : INDIA AND CHINA

We first spell out the motivation behind undertakings the comparison of export performance between China and India.

The protagonists of the import-substitution orientation in the Indian growth strategy have advanced one important argument against export-orientation that has been undertaken since 1991. According to this argument, 'small' economies (defined by the small size of the population) with limited size of the domestic market have no option but to specialize on the basis of comparative advantage in order to raise the living standards. On the other hand, 'large' economies like India (defined correspondingly by the large size of the population) possess a potentially large size of the domestic market which can form a sound base for the import-substitution oriented diversified industrial structure. As a result, such large economies derive very limited gains from international trade and hence export-orientation in their growth strategies and hence trade liberalisation is unwarranted. The argument can be easily refuted on the basis of a priori reasoning. One, even the static gains from trade depend entirely on comparative advantage and do not depend in any way on the size of the country's market. Two, the dynamic repetitive positive-sum game view of international trade presented in this paper makes the gains from trade dependent not on the size of the market but on the interaction between the internal mainsprings of the growth process and external trading opportunities. Three, even if domestic market size

is taken to be relevant, Nurkse (1959) pointed out long time ago that size of the market depends as much on per capita real income and geography (affecting transport costs) as on the size of the population and that at low levels of real income per capita (which is correctly attributed to the low absolute productivity of labour), the size of the market which, as argued by Harberler (1959,1968), expands as a result of autonomous shifts in the production possibility frontier (PPF) and these, in turn, are reinforced by the trade-induced shifts in the PPF, so that dynamic gains from trade can accrue to the countries with large population with low levels of real per capita income.

However, in addition to the a priori reasonings, an empirical demonstration of the view presented in this paper in favour of export-orientation can be presented by undertaking a comparison of export performance between India and China, two of the world's most populous economies with reference to pace of opening up of these two relatively labour-abundant and natural resource-deficient economies and the consequent changes in their structure of comparative advantage and the diversification in the export basket resulting from the interaction between autonomous and trade-induced shifts in the production possibility frontiers.

We have already noted in Section IV the differences between India and China in respect of the rates of growth of aggregate volume of exports and how higher export volume growth in China was associated with higher rate of economic growth. In this section, we undertake this comparison with respect to manufactured exports and in terms of both broad categories of as well as at the disaggregated 3-digit SITC level. As noted in Section IV, these two continental countries with similar resource-endowments are also expected to be competitors in the third-country markets for mostly labour-intensive products.

As a brief background, it may be noted that both India and China had adopted inward-oriented growth strategies in the 1950s and consciously minimized the participation in the international division of labour. It has already been noted

that the 1970s saw India's reluctant entry into international exchange forced by the need to pay for a rising import bill of petroleum, oil and lubricants arising from steep oil price hikes. The same decade also recorded accumulation of foreign exchange reserves and government stocks of food grains. With the gradual relaxation of foreign exchange and wage-good constraints, India has undertaken since the late 1970s selective deregulation of industrial and import licensing combined with virtually across-the-board concessions for exporters and later a comparatively much more wide-ranging trade and industrial liberalization since 1991. As a result, the profitability of selling in the international markets has been gradually going up relative to selling in the domestic market. China also opened up its economy since the late 1970s when Deng initiated economic reforms and later accelerated the it by permitting private foreign investment under what he described as the strategy of market socialism. In aggregate volume terms, India's exports grew at 7.6 percent per annum during 1980-95 compared to 10 percent per annum for China over the same period. The difference in growth rate implies that after the fifteen year period China's export volume was 4 times its level in 1980 whereas India's was 3 times its (lower than China's) level in 1980. It should, therefore, be obvious that judging by the volume of sales in the international markets, the pace of opening up has been much faster in China than in India. This had been associated with India coming out of the low (the so-called Hindu) growth syndrome of 3.5 percent annual real GDP growth till 1979-80 and recording 5.3 percent average annual growth between 1980-95. Over the same period, Chinese GDP in real terms grew at a much higher rate of 9.7 percent per annum. A mutually reinforcing interaction had indeed taken place between the internal mainsprings of the growth process and international trading opportunities as suggested by Kravis (1970).

It is, therefore, proposed to study the changes in the commodity composition of exports which is expected to reflect the changing structure of comparative

advantage brought about by autonomous and trade-induced shifts in the production possibility frontier. At the disaggregated 3-digit SITC level, value of exports (in U.S. dollars) is available from 1980 to 1996 for India and 1987 to 1997 for China from the Comtrade data from the United nations made available by the World Bank.

For tracking the changes in commodity composition of exports with a view to locating shifts in dynamic comparative advantage, we have adapted the classification scheme suggested in UN-ESCAP study (1991) which provides the 3-digit SITC level details of the five categories of industrial products, namely, Resource-intensive products, Labour-intensive products, Scale-intensive products, Differentiated products and Science-based products.

The UN-ESCAP classification does not exhaust all manufactured products. It excludes certain 3-digit level codes relating to 'not elsewhere classified' category and a few others. The study does not explain the rationale of classification nor indicate the source from which the classification is taken. It is also not clear how the intermediate products in the international sourcing chain are handled in the classification. Our presumption is that the technology sophistication would be greater and the value addition higher in the differentiated (non-homogeneous) and scale-intensive (homogeneous) products than in the resource-intensive and the labour-intensive categories. Science-based products include certain chemical-based products some of which are also included in the scale-intensive category. Presumably, the science-based products require "high" technology. Despite these problems we take commodity composition of exports according to the broad 5 categories listed above as providing a reasonable approximation to the structure of comparative advantage.

We adapted the UN-ESCAP classification with the following modifications. One, we have omitted petroleum products (SITC 331,332) and confine ourselves to manufacturing products defined by SITC categories 4 to 8. Two, all

three digit categories not covered by UN-ESCAP classification in SITC 4 to 8 fall into two categories : those classified as 'not elsewhere specified' and others clearly specified. The former have been placed in the miscellaneous category number 6. The latter have been allocated to the first five categories on the basis of some a priori judgments. The subsequent tables, therefore, provides a six-category breakdown of exports including the sixth miscellaneous group. We also use the Balassa measure of revealed comparative advantage (discussed below) to locate the products experiencing above average and below average shares in world markets in relation to average share of the country in all manufacturing products in a given year.

As a backdrop for the India-China comparison, we may briefly note the broad details of the UN-ESCAP study. This study provides the changes in the commodity composition of products indicated above. These changes are given for following eight selected years covering the post-second World War period : 1965,1970, 1975, 1980 and 1986 to 1988. The country-coverage extends to four pioneers of export-oriented rapid growth (Japan,Republic of Korea,Hong Kong and Singapore), four countries of the Association of South-East Asian Nations (Indonesia,Malaysia,Thailand and the Philippines), five countries of South Asia (Bangladesh,India,Nepal,Pakistan,Sri Lanka) and the People's Republic of (mainland) China. The changes in the percentage export-composition of these fourteen countries over the twenty-three year period appears to indicate that the pattern of dynamic comparative advantage starts with the resource-intensive or the labour-intensive products (depending on the initial factor-endowments). The progress after this is varied as some have moved to the scale-intensive products, others to the differentiated products and a few to the science-based products.

