

RIS DISCUSSION PAPERS

Possibility of Close Economic Cooperation between India and Singapore

S K Mohanty

RIS-DP # 45/2003



**Research and Information System
for the Non-Aligned and
Other Developing Countries**

Possibility of Close Economic Cooperation between India and Singapore

S K Mohanty

RIS-DP # 45/2003

April 2003

**Research and Information System for the Non-Aligned and
Other Developing Countries (RIS)**

Core IV-B, Fourth Floor, India Habitat Centre

Lodi Road, New Delhi – 110 003 (India)

Tel: +91-11-2468 2177 / 2180; Fax: 2468 2173 / 74

Email: skmohanty@ris.org.in

RIS Discussion Papers intend to disseminate preliminary findings of the research carried out at the institute to attract comments. The feedback and comments may be directed to the authors(s).

Preface

The Ministry of Commerce had assigned to RIS a study entitled 'Prospects of Indo-Singapore Close Economic Cooperation' to examine the economic potential of both the countries in the new Millennium. The mandate of the study covered several areas including trade, tariff, investment, joint venture, production, rules of origin, and some of the strategic sectors. As a part of the assignment, two papers were prepared. One paper on Economic Co-operation Between India and Singapore: A Feasibility Study by Dr. Rajesh Mehta has already been issued in the *RIS Discussion Paper Series* (#41)

This paper by Mr. S.K. Mohanty shows that both the countries have high degree of economic potentials to complement each other for mutual benefit. The close economic cooperation between both the countries should not be extended up to Bilateral Free Trade Area, rather it should encompass more strategic economic areas for cooperation such as investment, joint production and marketing, cooperation in trade in services, etc. Subsequently to the submission of these studies to the Ministry, the interaction between the two countries have moved further. A Joint Study Group was set up by the two Governments to examine prospects for a comprehensive Economic Cooperation Agreement between India and Singapore. The Joint Study Group has submitted its report in early 2003. The process is now moving further.

This paper is being brought out as a contribution to the ongoing discussion on the India-Singapore economic partnership.

(Nagesh Kumar)
Director General, RIS

Contents

<i>Preface</i>	<i>i</i>
1. Background.....	1
2. Singapore's Trade with Important Market of the World.....	3
3. How Important is Indian Market for Singapore?	5
4. Measuring Export Potentials: Some Methodological Issues.....	7
5. Price Competitiveness and Export Potentials	8
6. Trade Potentials of Singapore in India	10
7. India's Trade Potentials in Singapore	11
8. Analysis of Tariff Structure in India and Singapore	12
9. Implication of Bilateral FTA for India	13
10. Rules of Origin	16
11. Complementarity between trade potentials and joint Ventures.....	19
12. Batam Model	20
13. Concluding Observations and Suggestions	21
References	23
Tables.....	24-43

Possibility of Close Economic Cooperation between India and Singapore

1. Background

The process of multilateralism has made major gains with the successful conclusion of the Uruguay Round of Trade Negotiations and the formation of the WTO in the latter part of the last century. The consolidation of multilateralism has not undermined the process of regionalism in the new millennium. The structural bottlenecks in multilateralism and the distinct advantages in the bilateral/regional processes have given rise to a second phase of regionalism in different parts of the world.

Multilateral negotiations in trade under the aegis of the WTO have been through rough weather because of the dominance of select affluent countries in the GATT process. Large numbers of low and medium income developing countries and some industrial countries as well have found themselves irrelevant or less relevant in making any impact on the negotiation process. The further inclusion of several other issues, which are outside the domain of trade, such as IPR, labour standards, environmental consideration and, TRIPS have further denigrated the relevance of multilateralism as a source for enhancing national, regional and global welfare. As a result of such developments, several countries of both developed and developing have reposed their renewed faith in the process of neo-regionalism process.

It may be recalled that the first wave of regionalism played an important role in world trade during the 60s and the 70s. During this period, several Regional Trading Arrangements (RTAs) emerged around the world, but apart from the European Economic Community (EEC), other RTAs did not come up to the expected level of performance. After a long spell of over one and half decades, the second wave of regionalism reappeared in the 90s which results in a proliferation of Preferential Trading Arrangements (PTAs), and Free Trade Areas (FTAs) in different parts of the world. These regional processes, in fact, complemented the then ongoing multilateral negotiations in the Uruguay Round for aggressive trade liberalisation across the globe. The performances of various mega RTAs like the EU, NAFTA, APEC, etc. have shown that the individual member countries of the RTAs have made satisfactory progress in trade liberalisation in their respective geographical spaces. Several other RTAs like ASEAN, APEC, IOR-ARC, MERCOSUR have strengthened their economic cooperation in a robust manner during the same period.

Among the various initiatives taken by trading countries for strengthening the regional process in the 90s, an important pattern among such arrangements has been the proliferation of FTAs around the world. One can visualise two broad trends from these developments. Firstly, attempts are made to bring large numbers of countries under a single FTA, while several such attempts have been made in different parts of the world, such as the Western Hemisphere Free Trade Area (WAFTA), Free Trade Area of Americas (FTAA), the EU and APEC. Secondly, several bilateral free trade areas have either formed or are in the process of formation during this period. The New Zealand-Singapore FTA was formed in November 2000. Several other bilateral FTAs are at various levels of negotiations. Some of the important pair of such countries are:

Singapore-India, Singapore-USA, Singapore-Chile, Singapore-Australia, New Zealand-Chile, Singapore-Mexico, etc.

The recent experience shows that some countries are very keen to form bilateral FTAs with other countries around the world. Such countries not only pursue a policy of forming bilateral FTAs with countries outside their region but also support the trade liberalisation process in their respective regions as well. As such these countries have invariably pursued outward-oriented trade policies in the past and also have shown their competence in production as well as the marketing of goods and services. These countries include both developed as well as developing nations. Some of the developed countries, that have made significant progress in forming bilateral FTAs outside their regions, include Canada, the USA, Australia, New Zealand, etc. Similar types of countries in the developing world are Singapore, Chile, Mexico, etc. There are several other countries, which are slowly opening up their economies, to gradually form close economic ties with liberal countries, in the form of FTA, PTA, PCA, etc. India falls in this latter category of countries.

At present, India is situated at the crossroads. Until the late 80s, while India was pursuing a moderately inward-oriented trade policy, at the beginning of the 90s, the policy strategy of the country took a U-turn, and the country resorted to economic liberalisation apprehending an inevitable economic crisis. After completing a decade of economic reforms, it has now stepped into the phase of second-generation reforms. With the objective of supporting its external sector, India has actively participated in the multilateral process and has, at the same time, promoted regional processes. Though India's association with the regional processes is not older than two decades, it has made a significant headway in this endeavour. Since the eighties, India has established its credibility as a dependable partner in SAARC, the Bangkok Agreement, IOR-ARC, BIMST-EC, etc. Recently, it has signed a Free Trade Agreement with Sri Lanka to foster bilateral trade cooperation on a fast track. India has also had a free border trade with Nepal and Bhutan for a long time. Over a period of time, it has gained strength from its experiences of close economic relations with the neighbouring countries. In the new millennium, India is looking forward to new markets, new partners and new arrangements for strengthening its external sector and also to maintain a high economic growth in the coming years. But India had never formed an FTA with any other country outside the South Asian region.

At present India is examining the possibility of an FTA agreement with Singapore. Both the governments have undertaken this crucial initiative at the highest political level. The foundation of the new proposal was laid when the Prime Minister of Singapore visited India. Subsequently, the President of India signed an MOU with his counterpart in Singapore to form two task forces, that were empowered to examine the possibility of forming an FTA between the two countries.

However, the genesis of regional cooperation is significantly contingent upon the economic gains for individual trading partners. It is apparent from the theories of international trade that an FTA is a *laissez faire* type of economic cooperation where producers of partner countries are given an opportunity to maximise their economic efficiencies from the arrangement. The experience of existing bilateral FTAs show that partner countries face difficulties in their relations with these counterpart(s) because of the structural weaknesses in these kind of agreements. India has also recently experienced a similar kind of situation in dealing with Sri Lanka, regarding trade in plantation crops. Singapore's recent experience with New Zealand is not very different from

India. New Zealand is facing resistance from its indigenous people on the issue of the opening up of its economy in textile trade. There is some element of discontentment that arose between Australia and New Zealand due to the low level of domestic content requirement provision in the New Zealand-Singapore FTA. Australia is seeking a more liberal approach in reframing the provision of the ROO in the CER. Such unpleasant situations should not be allowed to persist in the case of the proposed Indo-Singapore FTA Agreement.

Traditionally, India and Singapore are two friendly nations with many things in common between them. In various national and international forums, both the countries have supported each other's cause. People of Indian origin have contributed significantly to the economic development of the Singaporean economy. Similarly, Singapore's FDI has contributed immensely to India's recent development initiatives. The proposed new arrangement, therefore, should strengthen the traditional bonds of the two countries. In order to avoid any unwarranted situation, the proposed Indo-Singapore FTA should be examined thoroughly before executing the Agreement.

In case the Indo-Singapore FTA passes through the litmus test of political and economic scrutiny, it could serve as a model for India to carry out similar kinds of agreements with several other countries in the world. For the first time India is preparing itself to form an FTA with a country outside the region. The core issue in the proposed Agreement would be the proportionate sharing of opportunities between both the contracting parties and the devising of rules for restraining trade deflection from the third country.

At present, India has a number of bilateral and regional agreements in trade, investment and for payment arrangements. The Indo-Singapore FTA should not contravene the existing agreements, which are in operation. The proposed agreement may have its impacts on a wide range of domestic legislation, regulations, policy and administrative practices at the central and local government levels. Therefore, there is a need for making the agreement consistent with the existing agreements and laws in both the countries.

2. Singapore's Trade with Important Market of the World

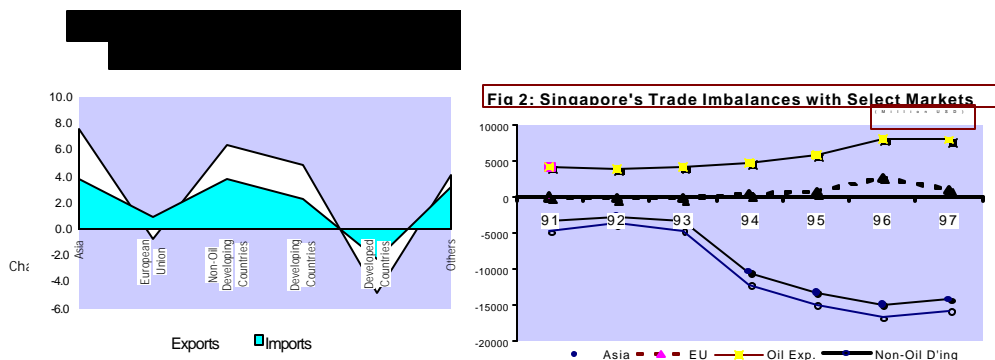
Singapore is mostly a trading country and the size of the manufacturing sector is very small as compared to the external sector in its economy. Moreover, the manufacturing activities are mostly concentrated in a few product segments. A substantial part of the country's industrial activities are either in the domain of the public sector or are under the control of multinational corporations. The role of the indigenous private sector in industrial activities has been minimal. One of the vibrant sectors of the economy has been that of external trade. The external sector constituted 327% of the country's GDP in 1996. In most of its exports, the domestic content has been very low. The trade policy of the country has been liberal, and almost all except a few products are subject to zero tariff. The policy of the country has been to increase the size of trade including the re-export of commodities.

The external sector performance of Singapore increased phenomenally in the 90s (see Table 1). While import made a two-fold increase between 1991 and 1997, export figures more than doubled during this period. Though the country faced an unfavorable BoP during the 90s, the relative trade deficit had narrowed down during the latter part of the decade. Singapore has maintained a favourable trade with most of the markets except for the Middle East, the oil exporting countries and the industrialised markets. The economy witnessed a boom in its external

sector between 1993 and 1995. The country's exports to non-oil developing countries, which were mostly in Asia rose sharply.

In the 90s, Asia constituted one of the important trade destinations for Singapore. During this period exports from Singapore to Asia increased from 26.04 billion USD in 1991 to 64.67 billion USD in 1997. Similarly, its import from Asia has increased from 22.67 billion dollar in 1991 to 50.44 billion dollars in 1997. Since Singapore has concentrated its export activities in Asia, its dependence on the region for imports has increased significantly. In recent years, the importance of developed countries as a source of imports for Singapore has been declining. In 1991, imports by Singapore from Asia were 63% of the figure for industrialised countries and this proportion has sharply increased to 71% in 1997.

Among the major markets, as presented in the Direction of Trade Statistics, IMF, Asia has emerged as the fastest trading market for Singapore in the 90s. Table 2 shows that Asia absorbed 43.3% of its total exports in 1992 and the proportion rose sharply to 51.6% in 1997. The proportion of Singapore's exports, meant for various markets such as industrial countries, Middle East, Africa and oil export countries, are declining during the latter part of the 90s. It is interesting to note that both in export and import, the contribution of Asia in the total trade of Singapore has been increasing steadily as shown in Fig. 1. Though Singapore's dependence on industrialised countries has been declining during the 90s, the volume of trade with them has continued to be very high. More than half of Singapore's imports originate from this market. The share of the EU in the total exports of Singapore has been declining between 1992 and 1996. Similarly, Singapore's dependence on the EU for imports has been dwindling during this period. It may be noted that the share of non-oil developing countries in the Singapore's total exports has increased rapidly during the period 1991-7. The non-oil developing countries have absorbed about 49.5% of Singapore's total exports in 1991, and the proportion has increased to 55.8% in 1997. On the other hand, commensurate increase in Singapore's import from this market has not taken place during the same period. Roughly speaking, Singapore depends on this region to the extent of 40% of its total import requirements. The present trend shows that Singapore's exports are increasingly focussed on non-oil developing countries of Asia. Because of lopsided trade flows, Singapore enjoys a large trade surplus with this market segment as presented in Fig. 2.



The growth performance of Singapore's exports and imports to various market segments are presented in Table 3. Singapore witnessed a negative growth rate in its exports and imports in various markets at different points of time in the 90s. Only in the case of non-oil developing countries, developing countries and Asia, did the growth rate of Singapore's exports and imports remain consistently positive during the period 1991-7. The external sector received a major setback in 1997 and both exports and imports recorded an all time low growth rate during the 90s.

While the annual growth rate of Singapore's exports slumped to 0.1%, the imports recorded a growth rate of 0.6% in 1997. A major external shock was administered when the exports to Europe declined to -12.4% in the same year. However, the growth rate of Singapore's imports from the EU were significantly higher than those of other market segments of the world and also compared to the overall imports of the country.