While we have the 3-digit SITC level disaggregated time-series for India and the world from 1980 to 1996 and for China from 1987 to 1997, the following summary tables present averages for 1980-86 (7 years), 1987-90 (4 years), 1991-92 (2 years) and 1993-96 (4 years). The periodisation is dictated partly by

the India focus of this study and partly by the data availability. The first period 1980-86 was forced by the non-availability of data for China but it so turns out (Table 5,column 4) that aggregate (US $) value of total world exports nearly regain their 1980 level in 1986 and the following 4 years(1987-90) record double-digit average growth rate indicating recovery from the second oil shock. The next two years were years of dislocation for India with the breakdown of bilateral barter trade arrangements with the erstwhile communist countries of USSR and the East Europe. The period is also marked for India by the adjustment to the foreign exchange liquidity crises of 1991.The next four years 1993-96 have been a period of rapid real GDP growth for India.

Table 5 presents the index numbers of value of manufactured and total (including non-manufacturing products) exports. Notice that indices for manufactured products are uniformly higher than those for total exports for each year.

As a perspective of the globalisation pattern, Table 6 presents the changes in the composition of world manufacturing exports according to the six categories discussed earlier. It shows that the share of manufacturing exports in total exports over the 17 year period has increased progressively from 64.5 percent during 1980-86 to nearly 80 percent in 1997. This brings out the obvious but fundamental fact that low-income countries undertaking export-oriented growth in the twenty-first century will have to focus on developing competitive advantage in industrial products. Within the six categories of industrial products, the shares of scale-intensive and resource-intensive products have been steadily declining, while those of labour-intensive products have remained virtually constant.The category of labour-intensive products has been marked by international relocation of production away from labour-scarce developed countries and towards labour-abundant low-income countries. The share of technologically more sophisticated differentiated products and science-based

products has been increasing. While the share of the science-based products continued to be small in numerical magnitude, that of the differentiated products has become dominant. This is the category that is important in intra-industry trade that takes place mostly among the developed countries and which has been the basis of Michael Porter's well-publicised theory of competitive advantage. Since intra-developed country trade flows are known to dominate international commodity trade, Table 6 provides an indirect confirmation of the plausibility of the classification adopted in the present study.

Table 7 provides the exponential growth rate (percent per annum) for U.S. dollar value of world manufacturing exports and manufacturing exports for India over the sixteen year period 1980-96 according to the broad categories of products. The corresponding growth rates for the world, India and China over a shorter period 1987-96 appear in Table 8. For the world exports of manufactured products, consistent with the movements in the shares noted in Table 6, science-based and differentiated products record higher than average growth rate for the aggregate exports of manufactured products in both the Tables. The exports of resource-intensive and scale-intensive products show lower than average growth rate over the same period.

Over the sixteen year period 1980-96, Indian manufactured exports grew faster than the world exports both in the aggregate and in each category of products. The instability around the growth rate was higher for the technologically advanced differentiated and science-based products than that for the corresponding category of world exports. Impressive growth rates between 12 and 15 percent per annum were recorded for the labour-intensive and scale-intensive products.

A comparison of growth rates for India, China and the world over a shorter period of one decade 1987-96 is presented in Table 8. Barring the resource-intensive products, Indian manufactured exports grew faster than the world exports for each category of products. However, the exports of manufactured

products of China starting from a higher base than India grew much faster with greater stability in the growth rates than those for India. In the aggregate, the (US $) value of India's manufactured exports increased at 12 percent compared to 19.5 percent per annum for China. The differential implies that at the end of the 10 year period, the aggregate U.S. dollar value of China's manufactured exports was 5.9 times its 1987 level whereas for India it was 3.1 times its (lower than China's) 1987 level. Interestingly among the categories of products, growth rates for China are the highest exceeding 20 percent per annum for technologically more sophisticated science-based and differentiated categories - more than 10 percentage points higher than those for India. For the labour-intensive products, China's exports grew at 17 percent annually compared to 12 percent for India. The differential in growth rates between China and India was the lowest for the scale-intensive products (5 percentage points) and the highest for the resource-intensive products (12 percentage points).

With these considerably higher growth rates than India, China's presence in the world market has grown at a much faster rate (Table 9 for India and Table 10 for China). During 1987-90, India's share in total world exports at 0.6 percent (Table 9,line 8) was one-third that of China (Table 10). Although India's share increased marginally to 0.7 percent during 1993-96, China's share increased from 1.9 percent to a little over 3 percent over the same period. In labour-intensive products where both the countries compete in the third markets, India's share was only 1.6 percent during 1987-90 compared to just over 6.5 percent for China. In all the categories except the miscellaneous products China has nearly or more than doubled its share between 1987-90 and 1993-96. Interesting contrast also comes out in 1997, the year in which value of aggregate world exports declined by nearly 11 percent (Table 5) over the previous year. China's aggregate export rose by 5.5 percent to reach 4.3 percent share in world exports. In comparison, based on IMF's International Financial Statistics, India's aggregate exports increased only by 2.5 percent from $33.1 to $33.9

billion with a share in world exports of about 0.8 percent In other words, India's export performance appears to be much more sensitive to the variations in world exports than that of China.

How important were the broad category-wise exports in the total exports of all (including other than manufactures) products for India and China ? The answer to this question can be attempted on the basis of Tables 11 for India and Table 12 for China. Apart from the broad categories of products already discussed, these tables further subdivide the exports within each category according to the Balassa measure of revealed comparative advantage (RCA).

At the 3-digit SITC disaggregation, RCA is defined by the ratio of two shares : (a) share of country's exports in SITC product to world exports of the same SITC product code and (b) share of country's total manufactured exports to world exports of manufactured products (SITC one-digit categories, 4,5,6,7, and 8). RCA exceeding unity indicates that the country's share in the world markets of SITC product is higher than country's share in world exports of manufactured products. This is taken to indicate a revealed comparative advantage of the country in that SITC product. For a given country and in a given SITC product, it reflects a higher than average share of the exports of all manufactured products.RCA is indeed an indirect and crude measure for two reasons. One, the norm used for judgment, namely, the country's share of manufactured products in world exports of manufactures is not an exogenous standard but is indirectly influenced by the numerator. Two, the shares of exports in value terms themselves reflect a complex interaction between movements along and/or shifts across demand and supply curves.The justification for using a crude RCA is two-fold. One, because of the non-observable autarchy point in a multilateral trading, comparative advantage cannot be analytically ascertained at the product level but only inferred at the macro-level on the basis of factor-endowments. The second and the practical reason is that RCA can be calculated easily on the basis of readily available data

on the value of exports. It enables the identification of fast-moving items in a country's export-basket.

Before examining Tables 11 and 12 in detail one more point regarding the interpretation of RCA needs to be noted. This pertains to the inter-country comparisons. The yardstick of RCA is the country-specific share of manufactured exports in the world exports of manufactured products. The average values of these shares over the relevant years are given in line 18 for India (Table 11) and China (Table 12). The Chinese share of 1.72 percent during 1987-90 was more than three times that of India at 0.58 percent. Similarly, during the 1993-96 period, Chinese share at 3.3 percent was more than five times that of India. Clearly the yardsticks are much more demanding for China than for India in absolute terms. Nevertheless, the country-specific yardsticks would make it possible to locate the impact of the fast-moving product on the growth of exports.