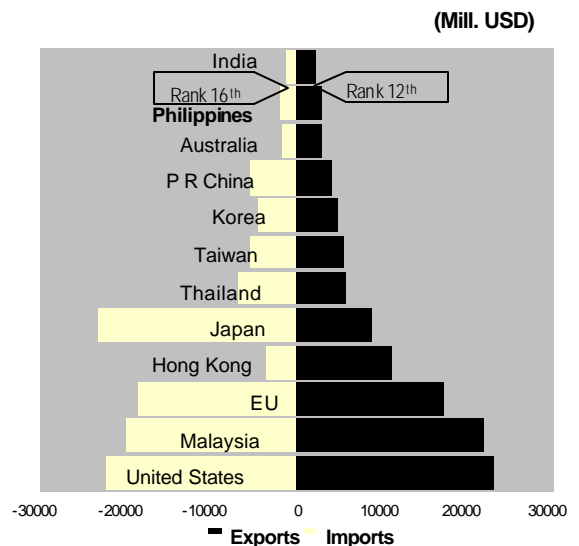
Singapore witnessed a trade boom during the period 1993-5 when both the exports and imports of the country increased significantly. During this period, the maximum growth in a single year was felt in 1994. While the annual growth rate of the country's export touched 30.8%, the corresponding rate for imports was 20.2%. Some of the market segments namely Asia, the non-oil developing countries and whole segment of developing countries recorded a higher growth than the country's overall growth rate in exports/imports. Though the growth rates of Singapore's exports to the EU, Europe and industrialised countries were high, they remained lower than the overall growth rate of Singapore. However, in the peak boom year (i.e., 1994), Singapore's import growth rate from the EU and Europe were much higher than from any other market segment. It may be noted that the growth rates of imports from Asia, non-oil developing countries and developing countries as a whole, were very high in 1994. In the recession year of 1997, the growth rate of Singapore's imports from Asia, non-oil developing countries and whole of developing countries were positive and much higher than that of the overall imports of the country.

The above trend indicates that Singapore is consistently focussing on the developing countries, particularly the non-oil developing countries of Asia for its trade activities. As India falls in this group of countries, a close economic trade relationship with India is significant from Singapore's trade policy point of view.

3. How Important is Indian Market for Singapore?

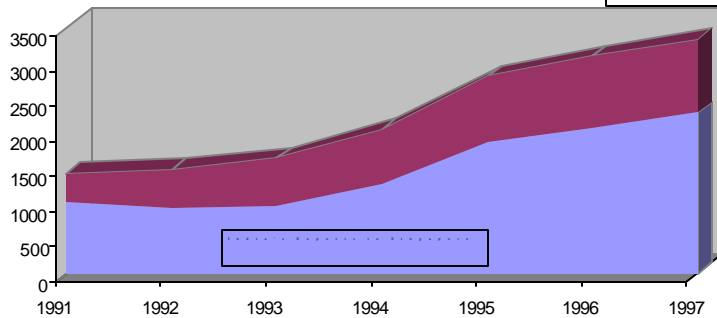
While the developing country market is becoming the most important trading space for Singapore in the 90s, particularly for exports, at the same time, India is emerging as one of the most important market destinations for Singapore. In terms of Singapore's exports to different countries/RTAs, India is the 12th most important country for Singapore's exports, taking the EU as a single market in 1997 as shown in Table 4. Similarly, in Singapore's imports, India ranks 16th in 1997 as shown in Fig. 3. In 1991, India was the 10th largest exporting destination of Singapore, whereas its position was further downgraded to the 13th position in 1993. However, India revived its position and became the 12th most important exporting destination for Singapore's exports since 1995. In 1991, India was the 16th largest country for imports from Singapore. Between 1992 to 1994, India has further elevated its status as an important exporting country for Singapore.

Fig 3: How Important is India for Singapore?
Singapore's Top Trade Destinations



Singapore's exports to India have more than doubled between 1991 to 1997, whereas, its imports from India made a two and half fold increase during the same period. Though India's export increased rapidly during the 90s as compared to its imports from Singapore, the trade imbalances became significant during this period. The bilateral adverse balance of payments of India increased from 58 million USD in 1991 to 127 million USD in 1997 as shown in Fig. 4.

Fig 4: Bilateral Trade Imbalance of India with Singapore



While taking the EU member countries separately rather than as a group, India is emerging as the 14th largest export destination of Singapore in 1997 as shown in Table 5. Similarly, in terms of Singapore's imports, India is the 19th important importing country. Therefore, India is one of the most important trading partners of Singapore

in the recent years. The size of the Indian market is growing steadily since the early 90s due to economic reforms. The size of the middle income group in India is expanding significantly on account of liberal economic policies, so that many countries are keen to benefit from the expanding market in India.

The growth performance of Singapore's trade with its major trading partner is presented in Table 6. Singapore's trade performance with individual country partners show that both exports and imports are increasing steadily with a selected number of countries in the 90s. The growth performance of Singapore's exports to major trading partners has been highly dismal in 1997. The total volume of Singapore's exports declined significantly in markets like Japan, Thailand, Malaysia and Korea but it continued to be robust in the case of India. It may be noted that the growth rate of Singapore's exports to India was significant between 1994 and 1997 despite a decline in the growth rate of Singapore's exports in some important markets in 1996 and 1997. Similarly, India's exports to Singapore have been significant during the 90s. Such a trend indicates that there is a high degree of trade complementarity existing between both the countries despite upswings or downswings in the macroeconomic performance of both the economies.

India absorbed around 1.8% of Singapore's total exports in 1997 as presented in Table 7. India's share in the total export of Singapore has increased steadily between 1994 and 1997. However, India's exports as a proportion of Singapore's total imports remained unchanged between 1992 and 1997. This indicates that Singapore can easily increase the size of its import from India in relation to its total imports from the rest of the world. The obvious asymmetry between India's share in the total exports and imports of Singapore, has caused bilateral trade imbalances with India. However, occurrences of bilateral trade imbalances for India may not mean much in the short and the medium term, but it might affect trade relationship between the two countries if the present trend continues for long.

Though there is a need for expanding trade activities between the two countries, the potentiality of generating additional trade depends upon the competitiveness of both countries in each other's market. In order to address the issue of competitiveness of products and potentials of

trade, we have used the absolute cost comparative advantage method as the basis for empirical analysis. Details of the methodology are discussed in the following section.

4. Measuring Export Potentials: Some Methodological Issues

In this section we suggest a methodology for analysing the prospects of India for entering into a Free Trade Area Agreement with Singapore. The efficacy of the proposed Agreement depends upon the export potential of one partner in other partner's market depending upon the price competitiveness of the exporting country. The tariff and other concessions under the FTA Agreement would further support the realization of the potential exports to actual.

In fact, price competitiveness complements export potential of goods from the exporting country. For instance, the production structure of an exporting country is such that the country can export an item with a price which is lower than the price offered by other competitors in the market of an importing country. In such a case, the importing country can opt for the switching of its source of imports from the high cost to low cost supplier. From the perspective of the exporter, price competitiveness could lead to the creation of an export potential in the importer's market.

The formation of an FTA improves the price competitiveness of the exporting partner, depending upon the tariff structure of importing trade partner and the level of concession offered in the arrangement. The exporting country gets an edge over other competitors in the market of the importing country and the benefits from the FTA increase when the tariff structure is very stringent in the latter country.

There is some sense in initiating negotiations with Singapore provided that India has a sizeable export potential in that market, and at the same time if an export item from India is likely to get reciprocate tariff reduction from that country. In case the expected benefit from the proposed FTA is not shared equally between both countries, the country receiving fewer benefits may be extended concessions in other sectors like services and joint ventures. There is a strong perception that Singapore has a large export potential (in trade in goods) in India and is likely to benefit substantially from the proposed FTA in view of India's relatively strong tariff regime. There are doubts regarding India gains in terms of additional market access share in Singapore following the signing of the proposed agreement.

It may be noted that Singapore exported about 1386 commodities (at HS 6-digit) to India in 1997. The export basket of Singapore to India includes both agricultural and industrial products. In this study, the price competitiveness of either country's export is estimated on the basis of Adam Smith's "absolute cost advantage" theorem. While estimating the price competitiveness of a particular commodity (say 'i'), a comparison is made between the price offered by an exporting country (say X) with the prices of its competitors (Y's) in an importing partner country (say Z). If the price offered by X is lower than those of others (i.e. Y's), it means that country X has a relative price competitiveness vis-à-vis the others. It is not always necessary to presume that the offered price of X to country Z is the lowest among other suppliers to Z in order to ensure that X has price competitiveness in the export of the ith product. If the price offered by X is lower than some of the suppliers/competitors (if not all) in country Z, then it also means that supplier X has price competitiveness in country Z.

In the present study, the methodology for the estimation of price competitiveness is the most realistic one. In this measure, we take the actual price offered by country X, and compare it with prices offered by other competitors in the importing country. For examining India's price competitiveness, we have to make a comparative analysis between India's export price with the price of its competitors in Singapore for a particular product.

5. Price Competitiveness and Export Potentials

For the estimation of price competitiveness, we consider each product separately at a disaggregate level (i.e. at the 6digit HS level). In this measure, we compare the export price of India in each product group (at the 6-digit level) with the corresponding prices offered by its competitors in the market of Singapore.

Suppose India is exporting *i*th product to Singapore at a given price (PX_{Nij}) and another competing supplier also exporting the same product to Singapore at a different price (PX_{kij})

where,

PX_{Nij} = Export price of India, for the *i*-th product, in *j*-th market (Singapore).

PX_{kij} = Export price *k*-th competitor, for the *i*-th product, in the *j*-th market.

N = India

i = 1, 2,P (Products)

k = 1, 2,K (India's K competitors in the *i*-th product segment)

For a given product '*i*', if India has price competitiveness over other competitors in the *j*-th market then the export price of India should be lower than those of other competitors. In such case, the condition may be

$$PX_{Nij} < PX_{kij} \dots\dots\dots (1)$$

If India, has price competitiveness in one product, it does not mean that all the competitors in that product category necessarily have higher prices than that of India. In the given product, some of them may also be having lower prices than India. In that case, India should look at the market share of those competitors, whose export prices are higher than that of India. The export market shares of India's inefficient competitors may be considered as India's export potentials.

Suppose in Singapore's market, India is exporting *i*th product and another *K*-1 number of suppliers are present in the same product segment. So each competitor holds some portion of market share (Sh_{ikj}) in the import of the *i*th product by Singapore. Therefore, the total market of the *i*-th product is shared by all the *K* suppliers in Singapore. It means,

$$\sum_{k=1}^K Sh_{ikj} = 100 \dots\dots\dots (2)$$

Where Sh_{ikj} stands for market share of the *k*-th exporter of the *i*-th product to Singapore.

Suppose India has price competitiveness over a few competitors (but not all of them) in the export of *i*th product, and in case India effectively enters the Singaporean market as a supplier the combined market share of incompetitive competitors (let us assume the ratio as *á*) may be treated as India's potential export share, where,

$$0 < \acute{a} < 1 \dots\dots\dots (3)$$

and α denotes proportion of the i -th product market, which is covered by the exports of less competitive competitors of India in the markets of Singapore.

The export potential of India (POT_{Nij}) in the exports of i -th product in Singapore may be estimated as:

$$POT_{Nij} = \alpha IM_{ij} \dots\dots\dots(4)$$

Where IM_{ij} stands for total imports of the i -th product by Singapore from all sources.

If α is less than 1, it means that India has a price edge over a few competitors and a part of the i th import market of Singapore would form India's potential export. If α is equal to 1, it means, that the entire import of the i th product by Singapore would be India's potential export. Jacob Vinner denotes such trade potential as the trade creation effect of a regional trading arrangement.

In this measure, we assume that with changes in the policy environment, India may be able to improve its market share by taking over market segments from less efficient competitors in Singapore on the basis of her absolute cost comparative advantage. One of the limitations of this measure is that we cannot identify the products where India has global competitiveness but is yet to tap the export potentials in Singapore. This issue is empirically examined in a recent study (for details see Mehta and Mohanty, 1999).

What are the prospects for India, should it go for a bilateral FTA with Singapore? To analyse this it is necessary first to estimate the size of the export potential for those commodities where Singapore continues to have a high tariff. These tariff peaks include both *ad valorem* and specific tariffs (taking *ad valorem* tariff equivalence). The negotiation would be on the basis of total trade opportunities created by the trade creation and trade diversion effects based on the existing tariff structure. The preferential bilateral tariff reduction would determine the level of trade diversion in both the countries. The sharing of potential benefit from the FTA between the countries would be at the core of bilateral negotiations.

For the negotiations, we have to identify commodities, which are exported or likely to be exported by Singapore, and are also facing different levels of tariff (both *ad valorem* and tariff equivalence of specific tariffs) in India. A similar exercise may be repeated for India too. Based on the coverage of identified commodities and their potential exports, recommendations are to be made about the future course of negotiations. In this study, we have extended our analysis to cover commodities of both the agricultural and industrial sectors.

Since India and Singapore have decided to consider the possibilities of close economic cooperation, there is a need to examine the potentials of trade in both the countries. In case, the potential exists to augment trade between both the countries, there is a need to examine the extent to which the FTA agreement can help both the countries in providing tariff and other support on a reciprocal basis. The reduction of tariffs under the purview of FTA agreement would provide immense advantage to the exporting partner over other exporting competitors in the market of the importing partner country. This would, in fact, support some of the marginally cost disadvantage products of the exporting partner, which we describe as the 'trade diversion effect' in the framework of Jacob Viner's 'customs union' model. In this context, we would like to examine the competitiveness of Singapore's exports in the Indian market and vice versa.

6. Trade Potentials of Singapore in India

The export potentials of Singapore in the Indian market are estimated using equation 4 and this is presented in Table 8. From total import of 39.5 billion USD, India imported about one billion¹ USD worth of goods and services from Singapore in 1997. As reported by the UNCTAD, India imported 1386 items from Singapore and the import basket is likely to be widened in future. Singapore is yet to introduce many products in the Indian market, particularly those items where the country has competitiveness in the global market. The structure of Singapore's export potentials in India indicates that except for a few product categories like arms and ammunition (section XIX), live animals (section I), leather and footwear (section VIII), the country has competitiveness in other broad product groups at the HS-section level. Some of the products, where the country has large export potential in India, are gems & jewellery (section XIV), base metals (section XV), machinery (section XVI), optical and photography (section XVIII), chemicals (section VI), plastics (section VII) and petroleum products (section V). In case such export potentials are translated into actuals, Singapore would account for 40% of India's global imports as recorded in 1997. The result shows that in some broad product segments of India's global imports, the exports of Singapore have been quite significant. These include wood products (Section IX), machinery (Section XIV), plastics (Section VII), base metals (Section XV) and optical products (Section XVIII).

While comparing the export potential of Singapore with items from India's import basket, there are a large number of product segments where Singapore can export to India in a cost efficient manner. Even though Singapore is a city based economy it has shown its preparedness to export agricultural products in specific product categories like vegetable products (Section II) and fats and oil (Section III). It may be inferred by looking at the ratio of potential exports to the actual exports that Singapore is yet to exploit its export potentials in major product categories like prepared foodstuffs (Section IV), cement & plasters (Section XIII), machinery (Section XVI) and other manufactured articles (Section XX). Singapore has to concentrate its efforts to seize the larger Indian market in areas like petroleum products (Section V), chemicals (Section VI), gems & jewellery (Section XIV), base metals (Section XV) and photographic items (Section XVIII) where small proportions of Singapore's export potentials have been exploited so far.

In order to understand the export interest of Singapore in specific product segments, disaggregated information on Singapore's actual exports to India and its export potentials are present in Table 9. Though Singapore has price competitiveness in a sizeable number of broad product segments, there is a need to look at product groups at a more disaggregated level (i.e., at HS-Chapters) for policy simulations. In the petroleum product category (Chapter 27), Singapore has the largest export competitiveness in comparison with other product segments. In case Singapore's export potential is translated into actual exports, 40% of India's oil requirements could be resolved by importing from this single source. The current level of exports is very insignificant in this broad product group and the actual export to its potentials is less than one%.

Singapore has a sizable export interest in chemicals. Looking at the export competitiveness of various types of chemicals it appears that Singapore can well export organic chemicals (Chapter 29) to India where it has export potential to the extent of 767.8 million dollars in a year.