Major finding from Table 11 and 12 may now be noted.

One, a major change in the quantitative importance of manufactured exports for India (line 15) takes place between 1980-86 and 1987-90 when their share in total exports rose by 15 percentage points from 57 percent to 72 percent. Thereafter, it increased only marginally to about 77 percent during 1993-96. Over the comparable period from 1987-90 to 1993-94, with much more rapid growth of total exports the corresponding share of manufactured exports in total exports moves up sharply from 67 percent to over 83 percent for China.

Two, while the share in total exports of fast-moving items in total manufactured exports with RCA exceeding unity increases marginally by 2 percentage points for India around 58 percent between 1987-90 and 1993-96 (line 13), the corresponding share for China increases from a lower value of 48 percent to over 64 percent over the same period. A major contribution to the fast moving items comes predictably from the labour-intensive products which increase their

share in total exports from 26 to 29 percent for India (line3) and from 33 to 38 percent for China.

Three, relatively slow-moving items with RCA lower than unity marginally increase their share in total Indian exports (line 14) from 16 to 19 percent whereas their share remains unchanged in the total Chinese exports between 1987-90 and 1993-96.

Four, slow-moving items dominate over the fast-moving ones in the category of differentiated products for both India and China.

Overall, at the broad six-fold level of product classification, India's export basket appears to be more diversified than that of China. While both the countries have focused on labor-intensive products, India has diversified into the scale-intensive category much more than China in relative terms. In absolute terms, however, China's manufactured exports in 1993-96 at $109.23 billion were more than five times those of India at $21.23 billion.

Within the category of labour-intensive exports, six SITC products in 1987 accounted for 91 percent of total labour-intensive exports of India and 84 percent for China (Table 13, line 9) and 62.5 percent of world's labour-intensive exports. In the initial year 1987, they constituted 25.5 percent of total exports for India and 28 percent for China. By 1996, their share in India's exports increased to 27 percent while the corresponding share in Chinese exports declined to 24 percent (sum of lines 1 to 6 for columns (6) to (8) in Table 13). For all these products indices, of revealed comparative advantage remained well above unity for all the items as well as for all the years so that these have been fast-moving in the export baskets of both India and China. These are analysed in Table 13. From the initial levels of exports in 1987 (columns (4) and (5)), it is clear that with the exception of one item : floor cover, tapestry etc(SITC 657) (where exports were about equal in value terms), the level of China's exports were 3 times or higher. The share of these textile products in total exports declined for all the items in China. This was so also for India with the exception

of two items where the share increased, namely, Textile yarn and thread (SITC 651) and Clothing, not of fur (SITC 841).The exponential growth rates for the exports of these textile items are given in columns(10) for India, column(11) for China and column(12) for the world. Both India and China expanded exports of the six textile items much faster than those for the world as a whole so that their shares in world markets increased over the decade.

Of the six products, the slowest growing item (SITC 657, floor cover, tapestry etc.) was also small (2.5 percent) in relation the world exports of all the labor intensive products and where exports of China and India have been growing at not too disparate rates.

The first two items (SITC 651, textile yarn and thread, and SITC 652, cotton fabrics woven) accounting together for about 14.5 percent of the world exports of all the labour-intensive products, and where world exports have been growing between 5 to 6 percent per annum, Indian exports registered considerably higher and more stable growth rates than those of China. Because of more than 3.5 times of the annual growth rate of India in the case textile yarn and thread, India's exports equaled those of China by 1997 while starting with one-fourth China's level in 1987 (line1, columns (4),(5),(10) and (11)). In the case of woven cotton fabrics (line 2), however, India-China growth rate differential is much narrower, and despite greater instability around the lower growth rate, China manages to maintain around 15 percent share of world exports compared to around 5 percent for India throughout the period.

For the remaining three items (SITC 653,656 and 841), world exports have been growing between 8.0 to 8.5 percent per annum. Of these, the biggest item non-fur clothing (SITC 841) had nearly one-third share of the world exports of all the labor-intensive products in 1987. While India's exports grew at an impressive rate of 12 percent per annum, China expanded its exports at a phenomenal rate of 18.7 percent per annum. Consequently, India's share in world market increased but remained less than 5 percent by 1996 whereas

China's share rose from around 7.5 percent to upwards of 15 percent by 1995. The second biggest labour- intensive item is non-cotton woven textiles (SITC 653) with 11 percent share in world exports in 1987. While the growth rates for India and China are around 10 percent per annum, with more than 6 times the initial level, India's share stays around 2 percent compared 7.0 to 7.5 percent for China. The last labour-intensive item Textile etc products NES (SITC 656) accounted for less than 2 percent of world exports of all the labour-intensive products in 1987. With very much higher fluctuation around the same growth rate for both the countries and with much lower level in 1987, India's share in world exports hovers around 2 percent whereas China maintains its share upwards of 15 percent throughout the decade.

What is the overall picture that emerges from the India-China comparison of selected labour-intensive products ? In the third biggest item in world exports of labour-intensive products, viz, textile yarn and thread (SITC 651) where starting from a low base, India has posted impressive gains in competition with China to acquire an equal share in the world exports by 1996 and the slowest growing minuscule item of floor cover, tapestry etc. (SITC 657) where initial levels being equal, the two countries'share traverse a similar path. These are the two items where India has successfully competed with China. In the two biggest labour-intensive items of non-fur clothing (SITC 841) and non-cotton woven textiles (SITC 653) China has either managed to gain or maintain high shares with India's share fluctuating at much lower level. The story is the same in the case of the remaining two items : woven cotton fabrics (SITC 652) and the miscellaneous category of textile etc. clothing NES (SITC 656).

The six textile items in Table 13 increase their combined share gradually in India's export basket from an average of 20.7 percent during 1980-87 to 24.0 percent in 1987-90 and further to 28.4 percent in 1993-96. In China's export basket, their combined share comes down from 27.6 percent in 1987-90 to 22.6 percent in 1993-96. This is indicated by Table 14 for India and Table 15 for

China which present percentage shares in total exports for 17 major SITC products in two countries. In addition to the textiles, the only other 3-digit-SITC product that features prominently in India's export basket but not in China's, is a scale-intensive item,precious and semi-precious pearls and stones (SITC 667) with a rising share. On the other hand, China's basket includes certain items not found significant in the India exports. These include labour-intensive items like footwear (SITC 851), and other manufactured goods (SITC 899), and scale-intensive products like toys,sporting goods etc. (SITC 894) and articles of plastics NES (SITC 893) all with rising share.

The overall picture that emerges is that India has increased the share of conventional labour-intensive items like textiles whereas China has reduced their share while diversifying its exports into certain products within the labour-intensive category and outside. Thus, even though across the 6-broad group classification exports (based on Tables 11 and 12), the Indian export pattern appears to be more diversified than that of China, at the 3-digit SITC disaggregation the Chinese pattern is more diversified than that of India. India has possibly been trying to consolidate its position in the conventional labour-intensive exports of mostly textile products. China, in contrast, has diversified export-basket into other labour-intensive products as well ass outside. At the basic level, this is only to be expected as China, starting from a higher base of aggregate manufactured exports than India in 1987, expanded these exports at 19.45 percent per annum over 1987-96 compared to 12.14 percent annually for India (Table 8).

VI. A RECAPITULATION

The paper viewed globalisation as a two-way interactive process in which internal mainsprings of the growth process such as competent governance, technological and organisational innovations, improvements in the quality of human resources, and stable macroeconomic management are reinforced by

interacting with the world trading opportunities. The basic point is that international trading opportunities cannot benefit a given country in the absence of favourable internal factors relating to society, polity and economy. With this perspective, it has tried to address the Indian mindset that has been dominated by a deep-seated distrust of the global market forces. The following major findings emerged from an empirical examination of relevant data and backed by certain a priori analytical arguments.

(1) Historical experience in broad sweep over the last three centuries and more disaggregated and closer examination of evidence over the post-Second World War period relating to the relationship between the volume growth of world exports and the volume growth in world output/GDP showed that world trade offered opportunities for mutually gainful exchange especially in manufactured products at a faster rate than the volume growth in world output. With the exception of a brief inter-war period during the twentieth century, this regularity was observed in different conditions of the world trade environment including 1973-83 period of turbulence and instability in international trade. In fact, the gross elasticity reflecting this relationship has been observed to more stable and numerically higher in the most recent period 1983-95 (Section II).

It can be argued that the stylised fact indicated in (1) might be confined to the industrially advanced countries and hence would not apply to low income less developed countries. The next two sections addressed this issue to reach the following conclusions.

(2) An econometric exercise relating 31 semi-industrialised and marginally semi-industrialised countries was undertaken to trace the average relationship applicable to these countries between their rate of economic growth and the volume growth of aggregate exports recorded by them. This exercise confirmed the positive instrumental role of the volume growth of exports in the growth process under three widely different conditions of world trade indicated in Section II relating to the post-Second War period, namely, the period of stable

and unprecedented growth 1966-73, the period of turbulence and instability 1973-83 and the period of adjustment 1983-95 (Section III).

(3) The relationship between the rate of economic growth and the volume growth of exports as mediated through certain trade-related variables like net-barter and income-terms-of-trade was examined in Section IV for a set of ten individual countries including India for the post-1973 period marked by major changes in the world trade environment. Among the ten countries were some that had been export-oriented all along, some which embarked on export-orientation dung the post-1973 period and some

(including India) that recently embarked on this strategy for stepping up the rate of growth. It was shown that irrespective of the world trade situation there always existed certain countries which embarked on a two-way fruitful interaction with the global economy and have been helped by this interaction in bringing about rapid growth. In other words, the process of globalisation and its instrumental role in economic growth need not be conditional on the favourable world trade environment.

(4) Finally, a comparison has been undertaken in Section V between India and China in respect of export performance in terms of broad categories as well as at a disaggregated 3-digit SITC level to verify the common impression that large countries in terms of population with a large potential market size would not benefit from aggressive export-orientation. It was shown that the Indian process of opening up had been considerably slower than that of China over the recent period 1980-96 and that the aggressive participation in international trade undertaken by China since the late 1970s had contributed toward a much faster rate of Chinese economic growth.

The conclusion on the basis of the above findings should be obvious, namely, that there is no plausible reason why India should not accelerate the pace of export-orientation in its efforts to achieve and maintain a seven-per-cent-plus growth rate in real GDP. In fact, India is much more favourably placed to

benefit from interaction with the global economy than many other low-income countries. But for the singlemost negative factor namely the colonial mindset of suspicion of the world market forces, other factors are indeed favourable. India has democratic polity, well established legal system, reasonably impartial judiciary, diversified industrial structure and innovative intrepreneurship. It is doubtless true that a reallocation of resources away from inefficient import-substitution oriented activities fostered under the maze of import restrictions and toward export-oriented activities would involve major structural adjustments which are bound to be painful. The safety nets are absolutely essential to alleviate and minimise the pains of adjustment. But if these pains are necessary to put the economy on a higher growth path, the society and polity will have to evolve credible mechanisms of cost-shareing and conflict resolution. This is the challenge of globalisation. How fast hte society, polity and economy manage to shake the prtotectionist past and embrace the globalised future only time can tell. This paper has merely established the need for it on the basis of empirical evidence and underlined its inextricable and indispensable link with the new widely accepted social objective of achieving and maintaining rapid economic growth in order for India to get out of hte dubious distinction of hosting the largest number of the world's poor population.

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APPENDIX

DETAILS OF SIX-CATEGORY BREAKDOWN OF MANUFACTURING EXPORTS BY SITC CLASSIFICATION

RESOURCE INTENSIVE PRODUCTS

SITC CODE	PRODUCT DESCRIPTION
411	ANIMAL OIL AND FATS
421	FIXED VEG OILS,SOFT
422	FIXED VEG OIL NONSOFT
431	PROCESD ANML VEG OIL,ETC
611	LEATHER
612	LEATHER ETC MANUFACTURES
613	FUR SKINS TANNED,DRESSED
631	VENEERS,PLYWOOD,ETC
632	WOOD MANUFACTURES NES
633	CORK MANUFACTURES
641	PAPER AND PAPERBOARD
661	CEMENT ETC BUILDING PROD
662	CLAY,REFRACTORY BLDG PRD
663	OTH NONMETAL MINERAL MFS
681	SILVER,PLATINIUM,ETC
682	COPPER
683	NICKEL
684	ALUMINIUM
685	LEAD
686	ZINC
687	TIN
688	URANIUM,THORIUM,ALLOYS
689	NON-FER BASE METALS NES

LABOUR INTENSIVE PRODUCTS

SITC CODE	PRODUCT DESCRIPTION
651	TEXTILE YARN AND THREAD
652	COTTON FABRICS,WOVEN
653	WOVEN TEXTILES NONCOTTON
654	LACE,RIBBONS,TULLE,ETC
655	SPECIAL TEXTILE ETC PROD
656	TEXTILE ETC PRODUCTS NES
657	FLOOR COVR,TAPESTRY ETC
691	STRUCTURES AND PARTS NES
692	METAL TANKS,BOXES,ETC
695	TOOLS
696	CUTLERY
697	BASE MTL HOUSEHOLD EQUIP
821	FURNITURE
831 *	TRAVEL GOODS,HANDBAGS
841	CLOTHING NOT OF FUR
842	FUR ETC CLOTHES,PROD
851	FOOTWEAR
899	OTHER MANUFACTURED GOODS

SCALE INTENSIVE PRODUCTS

SITC CODE	PRODUCT DESCRIPTION
512	ORGANIC CHEMICALS
513	INORG ELEMENTS
514	OTHR INORGANIC CHEMICALS
515	RADIOACTIVE ETC MATERIAL
521	COAL,PETROLEUM ETC CHEMS
531	SYNT DYE,NAT INDGO,LAKES
561 *	DYES NES,TANNING PRODS
581	FERTILIZERS MANUFACTURED
621	MATERIALS OF RUBBER
629	RUBBER ARTICLES NES
642	ARTICLES OF PAPER ETC
664	GLASS
665	GLASSWARE
666	POTTERY
667	PEARL,PREC-,SEMI-P STONE
670	IRON AND STEEL
671	PIG IRON ETC
672	IRON,STL PRIMARY FORMS
673	IRON AND STEEL SHAPES
674	IRN,STL UNIV,PLATE,SHEET
675	IRON,STEEL HOOP,STRIP
676	RAILWY RAILS ETC IRN,STL