¹ There is discrepancy in the import figure of India from Singapore in Table 4 and Table 8 due to the use of different sources of data.

India can import other important products like fertilizers (Chapter 31), tanning or dyeing extracts (Chapter 32), etc. to a large extent.

Exports from Singapore are price competitive in the entire range of plastic and other related products. India can largely depend on imports of articles of plastics and rubber for its domestic requirements (Chapter 39 & 40) from Singapore. Moreover the country has large potentials in the exports of gems & jewellery (Chapter 71). At present, India is importing merely 17.4 million USD whereas the potential export of Singapore is roughly at 2.5 billion USD in a year.

Another area of interest for India would be that of electronic products from Singapore. Though electronic products are not defined in one specific product classification in the harmonised system, such items are spread over many broad items like boilers & machinery (Chapter 84), electrical machinery (Chapter 85), photographic equipment (Chapter 90) and clock and watches (Chapter 91). In these broad product categories, Singapore has large export potentials in India, except for clocks and watches (Chapter 90). Though Singapore's presence in India's imports of electronic products is fairly large, the former can have a large market access in India if the existing export potentials in this product category are fully realised.

Considering the level of export potentials of Singapore in India, the possibility of realizing this is largely dependent on the signing of the bilateral FTA agreement with India. The size of tariff concession and coverage of broad sectors under the FTA agreement would set a limit on the depth of market access for each partner in each other's market. The exporting country possessing a high export competitiveness in the partner country, and at the same time facing high tariff, is likely to benefit from the agreement. Both the countries would benefit from the FTA by providing market access to each other.

7. India's Trade Potentials in Singapore

India exported to the extent of 599.3 million USD, covering 1327 exporting items at the 6-digit HS level to Singapore in 1997. In the same year, Singapore's total global import was 100.4 billion USD. In comparison with Singapore's total global imports, India's bilateral export to the country is insignificant. However, in terms of price competitiveness, India has a large export potential to the extent of 12.1 billion USD in a year. In case, such export potentials are fully or partly realised, India's external sector is likely to get a major boost in the coming years.

The import structure of Singapore indicates that the country imports almost all broad products except arms (Section XIX) and works of art (Section XXI) as presented in Table 10. In these product lines where Singapore has priority for imports, India can look for new spaces for exports. Among the major product groups, Singapore's largest import was registered in machinery and mechanical appliances (Section XVI). The total import in this product segment was close to 57 billion USD in 1997. Other priority imports of Singapore include minerals (Section V), chemicals (Section VI), base metals (Section XV), vehicles (Section XVII) and photography products (Section XVII). In many such product segments, India has been an important supplier to Singapore. At present, the exports of India have been significant in products like chemicals (Section VI), base metals (Section XV), and mechanical appliances (Section XVI). The other important bilateral exports of India are vegetable products (Section II), textile (Section XI), and gems and jewellery (Section XIV).

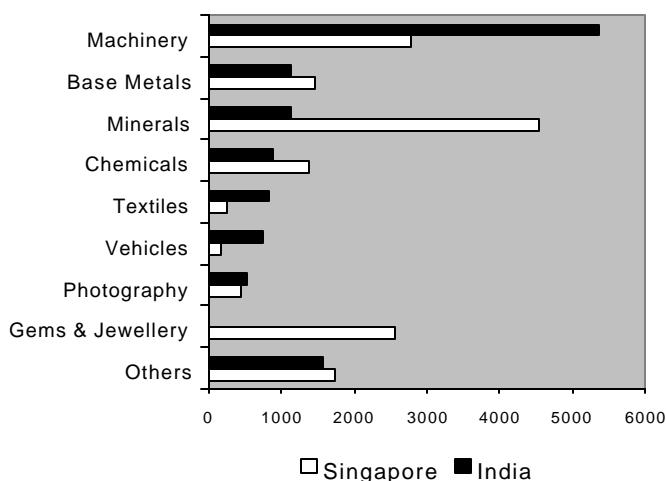
India's export potentials in Singapore are quite large as compared to its present bilateral exports to the country. It is interesting to note that India has high export potentials in those

product groups, where Singapore has a priority for imports. In other words, a large complementarity exists between India's export potentials and Singapore's imports requirement from the global market. Among the broad products, India has the largest potential in the export of machinery & mechanical appliances (Section XVI). In this product segment, India can supply to Singapore to the extent of about 10% of the latter's import requirements. India can significantly ameliorate its bilateral exports in products like minerals (Section V), chemicals (Section VI), textiles (Section XI), base metals (Section XV), vehicles (Section XVII) and photography (Section XVIII).

India's export to Singapore was significant in product segments like animal products (Section I), vegetable products (Section II), textiles (Section XI), gems and jewellery and works of art (Section 21) in 1997. In these product groups, the share of India's export was more than 2% of Singapore's global imports in the respective product segments. In case of full or partial realisation of potential exports, India may seize a large market share in all important product segments except oils and fats (Section III), wood product (Section IX), gems and jewellery (Section XIV), arms and ammunition (Section XIX) and works of art (Section XXI). Comparing actual exports to potentials, India has made commendable progress in the exports of agricultural products to Singapore. Looking at the overall export performance of all the broad products, the accomplishment of base metal has been commendable. A detailed analysis of India's export potentials in Singapore is presented in Table 11. The empirical analysis has identified certain broad products where both the countries can benefit in exporting to each other's market. As shown in Fig. 5, seven sectors are identified on the basis of exports potentials where both the countries can negotiate for widening their market access in each others country. Those products are machinery, base metals, chemicals, textiles, vehicles, photography and gems and jewellery. However, the effectiveness of the FTA is largely dependent upon the tariff concessions offered by the contracting parties. The negotiation of tariff reduction would begin on the basis of the existing structure of tariff in both the countries.

Fig 5: Potential Exports of India and Singapore in Specific Sectors

(in Mill. USD)



8. Analysis of Tariff Structure in India and Singapore

The tariff structure of India is reviewed in Table 12. India has defined its *ad valorem* tariff for 5112 items at the 6digit-HS level. For the present study we have used the TRAINS (2000) data in which the latest trade data is available for 1997. In order to match the trade data we have taken the tariff structure of India for the same year. In 1997, India had 14 tariff bands. While four tariff bands fall under the no peak tariff range, the remaining bands are under the peak tariff

head. In an earlier study², the peak tariff fell within the range of 10 to 12% but in this study the peak tariff is defined as more than 10%. It is shown (see Table 12) that most of the product lines (HS 6Digit level) are falling in the tariff range of 10-40%. Only 23 product items are subjected to 50% or more *ad valorem* tariff, and most of them belong to the agricultural sector. The high tariff regime in India would benefit to Singapore more in case the Agreement is made. If a substantial amount of Singapore's export potentials lie in the high tariff range, it would be in Singapore's interest to exploit the Indian market. In the case of a large number of products, the tariff structure is so high that even some of the marginally incompetent exports of Singapore can also compete with efficient suppliers under the cover of the proposed FTA.

Similarly, we have examined the tariff structure of Singapore in 1997. In Singapore *ad valorem* tariffs are notified for 5828 products at the 8-digit HS level as shown in Table 13. Though a few items are subject to specific tariffs, including products like wine & other items, the bulk of the product lines are subject to zero tariff. Therefore the Free Trade Agreement would not benefit Indian exports in gaining market access in Singapore. The currently existing trade potentials of India can be achieved even without the FTA.

9. Implication of Bilateral FTA for India

The Free Trade Area Agreement may provide considerable support to the exporting partner in accessing the market of the importing partner. The differential treatment conferred to exporting FTA partner *vis-à-vis* other supplier by the importing partner country would favour the former. While the exporting partner country can push some of the marginally incompetent products to the importing country under the 'trade diversion' principle, the margin of competitiveness is likely to increase for those products which are identified as competitive under the 'trade creation' principle.

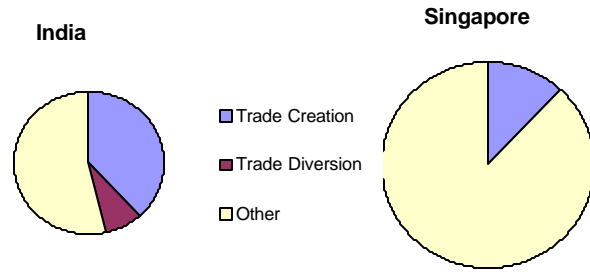
In order to understand the import structure of India in relation to its tariff policy, we have tried to examine the size of imports under different tariff rates and at a more desegregated product level (i.e. 6digit HS level). In the broad product categories, Singapore's actual exports to India and its potential exports are examined in the context of the tariff regime of India in Table 14. In 1997, India's total import was around 39.5 billion dollars. Out of the total imports, one third of this was subject to low tariff (10% or less) while a further half of this was subject to a medium tariff (20 to 30% *ad valorem*). Singapore's total export to India was close to one billion USD in 1997. From the total exports of Singapore to India, one fifth of the total was subject to low tariff and about 87% of it was subject to either low or medium tariff. If we examine the existing export potentials of Singapore in different product groups and the type of tariff it can face in India, the picture would be different from that of the actual exports of Singapore to India. It may be noted that the total export potential of Singapore in India alone is more than 15 billion USD in 1997. The total trade potential of Singapore may increase further if trade diverting exports are included in it.

A comparison between India and Singapore is presented in Fig. 6, showing the prospects of augmented trade between the two countries due to trade creation and trade diversion effects. In fact, there is no trade diverting exports for India because Singapore has nothing to offer in terms of tariff concessions. On the contrary, in the event of a realisation of Singapore's export potentials into actual, India would be one of the top ranking export destinations for Singapore. The results

² For details see WTO and UNCTAD (1998).

show that out of the total potential exports of Singapore into India, two thirds of this is subject to medium to high tariff. In case both the countries are sewn with an FTA, Singapore's 10 billion dollars worth of potential exports presently subjected to peak tariff ranging between 20 to 260%, would be subject to zero tariff.

Fig 6: Effects of Exports Competitiveness in each Other's Market

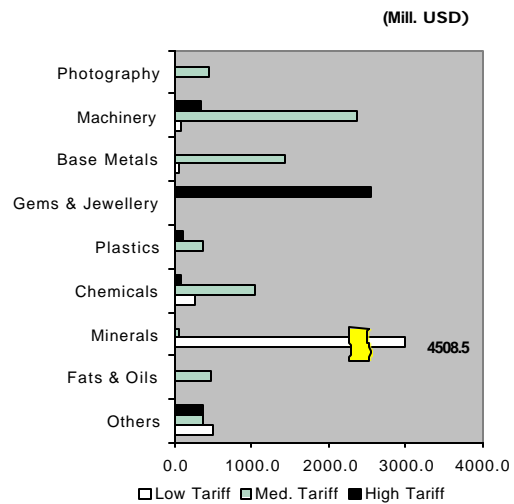


With this kind of reduction in tariff, the Singapore's exports to India may increase by another three billion dollars, due to the trade diversion³ effect, where marginally incompetent products can get an entry into the Indian market.

The Singaporean potential in export does not only exist in the industrial segments of the Indian market but also in the agricultural sector where it is likely to be visible in product groups like vegetables (Section 2) and fats & oil (Section 3). A bulk of Singapore's export potential in the Indian market would, however, be in the industrial sector. The potential exports of Singapore are likely to get support from the proposed FTA in terms of reduction of tariff in products like chemicals, plastic products, gems & jewellerys, base metals, machinery and electronic products. In mineral products, particularly petro-chemicals, the potential export has been very large, but tariff rates for such products are low in India. Therefore, petroleum products may not get much support from the proposed FTA.

Disaggregated information about Singapore's actual and potential exports and the type of tariffs existing in India for those products, are presented in Table 15. Among the agricultural products, Singapore would get substantial tariff concessions in the exports of fruits and nuts (Chapter 8) where those products are subject to a high peak tariff. Import of animal or vegetable fats and oils (Chapter 15) are likely to be cheaper for India since the possible tariff reduction would be substantial in these products. Among chemical products, organic chemicals (Chapter 29) and fertilizers (Chapter 31) would obtain a substantial advantage from entering the Indian market as these products are subject to a low to medium range tariff. Similarly the entire range of plastic products would benefit from the steep tariff reduction. In gems and jewellerys, the tariff rates are very high in India. Since India is one of the leading

Fig 7: Tariff Regime in India and Potential Trade of Singapore



³ For details about trade creation and trade diversion effects within the framework of bilateral/regional trading arrangement, see Mohanty (2001), 'Trade Prospects of India from IOR-ARC: Some Recent Evidences', in *Regional Cooperation in Indian Ocean: Trends and Perspectives*, (ed). P.V. Rao, South Asian Publishers, New Delhi.

importers of gems & jewelleryes (Chapter 71) in the world, Singapore is likely to get a large market in India because of its competitiveness and sharp reduction of tariff likely under the proposed FTA. In this product range, Singapore has export potentials to the extent of 2.5 billion dollars a year.

In 1997, India has maintained a medium level of tariff for base metals. Singapore is likely to benefit in this product segment particularly in the exports of iron & steel (Chapter 72), copper (Chapter 74) and aluminum (Chapter 76) products. Large segments of machinery imports in India are subject to a medium to high level of tariff. Singapore is likely to get more market access in India in this product segment. The manner in which the potential exports of Singapore would be subject to different levels of tariff in India, are presented in Fig. 7. Singapore would find it convenient to realize the huge trade potentials existing in India because a substantial part of its export potentials is due to trade creation effects.

The above results indicate that Singapore has large export potentials in India and it would benefit substantially from the existing Indian trade policy if a free trade agreement is signed between the countries. However, India may not receive reciprocal trade access in Singapore under the proposed FTA because most of the products that Singapore is importing at present from the rest of the world, are subject to zero tariff. Therefore, Singapore does not have anything to offer in terms of tariff concession under the FTA. The existing trade potentials of India in Singapore may not receive any preferential treatment *vis-à-vis* other competitors under the proposed free trade agreement between the two countries. There would be no difference in the market access scenario of India in Singapore if we compare the counter-factual situation before and after signing the agreement. In sum, the signing of the bilateral free trade agreement would amount to the opening up of the Indian market to Singapore but not vice versa for trade in goods. Therefore, India is not going to benefit in this sector.

In case both the countries sign the agreement, the opportunities created from it should be shared equally by the signing parties. Thus, while Singapore may get market access to the extent of more than 19 billion dollars (including actual and potential) in India, India should likewise expect a similar amount of market access in Singapore, particularly in sectors other than trade in goods. If commensurate market access were not provided, then India's BoP position would be extremely vulnerable. There is a need for examining whether India is likely to get a commensurate market access in Singapore that can match the size of the access to be given by India to Singapore. Singapore may help India in promoting its exports in other markets where it has easy access for farm produce like New Zealand, Malaysia, US, EU, Japan, etc. Secondly, India should be given preferences in trade in services. In some cases Singapore may have export potentials but import from the country would be adverse for India due to BoP reasons. In another situation imports may not be appropriate for India where the domestic content of Singapore is too low to invoke tariff preference under the agreement. In such cases, it would be appropriate to go for joint ventures. In this context, production capabilities should be examined along with the technological capabilities of Singapore before entering into the FTA agreement.

Though Singapore has trade potentials in many lines of production, it does not necessarily mean that such output may have originated from Singapore. There are apprehensions that the domestic content in most of Singapore's exports are very low. In many cases, the major value addition in Singapore includes inspection, packaging, leveling, etc. The results show that the country has potentials in the exports of agricultural products also. It may be noted that Singapore

is a city-based country where the contribution of the agricultural sector to the total GDP is marginal. This means that most of the agro-based products are imported from outside the country and such products are further exported to other countries with marginal value addition. Therefore, it may be argued that many of Singaporean exports have low domestic content and the Indian market is likely to face heavy imports from Singapore unless appropriate mechanisms are built into the rules of origin (ROO) of the proposed FTA.