677	IRN,STL WIRE EXCL W ROD
678	IRON,STL TUBES,PIPES,ETC
679	IRN,STL CASTINGS UNWORKD
693	WIRE PRODUCTS NON ELECTR
694	STL,COPPER NAILS,NUTS,ETC
892	PRINTED MATTER
893	ARTICLES OF PLASTIC NES
894	TOYS,SPORTING GOODS,NES
897 *	GOLD,SILVER WARE,JEWELRY

DIFFERENTIATED PRODUCTS

SITC CODE	PRODUCT DESCRIPTION
711	POWER MACHINERY NON-ELEC
712	AGRICULTURAL MACHINERY
714	OFFICE MACHINES
715	METALWORKING MACHINERY
716 *	MISC MACHINERY
717	TEXTILE,LEATHER MACHNRY
718	MACHS FOR SPCL INDUSTRYS
719	MACHINES NES NONELECTRIC
722	ELEC PWR MACH,SWITCHGEAR
723	ELECTR DISTRIBUTING MACH
724	TELECOMMUNICATION EQUIP
725	DOMESTIC ELECTRIC EQUIP
726	ELECTRO-MEDCL,XRAY EQUIP

729	ELECTRICAL MACHINERY NES
731	RAILWAY VEHICLES
732	ROAD MOTOR VEHICLES
733	ROAD VEHICLES NON-MOTOR
734	AIRCRAFT
735	SHIPS AND BOATS
812 *	PLUMBG,HEATING,LGHTNG EQU

SCIENCE BASED PRODUCTS

SITC CODES	PRODUCT DESCRIPTION
533	PIGMENTS,PAINTS,ETC
541	MEDICINAL ETC PRODUCTS
551	ESSENTL OIL,PERFUME,ETC
553	PERFUME,COSMETICS,ETC
554	SOAPS,CLEANING ETC PREPS
861 *	INSTRUMENTS,APPARATUS
862 *	PHOTO,CINEMA SUPPLIES
863 *	DEVELOPED CINEMA FILM
864 *	WATCHES AND CLOCKS
891 *	SOUND RECORDERS,PRODUCRS

MISCELLANEOUS PRODUCTS

SITC CODE	PRODUCT DESCRIPTION
571 *	EXPLOSIVES,PYROTECH PROD
599 *	CHEMICALS NES
698 *	METAL MANUFACTURES NES
895 *	OFFICE SUPPLIES NES

'*' indicates all those 3-digit (SITC 4 to 8) products that are not covered in the UN-ESCAP study.

Foreword

The paper seeks to explore the positive instrumental role that export-orientation can play in India's search for sustainable rapid economic growth. It attempts to do this by placing the Indian experience in the international context of countries which have either used the export-orientation in achieving rapid economic growth or are embarking on trade policy liberalization in their effort to step up the rate of economic growth.

The analysis in this paper establishes that barring the exceptional inter-war period in the 20th century, world markets have always offered opportunities for mutually gainful exchange, especially in manufactured products. An econometric exercise for 31 semi-industrialized countries in this study brings out a positive instrumental role of the growth of exports in the growth process of the economies concerned. This conclusion is not dependent on world trade environment being buoyant.

A comparison of export performance of India and China over the period 1987-96 shows that more aggressive participation by China than India in world trade has resulted in doubling of China's share in world exports in each of the broad categories of exports. What is more, the Chinese export pattern is much more diversified than India's. The analysis also leads the author to conclude that

China will continue to be the major competitor of India in labour intensive export.

Research for this paper was funded by the Export-Import Bank of India. Given the importance of the subject at the present juncture, it is hoped that the output of this project will fill a critical gap in the understanding of these issues in India.

Isher Judge Ahluwalia
Director & Chief Executive
ICRIER, New Delhi

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656	TEXTILE ETC PRODUCTS NES
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670	IRON AND STEEL
671	PIG IRON ETC
672	IRON,STL PRIMARY FORMS
673	IRON AND STEEL SHAPES
674	IRN,STL UNIV,PLATE,SHEET
675	IRON,STEEL HOOP,STRIP
676	RAILWY RAILS ETC IRN,STL
677	IRN,STL WIRE EXCL W ROD
678	IRON,STL TUBES,PIPES,ETC
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862 *	PHOTO,CINEMA SUPPLIES
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698 *	METAL MANUFACTURES NES
895 *	OFFICE SUPPLIES NES
896 *	WORKS OF ART ETC

'*' indicates all those 3-digit (SITC 4 to 8) products that are not covered in the UN-ESCAP study.

TABLE : 1
HISTORICAL TRENDS IN THE GROWTH OF REAL WORLD GDP, TOTAL WORLD PRODUCTION AND VOLUME OF WORLD EXPORTS : 1720-1996

S.NO. (A)	PERIOD (B)	RATE OF GROWTH OF VOLUME OF EXPORTS (C)	RATE OF GROWTH OF REAL GDP (D)	RATE OF GROWTH OF TOTAL WORLD PRODUCTION (E)
1	1720-1820	0.9	0.6	N.A.
2	1820-1870	4.0	2.1	N.A.
3	1870-1913	3.9	2.5	N.A.
4	1913-1950	1.0	1.9	N.A.
5	1950-1973	8.6	4.9	N.A.
6	1965-1973	8.3 (0.9933)	N.A.	5.21 (0.9933)
7	1973-1983	3.25 (0.8801)	N.A.	2.7 (0.9111)
8	1984-1996	5.57	2.23	2.02

		(0.9911)	(0.9488)	(0.9312)

Notes : Growth rates in lines 6 to 8 are exponential growth rates (percent per annum) using the same method described in notes to Table 1.
Squared correlation coefficient appear in brackets.
Source :
A.Maddison (1982), " Phases of Capitalist Development ", Tables 3.2(p.45) and 3.7(p.60) for lines 1 to 5.
World Bank : World Development Report(1987,1997) ;
GATT (International Trade),1984 for lines 6 to 8.

TABLE: 2
Trend Growth Rates and Elasticities of Volume of Sectoral and Total World Exports

S.NO.	Variable Description	1963-73	1973-80	1973-83	1984-90	1984-95
1	T-ROG of Volume of World Exports					
	(a) Total Merchandise	8.73	4.44 (0.9438)	3.25 (0.8801)	5.53 (0.9844)	5.49 (0.9893)
	(b)Agricultural	6.53	5.36 (0.9419)	4.50 (0.9390)	1.96 (0.8362)	3.06 (0.9395)
	(c)Manufacturing	10.84	5.20 (0.9540)	4.46 (0.9526)	6.41 (0.9855)	6.11 (0.989)
2	T-ROG of Volume World GDP	N.A.	N.A.	N.A.	3.16 (0.9945)	2.3 (0.9426)
3	Elasticities of Volume of World Exports with respect to Volume of corresponding World Production					
	(a)Total Merchandise	1.46	1.27 (0.9956)	1.23 (0.9941)	1.69 (0.9479)	2.5 (0.9233)

	(b)Manufacturing	1.54	1.30 (0.9864)	1.43 (0.9780)	1.73 (0.9584)	2.65 (0.8802)
4	Elasticity of Volume of World Agricultural Exports with respect to World Manufacturing Production	0.9	1.33 (0.9582)	1.44 (0.9611)	0.31 (0.8977)	0.59 (0.728)
5	Elasticity of Volume of World Exports with respect to World real GDP					
	(a) Total Merchandise	N.A.	N.A.	N.A.	1.74 (0.9769)	2.27 (0.9398)
	(b) Agricultural	N.A.	N.A.	N.A.	0.61 (0.8168)	1.21 (0.8275)
	(c) Manufacturing	N.A.	N.A.	N.A.	2.01 (0.9791)	2.524 (0.9480)
	(d) Mining	N.A.	N.A.	N.A.	1.30 (0.9630)	1.64 (0.9336)

Notes : (1) T-ROG indicates trend growth rate in percent per annum

(2) Column (3) is based on point-to-point compound growth rates of the relevant variables between 1963-1973 in the absence of the availability of time-series. Elasticities in this column are the ratios of the relevant growth rates.