In order to reduce pressure on the expected surge in the import bill of India due to high growth of exports from Singapore following a formal signing of the FTA, there is a need for putting in place strong rules origin to contain exports of Singapore to India. If the government finds it beneficial to go ahead with the proposal of the FTA, the rules of origin should be stringent to start with and depending upon the progress of commerce between the two countries, the trade policies may be liberalised in phases.

10. Rules of Origin

Introduction

One of the important components of the Free Trade Area Agreement is the formulation of the rules of origin, which addresses the issue of trade deflection and other development requirements of the contracting parties.

Singapore is basically a small economy with a population of four million in 1999. Despite being a high-income country the domestic absorption capacity is low. In comparison to its GDP, the external sector is quite large about more than three times higher than the former. While a very small segment of the country's import is absorbed in the economy, the remaining part is exported with a certain amount of value addition. Spotty evidences indicate that the domestic content in such value addition in the final goods for exports are mostly related to labour-related costs, such as inspection, packaging, leveling, etc. The main objective of Singapore is to increase the turn over of trade.

However, the objective of the proposed FTA should be to facilitate trade cooperation to promote activities in the manufacturing sector in both the countries. The agreement, in turn, should provide incentives to domestic entrepreneurs in both the countries to take advantage of the benefits granted in the proposed FTA. In order to safeguard the economic interest of India and to support the development aspects of the FTA, there is a need for having stringent rule of origin in this specific case.

It is expected that India's imports from Singapore are likely to increase manifold, in case the trade creation and trade diversion effects are fully realised due to a signing of the proposed FTA Agreement. In that case, India's additional import is likely to increase by 18 billion USD (i.e., 15 billion due to trade creation and 3 billion USD as trade diversion), whereas India is not going to get any additional market access in Singapore's domestic market. Therefore, a stringent ROO should regulate the size of the 'spurious export'. We refer to 'spurious exports' as those which are not genuinely produced in the domestic country, in which cosmetic changes are made in the post-production stage to increase the level of domestic content to meet the 'domestic content requirement' of the Agreement. Such products should be restricted from entering into the Indian domestic market.

Therefore the rules of origin should promote the development of the industrial-bases of both the countries. This fundamental principle is the basis of ROO in most of the high performing RTAs including NAFTA, EU, MERCOSUR, etc. In the context of NAFTA, Rugman⁴ (1998) argued that the contracting parties should be discouraged from using the market of the importing partner country as an export platform for its products, but rather it should encourage the industrial production of the region. For this reason the regional value contents are high in the NAFTA.

The NAFTA has maintained strong rules of origin regulations. There are about 15 articles in the agreement where different aspects of ROO are discussed in detail. Reviewing various regional trading arrangements, it may be argued that the rules of origin should contain three important aspects. These three elements of ROO are so comprehensive that the so-called 'spurious exports' may be detected by any of the three criteria. Firstly, the domestic content of the exporting country should be sufficient to establish that the product has originated from that country. Therefore, there should be a reasonable limit on the level of domestic content in the exporting item to secure concessions under the FTA. Secondly, an exporting country can import a sizeable amount of raw materials because of various considerations but the final exporting item should be a new product, which should be entirely different from the imported materials used for the preparation of the product. Thirdly, the products should pass through various tests in order to qualify as being genuinely produced in the exporting country.

Perceived Problems

There are apprehensions in India about the adverse effects of such an FTA on the domestic economy, considering the experiences of existing RTAs elsewhere. In the case of the New Zealand-Singapore FTA agreement, the market access given by New Zealand to Singapore in textiles has created several domestic problems for the former. On the basis of this agreement, there is discontentment between New Zealand and Australia in CER on the issue of the domestic content requirement. There are concerns in New Zealand regarding export subsidy, national treatment in government procurement, etc. under the Singapore-New Zealand FTA agreement. In case India decides to form an FTA with Singapore, similar issues should be examined before signing the Agreement.

In some instances, trade deflection takes place because of a lack of stringent rules of origin, and the third country's exports are channelised through the soft target to other partners of the FTA. Soft targets are those exporting partner countries, which have the lowest tariff regime among the other contracting parties. In the proposed Indo-Singapore FTA, there are apprehensions of trade deflection through Singapore into the Indian market.

Under an FTA, the exporting country gets an opportunity to capitalise on trade diversion where the tariff regimes of importing countries are relatively protected. It is mainly because, the exporting partner country may receive discriminatory tariff preference in the importing partner country against other suppliers. Therefore, the exporting partner can also export an uncompetitive product to the extent of tariff concession available in the specific product segment in the importing partner country. There are apprehensions that the Indian market may be flooded with Singaporean products due to trade creation and trade diversion effects, if an FTA is formally approved between the countries.

⁴ Rugman, M Alan (1998), "The Rules of Foreign Investment in NAFTA", *Latin American Business Review*, Vol.1, No.1.

Many exporting countries resort to a violation of the local component requirement by escalating the domestic cost of production in labour services. Very often exporting countries indulge in the practice of importing the products from the third country and add to the value of products in terms of labour related charges such as inspection, packaging, marketing, labeling, etc. If one looks at the various possible areas of value addition in the final product or the local content in the product, there are cases where a serious discrepancy exists between the major components of value addition, such as raw material, labour and overheads. There exist a substantial number of cases, where the local content is included in the final product in the form of labour cost only. If a similar practice is allowed to continue, there are possibilities of sizable amount of trade deflection to the importing country. To avoid such possibilities, there is a need for giving some guidelines regarding proper distribution of local content into major areas like raw material, labour and overhead cost.

India perceives the danger of a lopsided flow of trade, which would adversely affect the balance of payment situation of the country. As such, Singapore is a resource-scarce economy where the country is dependent on others for raw materials. If India decides to go ahead with the bilateral FTA with Singapore, raw materials from India may be linked to import of final products from Singapore. With this arrangement both India and Singapore may be benefited in augmenting bilateral trade and reducing trade imbalances between both the countries.

Determination of Originating Status

For the smooth implementation of the FTA agreement between the two countries, there is a need for formulating comprehensive rules of origin criteria. The ROO should be such that trade deflection can easily be avoided. Moreover, the development needs of both the contracting countries could be fulfilled with appropriate rules in the ROO. The need for determining the originating status of a country arose when an exporting product is not wholly produced in the originating country. In case of importation of materials for the production of a product in the domestic economy, there is a need for “substantial transformation” of the product to get the originating-status of the concerned product. There are three comprehensive criteria to determine the originating-status⁵ of a product. In case of SAPTA, there are studies⁶ indicating the nature of ROO for the region.

i) Percentage Criteria

There are three types of percentage tests. Firstly, the ‘*import-content-stipulation*’ sets an upper limit for the ratio of imported parts and materials to the total parts and materials. Secondly, the ‘*domestic-content-requirement*’ presupposes that a minimum percentage of value added to the total should be obtained using domestically produced inputs. Lastly, the ‘*value-of-parts test*’ requires that the originating parts should reach a certain percentage of the total value of parts.

We propose that the domestic content requirement should be at least 50% or more for the proposed Indo-Singapore FTA Agreement. In several important RTAs, the ratio of domestic content requirement is still on the higher side.

⁵ For detailed discussion on the issue, refer Hirsch (1998), James (1997) and Rodriguez (2001).

⁶ A comprehensive study, Panchamukhi and Das (2001) have attempted to examine the nature of rules of origin for the SAARC, considering the trade deflection and developmental aspects of the region.