(3) Columns (4) to (7) are based on the time-series regressions in

$y = a + bx$

where y takes the value of the variable described in column (2) and

b = T-ROG (%) when x is time in 1(a) and 2.

b = Elasticity (%) when $x = \ln WP$ where WP is the volume of relevant world production.

b = Elasticity (%) when x = WGDP where WGDP is the volume of world GDP.

(4) Figures in bracket indicate squared product-moment correlation coefficient corresponding to the relevant regression equation.

(5) Regressions are based on the index numbers for different variables available in the following sources :

(i) General Agreement of Trade and Tariffs(1984) : International Trade 1983-84.

(ii) World Trade Organisation(1995) : International Trade, Trends and Statistics,1995.

TABLE : 3
Partial Elasticity of Volume of World Exports with respect to
Real Income and Unit Value Index
Time Period : 1984-95

S.NO.	Variable Description	Partial Elasticity	Squared Correlation Coefficient
1	Partial Elasticity of Volume of Total Merchandise Exports with respect to		0.9434
	(a) Real World GDP	2.76 (3.9823)	
	(b) Unit Value Index	-0.38 (-0.7533)	
2	Partial Elasticity of Volume of Total Manufacturing Exports with respect to		

			0.9544
	(a) Real World GDP	3.27 (4.738)	
	(b) Unit Value Index	-0.41 (-1.128)	

(t-statistics are given in the brackets)

Notes : 1. Coefficients are based on the following regression equation

$\ln X = \alpha + \delta \ln(RGDP) + \eta \ln(UVI)$
where X is volume index of merchandise export (equation1) or volume index of manufacturing exports (equation 2).
RGDP is Index of Real World GDP (Base:1990=100)
UVI is the Unit Value Index of Merchandise Exports (equation 1) or Manufacturing   Exports (equation 2).(Base : 1990=100).

Source : GATT and WTO publication on International Trade.

TABLE : 4
ELASTICITY WITH RESPECT TO WORLD EXPORTS VOLUME AND EXPONENTIAL GROWTH RATES OF
EXPORTS,TERMS-OF-TRADE AND GDP : TEN COUNTRIES IN THE STUDY
TIME PERIOD: 1973-83 AND 1984-95

Country	1973-83					1984-95		
	Elasticity of Exports w.r.t World Volume of Exports	Exponential Rate Of Growth (percent per annum)				Elasticity of Exports w.r.t World Volume of Exports	Exponential R (percent per a	
		Volume of Exports	Income TOT	Barter TOT	Real GDP		Volume of Exports	Inco e TO

INDIA	1.56 (0.8045)	5.1 (0.7465)	0.75 (0.0552)	-4.4 (0.8939)	4.01 (0.9579)	1.62 (0.9766)	8.83 (0.9523)	8.47 (0.96 2)
CHINA	2.45 (0.6804)	9.6 (0.8993)	9.7 (0.8702)	0.02 (0.0018)	6.41 (0.9535)	1.69 (0.9198)	9.53 (0.9586)	9.26 (0.96 3)
THAILAND	2.40 (0.8909)	8.65 (0.8892)	5.3 (0.8913)	-3.35 (0.5791)	6.63 (0.9889)	3.06 (0.9805)	16.98 (0.9943)	16.6 (0.98 6)
MALAYSIA	1.19 (0.4579)	4.2 (0.4809)	7.72 (0.8743)	3.52 (0.468)	7.11 (0.9944)	2.42 (0.9869)	13.36 (0.9868)	12.0 (0.90 7)
INDONESIA	0.85 (0.5474)	2.04 (0.2734)	10.63 (0.8614)	8.4 (0.6791)	7.06 (0.9929)	1.75 (0.9512)	9.72 (0.9635)	6.06 (0.63 4)
PHILLIPINE S	2.41 (0.7893)	7.5 (0.6494)	1.37 (0.2460)	-6.1 (0.6257)	4.98 (0.9833)	1.14 (0.9714)	6.25 (0.9546)	7.54 (0.93 1)
KOREA,REP	3.98 (0.8962)	13.76 (0.9125)	11.81 (0.9112)	-1.96 (0.6393)	7.78 (0.9643)	1.72 (0.9606)	9.46 (0.9508)	9.96 (0.93 8)
BANGLADE SH	0.93 (0.6442)	3.16 (0.6389)	1.48 (0.1587)	-1.7 (0.2689)	4.49 (0.9715)	1.23 (0.8661)	10.65 (0.9106)	7.91 (0.83 9)
PAKISTAN	2.12 (0.6340)	7.67 (0.7097)	3.89 (0.5070)	-3.7 (0.8846)	5.99 (0.9842)	1.60 (0.8533)	9.08 (0.8998)	8.08 (0.92 4)
TAIWAN	3.49 (0.7214)	10.17 (0.9792)	7.7 (0.9310)	-2.5 (0.7304)	9.06 (0.9327)	1.27 (0.8979)	7.12 (0.9235)	9.01 (0.88 5)

Notes :1. Elasticity of exports with respect to world volume of exports is based on the following regression :

$\ln X = a + b \ln WX$ where, WX is volume of world exports, X is volume of exports for given country.

2. Volume of exports is derived by deflating US dollar value of exports at current prices by the unit value index for exports.

3. Barter terms of trade (TOT) is the ratio of the unit value index of exports to the unit value index of imports.

4. Income terms of trade is derived by the deflating US dollar value of exports at current prices by the unit value index of imports.
5. Rate of growth of real GDP is obtained from the following regression : $\ln GDP = a + bt$ where, GDP is measured in local currency units at 1987 constant prices, and t is time.
6. Figures in brackets are squared correlation coefficients.

TABLE : 5

INDEX NUMBERS OF VALUE OF WORLD EXPORTS

YEAR (1)	Total Manufactured Exports (2)	Total Exports All Products (3)	Year to Year Changes (4)
1980	100.00	100.00	
1981	98.18	95.93	-4.24
1982	93.49	88.29	-7.96
1983	94.06	84.33	-4.48
1984	101.38	88.92	5.44
1985	104.01	89.01	0.10
1986	125.86	98.68	10.86
1987	151.32	117.76	19.33
1988	176.50	136.63	16.02
1989	191.60	148.89	8.97
1990	218.92	170.41	14.45
1991	226.45	173.72	1.94
1992	247.96	186.30	7.24
1993	246.70	183.70	-1.40
1994	284.33	209.01	13.78
1995	341.40	248.92	19.09

1996	351.31	259.27	4.16
1997	318.84	230.88	-10.95

SOURCE : World Bank : Com-Trade CD-ROM

TABLE : **6**
Changes In Percentage Composition Of World Manufactured Products Exports
By Broad Categories
1980-86, 1987-90, 1991-92, 1993-96, and 1997

S.NO.	CATEGORY	AVERAGE SHARE (%)				
		1980-86	1987-90	1991-92	1993-96	1997
1	Resource Intensive	8.63	7.83	7.20	7.19	6.83
2	Labour Intensive	12.74	13.11	13.35	12.58	11.41
3	Scale Intensive	21.20	19.80	18.57	18.21	17.47
4	Differentiated Products	47.16	48.19	49.33	50.46	52.13
5	Science Based	7.38	8.08	8.63	8.75	9.24
6	Miscellaneous	2.90	3.00	2.92	2.81	2.92
7	Total Manufacture	100.00	100.00	100.00	100.00	100.00
8	Memo Totals ($ billion)					
	(a) Total Manufacturing Exports	1104.564	1996.467	2564.461	3284.440	3417.210
	(b) Total Exports	1712.041	2664.164	3343.846	4184.090	4288.801

Notes : 1. For the composition of broad categories in terms of 3-digit SITC classification see Appendix.
2. Simple averages over the periods mentioned in the column headings. They refer to the percentage composition of manufactured exports (lines 1 to 6), percentage shares of industrial exports in relevant aggregates (lines 7.1 and 7.2) and average levels of exports in $ billion (lines 8 (a) and 8 (b)).

TABLE : 7
Exponential Growth Rates of Value of Manufactured Exports
World and India By Broad Categories
TIME PERIOD :1980-96

S.NO.	CATEGORY	Exponential Rate of Growth (%)	
		INDIA	WORLD
1	Resource Intensive	7.61 (0.9562)	7.46 (0.8852)
2	Labour Intensive	12.08 (0.9520)	9.11 (0.9440)
3	Scale Intensive	15.46 (0.9636)	7.82 (0.9273)
4	Differentiated Products	10.15 (0.8906)	9.82 (0.9677)
5	Science Based	10.84 (0.8457)	10.77 (0.9707)
6	Miscellaneous	5.15 (0.3743)	9.03 (0.9351)
7	Total Manufacturing	12.14 (0.9656)	9.18 (0.9548)
8	Total Exports	9.65 (0.9647)	7.23 (0.9016)

Notes : 1. For the composition of broad categories in terms of 3 digit SITC classification see Appendix.
2. Exponential rate of growth is the estimated slope parameter from the regression ln X = a + bt, where X is the given category of exports and t is time.
3. Figures in bracket are squared correlation coefficients of the corresponding regression.

TABLE : 10
China's Percentage Share in World Exports of Manufactured Products
By Broad Product Categories
TIME PERIOD : **1987-90, 1991-92, 1993-96, and 1997**

S.NO.	CATEGORY	AVERAGE SHARE (%)			
		1987-90	1991-92	1993-96	1997
1	Resource Intensive	0.90	1.29	1.97	3.14
2	Labour Intensive	6.54	8.83	12.02	17.11
3	Scale Intensive	1.40	2.18	3.28	5.07
4	Differentiated Products	0.72	1.07	1.47	2.32
5	Science Based	1.18	1.67	2.65	3.59
6	Miscellaneous	1.65	1.73	2.44	3.47
7	Total Manufacturing	1.27	1.84	2.58	3.74
8	Total Exports	1.88	2.34	3.04	4.26
9	Memo Total ($ billion)				
	(a) Total Manufacturing Exports	34.320	61.730	109.230	160.540
	(b) Total Exports	50.400	78.390	128.140	182.790

Notes : For 3-digit SITC classification of broad categories see Appendix.
See note to Table 9.

TABLE : 11
India : Percentage Share of Manufactured Exports In Total Exports According To Categories of Products and Revealed Comparative Advantage (RCA)
Time Period : 1980-86,1987-90,1991-92, and 1993-96

S.No (1)	Category of Products (2)	Category of RCA (3)	1980-86 (4)	1987-90 (5)	1991-92 (6)	1993-96 (7)
1	Resource-Intensive	$RCA \geq 1$	4.61	5.40	4.53	3.66
2	Resource-Intensive	$RCA < 1$	1.71	0.83	0.76	1.12
3	Labour-Intensive	$RCA \geq 1$	21.40	26.42	30.39	29.07
4	Labour-Intensive	$RCA < 1$	2.60	2.65	3.09	3.34
5	Scale-Intensive	$RCA \geq 1$	11.18	21.21	19.90	22.26
6	Scale-Intensive	$RCA < 1$	3.39	3.29	4.10	4.79
7	Differentiated	$RCA \geq 1$	0.79	0.73	0.78	0.65
8	Differentiated	$RCA < 1$	6.04	6.34	6.48	6.78
9	Science-based	$RCA \geq 1$	1.49	2.11	2.39	2.28
10	Science-based	$RCA < 1$	1.80	2.02	1.67	1.51
11	Miscellaneous	$RCA \geq 1$	2.03	0.20	0.79	0.12
12	Miscellaneous	$RCA < 1$	0.31	0.81	0.61	1.28
13	All Manufactured	$RCA \geq 1$	41.50	56.04	58.78	58.04
14	All Manufacturd	$RCA < 1$	15.84	15.92	16.71	18.80
15	Total Manufactured (13+14)		57.340	71.960	75.490	76.840
16	Percentage Share of India's Manufactured Exports in World Manufactured Exports		0.45	0.54	0.56	0.65
	Memo-Totals ($billion)					
17	Total Manufactured		4.99	10.77	14.27	21.33
18	Total Exports		8.83	15.18	19.28	28.39

Notes : 1. RCA is defined by the ratio of two shares : (a) share of country's exports to world exports in same SITC category, and (b) share of country's exports of manufactured products to world exports of manufactured product.

2. RCA criterion is applied for each year separately at 3-digit SITC level within each broad category.
3. For each year, value of exports at 3-digit SITC level is aggregated into two groups, namely, SITC codes for which $RCA \geq 1$ and those for which $RCA < 1$.
4. Each column gives simple averages of the percentage shares (lines 1 to16) and absolute value of exports (lines 17 and 18) over the calender years mentioned in the colomn headings.

TABLE : 12
China : Percentage Share of Manufactured Exports In Total Exports According To Categories of Products and Revealed Comparative Advantage (RCA)
Time Period : 1987-90,1991-92, 1993-96 and 1997

S.No (1)	Category of Products (2)	Category of RCA (3)	1987-90 (4)	1991-92 (5)	1993-96 (6)	1997 (7)
1	Resource-Intensive	$RCA \geq 1$	1.26	1.88	2.25	2.53
2	Resource-Intensive	$RCA < 1$	1.54	1.25	1.41	1.48
3	Labour-Intensive	$RCA \geq 1$	33.12	36.94	37.92	35.21
4	Labour-Intensive	$RCA < 1$	0.74	1.25	0.53	0.64
5	Scale-Intensive	$RCA \geq 1$	6.79	8.86	11.06	12.01
6	Scale-Intensive	$RCA < 1$	4.19	4.37	4.34	4.56
7	Differentiated	$RCA \geq 1$	3.46	5.90	9.06	10.96
8	Differentiated	$RCA < 1$	10.29	11.24	9.32	11.00
9	Science-based	$RCA \geq 1$	2.45	1.58	2.71	2.84
10	Science-based	$RCA < 1$	1.34	3.15	3.26	3.35
11	Miscellaneous	$RCA \geq 1$	0.99	1.19	1.27	1.31
12	Miscellaneous	$RCA < 1$	0.97	0.47	0.49	0.58
13	All	$RCA \geq 1$	48.07	58.75	64.24	64.86

	Manufactured						
14	All Manufacturd	$RCA < 1$	19.11	21.72	19.09	21.62
15	Total Manufactured (13+14)		67.18	80.47	83.33	86.48
16	Percentage Share of China's Manufactured Exports in World Manufactured Exports		1.72	2.39	3.33	4.70
	Memo-Totals ($billion)					
17	Total Manufactured		34.32	61.37	109.23	160.54
18	Total Exports		50.40	78.39	128.15	182.79

See notes to Table 11.

Source : World Bank : Com-Trade CD-ROM

TABLE 13
IMPORTANT LABOUR-INTENSIVE 3-DIGIT SITC TEXTILE PRODUCTS
FOR CHINA AND INDIA
WITH SIGNIFICANT SHARES IN THE BASKET OF EXPORTS

Ser. No.	SITC No.	Product Description	Level of Exports for 1987 ($b)		Share in Total Exports of India (%)		Share in Total Exports of China (%)		Exponential Growt Rate (% p.a.) of Exports		
			India (4)	China (5)	1987 (6)	1996 (7)	1987 (8)	1996 (9)	India (10)	China (11)	Worl (12)
(1)	(2)	(3)									

1	651	Textile Yarn and Thread	0.341	1.311	2.83	5.38	3.32	1.27	21.44 (0.9107)	6.07 (0.5848)	5.01 (0.8007)
2	652	Cotton Fabrics,Wove	0.488	1.692	4.05	3.02	4.29	1.96	9.19 (0.943	7.76 (0.862	5.81 (0.91
3	653	Woven Textiles: Non-Cotton	0.26	1.627	2.16	1.84	4.13	2.47	10.19 (0.8984)	9.8 (0.8479)	8.63 (0.952)
4	656	Textile etc. products	0.121	0.882	1	1.13	2.24	1.52	10.1 (0.559	10.00 (0.942	8.19 (0.96
5	657	Floorcover,tapestry,etc	0.383	0.349	3.38	1.97	0.88	0.44	6.21 (0.8825)	7.56 (0.8294)	4.01 (0.819)
6	841	Clothing not of fur	1.578	5.21	13.11	13.76	13.21	16.38	12.13 (0.9458)	18.70 (0.9655)	8.44 (0.962)
9		Share of (1 to 6) in Total Labour Intensive Exports	_	_	91.09	88.55	83.96	54.44	_	_	_
		Memo-items ($ billion)									
10		Value of Exports (lines 1 to 6)	_	_	3.17	9.05	11.07	36.31	_	_	_
11		Value of labour-intensive exports			3.48	10.22	13.18	66.74			
12		Level of Total Exports	_	_	12.04	33.4	39.4	151.05	_	_	_

Source : World Bank : Com-Trade CD-ROM

TABLE 14

INDIA : PERCENTAGE SHARE OF MAJOR 3-DIGIT SITC PRODUCTS IN TOTAL EXPORTS
TIME PERIOD : 1980-86,1987-90,1991-92 AND 1993-96

Ser. No.	SITC Code	Category and Product	1980-86	1987-90	1991-92	1993-96
		I.Resource-Intensive				
1	611	Leather	3.67	3.1	1.58	1.18
2	612	Leather etc.	1.53	2.14	1.75	1.1
		II.Labour-Intensive				
3	651	Textile Yarn and	0.75	2.08	3.08	4.15
4	652	Cotton	3.78	2.4	3.41	3.15
5	653	Woven Textiles,non-	2.24	2.21	2.48	2.14
6	656	Textile etc	2.54	0.95	0.74	0.87
7	657	Floor cover,tapestry	2.66	2.85	2.99	2.25
8	841	Clothing,not of fur	8.75	13.53	15.75	14.5
9	851	Footwear	0.48	0.89	1.07	1.18
10	899	Other manufactured	0.08	0.1	0.12	0.18
		III.Scale-Intensive				
11	667	Pearls,precious & semiprecious pearl	10.56	17.6	14.42	14.86
12	893	Articles of plastics	0.12	0.15	0.26	0.69
13	894	Toys,Sporting goods	0.27	0.18	0.16	0.21
		IV.Differenttiated				
14	719	Machines NES, non-	1.09	1.16	1.02	1.02
15	729	Electronic	0.66	0.97	0.7	0.63
16	732	Road motor vechile	1.22	1.04	1.73	1.99
		V.Science-based				
17	541	Medicinal etc	0.14	0.21	0.22	0.16
18		**Total (1 to 17)**	40.56	52.55	51.47	50.24
19		**Memo-item : Total Exports**	8.828	15.181	19.276	28.39

TABLE 15
CHINA : PERCENTAGE SHARE OF MAJOR 3-DIGIT SITC PRODUCTS IN TOTAL EXPORTS
TIME PERIOD : 1987-90,1991-92,1993-96 AND 1997

Ser. No.	SITC Code	Category and Product	1987-90	1991-92	1993-96	1997
		I.Resource-Intensive Products				
1	611	Leather	0.13	0.15	0.19	0.18
2	612	Leather etc.	0.04	0.14	0.32	0.26
		II.Labour-Intensive Products				
3	651	Textile Yarn and	2.45	1.67	1.4	1.27
4	652	Cotton	3.55	2.62	2.24	1.69
5	653	Woven Textiles,non-	4.15	3.4	2.91	2.41
6	656	Textile etc	2.3	1.86	1.61	1.39
7	657	Floor cover,tapestry	0.88	0.72	0.56	0.36
8	841	Clothing,not of fur	14.29	18.04	17.93	17.21
9	851	Footwear	2.16	4.41	4.72	4.46
10	899	Other manufactured	1.25	1.55	1.81	1.56
		III.Scale-Intensive Products				
11	667	Pearls,precious & semiprecious pearl	0.22	0.2	0.25	0.19
12	893	Articles of plastics	0.47	1.12	1.84	2.13
13	894	Toys,Sporting goods	2.82	3.2	4.21	4.4
		IV.Differenttiated Products				
14	719	Machines NES, non-	1.85	2.18	1.45	1.63
15	729	Electronic	0.65	1.18	2.21	2.83
16	732	Road motor vechile	4.67	3.2	0.37	0.38
		V.Science-based				
17	541	Medicinal etc	1.05	1.07	1.01	0.84
18		**Total (1 to 17)**	42.93	47.27	45.03	43.21
19		**Memo-item : Total Exports**	50.396	78.391	128.144	182.792