Some relaxation may be given in the ratio of the domestic content requirement for the exporting partner, if the raw materials used in the exports are imported from the importing partner country. Such Relief in the domestic content requirement may be up to 20% in the proposed agreement. For example, suppose Singapore is using y material for the export of commodity x to India, and India is supplying commodity y to Singapore, with a view to import the finished product in due course. In the normal course, Singapore should show 50% its domestic content, but in this case, Singapore's own domestic content requirement could be lowered up to 30%, provided the remaining 20% materials are imported from India. If import of raw material exceeds 20%, the relaxation under the domestic content requirement can not exceed the 20% limit.

ii) Change in Tariff Heading (CTH) Test

Under the provision of this test, the resultant originating product should fall into a tariff heading, which is different from the tariff heading of its imported inputs. From the implementation point of view, the CTH test is easier than domestic content requirement. This test is commonly used in most of the RTAs.

iii) Specific Process Test

The process test is required to deal with the specifics of a particular production process. Though this criterion is cumbersome, several RTAs have implemented this test to identify non-originating components in imports. Among others, NAFTA and EU have adhered to this criterion.

We would like to bring home the point that the ROO should be stringent enough to prevent trade deflection in the Indian market. Otherwise, there may be an unprecedented surge in the level of bilateral trade imbalances against India.

11. Complementarity between trade potentials and joint Ventures

There are apprehensions in India that an FTA with Singapore may not be economically sound as it may lead to growing trade imbalances against India. In this case, other options in which India's import dependence on Singapore can be reduced in certain sectors, but at the same time effective economic cooperation may continue on a fast track may be examined. One such possibility is that of wide ranging cooperation in joint venture (JV) activities. Instead of importing certain commodities from Singapore, the same commodity can be produced jointly in India.

We have examined the linkages between Singapore's trade potentials in India and the production capabilities of Singapore in their domestic economy as presented in Table 16. We have used the ISIC (Revision 3) for industries and the Harmonised System (HS) for trade with a view to compare the trade performance with that of industry. Due to lack of information about proper matching between these two sets of classifications, we have made a rudimentary attempt to compare the two sets. It is observed from the performance of different industries in Singapore that while some of the industries have shown striking performance in the latter half of the 90s, others have made slow progress during the same period.

As discussed earlier, it would be difficult for India to import everything from Singapore wherever the latter has a comparative advantage following the signing of the proposed FTA agreement on account of BoP reasons. In such a case, the proposed imports of some goods may be produced in India under joint ventures (JV) with Singapore, for which one can identify those sectors where Singapore has an edge over India in terms of technology and investment. One of the

important areas for JV could be the processing and preserving industry, covering perishable items like meat, fish and fruits (ISIC 151) where the Singaporean industry has made impressive performance between 1995 and 1998. It may be noted that Singapore has made significant progress in the food processing industry. Though the trade potential of Singapore in India is low, India may be having its own interest in promoting joint ventures for its exports depending upon the quality of technology available in Singapore. The made-up textile (ISIC 1721) industry has grown at the rate of 15.13% per annum during the period 1995-8. India can expand its economic linkages with Singapore in this important product segment. The performances of some industries like wooden-container, paper and paperboards, printing, pharmaceutical are impressive. The size of gross fixed capital in refined petroleum industry was reported to be very high in 1998, and the industry has registered a moderate performance during the period 1995-8. Since Singapore has large trade potentials in India, there is a need for examining the possibility of JV in this important sector. The performance of Singapore's pharmaceutical and other chemicals industry are impressive and this has a strong industrial base in the country. Since India is a model country for its exceptional export performance in the world, there could be an effective cooperation between the two countries in this industry segment.

In electronic products, ranging from electric bulbs, TV/radio, transmitters, testing equipment, industrial processing control devices to optical instruments, etc, the country has a strong industrial infrastructure and the performance of these industrial segments are impressive during the period 1995-8. In view of the information technology boom in India, one can think of widening the technical collaboration in this sector. Apart from these industries, India can look for joint ventures in cement, metals, machinery, office devices, etc.

The above results indicate that in some select product segments Singapore has a strong industrial base and the performances of these industries have been impressive over the years. If such industries have strong technical capabilities in terms of R&D, it would be worthwhile to examine the possibilities of initiating joint venture between the two countries. There is also a need for examining *Batam* type of model in India to promote joint production and marketing ventures for exports to the third country.

12. Batam Model

Under the recently concluded FTA Agreement, Singapore has secured market access to New Zealand for the export of textile products. Though Singapore has been a global player in textiles, it is more dependent on non-originating components for the production of these export products. Singapore has opened up a production corridor in a place known as *Batam* in Indonesia. This is one of the important production points of Singapore in recent years.

Singapore gets cheap textile products from *Batam*. The textile production corridor is under the control of Singapore. Female workers are mostly employed in those factories. Singapore takes advantage of the cheap labour of the area. Workers are paid between 52 to 65 USD per month, including over time. Since Singaporean labour laws are enforced in that area, there is hardly any union activity in these factories to protect the interest of workers. Singapore has very strict laws on labour, including the threat and detention without trial under the internal security act for those who organise and support the local and migrant workers who may be exploited. In sum, the production activities take place under strict rules and regulations in *Batam*.

Singapore exports the entire textile production of the area to different parts of the world. While Singapore is responsible for the capital requirement of the corridor, Indonesia supplies other production ingredients including labour and land. This venture is beneficial for both the countries in production and marketing.

India can initiate a plan for developing an exclusive production corridor for a Indo-Singapore joint venture in India. Of course, in a democratic setup, labour exploitation may not be allowed under the Indian constitution. But a simpler solution to the labour problem can be devised to give a shape to the production corridor proposal.

In case both the countries accept a modified *Batam* type model, Singapore can have easy access to India's abundant raw materials and low-paid trained labour. India can also benefit from joint export to third country.

13. Concluding Observations and Suggestions

Singapore has been looking at the markets of developing countries for its trade in the 90s. More specifically, the most important trade destination of Singapore has been non-oil developing countries of Asia. Singapore has more effectively used this trade destination for its exports rather than imports. In the entire period of the 90s, Singapore maintained large amount of trade surplus with the region. On the other hand, Singapore's trade balance with the industrialised countries has been unfavourable during the same period. India falls within the group of those countries, where Singapore has its long-term interest for exports.

At present India is one of the important export destination of Singapore. In 1997, India was the 12th important export destination of Singapore, taking the EU as a single market. In case the EU member countries are taken separately, India's rank as an important export destination for Singapore will not change significantly. However, the record of Singapore's imports from India has been dismal.

Because of this factor, India has been facing an unfavourable balance of payments *vis-a-vis* Singapore in the 90s. In 1997, India could manage to cover only 63% of its bilateral imports from Singapore through exports.

The results of the study indicate that Singapore has large export potentials in India. At present, the total export potential of Singapore is over 15 billion USD per annum. In case the FTA agreement is mutually agreed upon between the two countries, the potential of Singapore's exports may further increase to another three billion USD due to the trade diversion effect. The export potential covers both agriculture and the manufacturing sectors. Some of the important product groups, where Singapore can have a major stake in the Indian market, are gems and jewellery, base metals, machinery, optical and photography, chemicals, plastics and petroleum products.

The expected benefit from the proposed FTA between India and Singapore depends upon the tariff structure of both the countries. While looking at the tariff structure of India in 1997, the tariff regime was seen as being very restrictive as compared to other developed countries of the world. There has been a substantial decline in the average rate of tariff since then. Singapore is likely to benefit significantly from the proposed FTA due to the strong tariff regime in India. Apart from the existing price competitiveness, the trade diversion effects of FTA for Singapore would be more than the present bilateral trade with India. On the contrary, India is unlikely to

gain from the proposed FTA because the average tariff of Singapore is zero. The existing price competitiveness of India in Singapore can otherwise be realised without the FTA. Therefore, the signing of the FTA amounts to the opening up of a one-way trade traffic for India, and it would be detrimental to India's economic interest.

The implication of a bilateral FTA for India is examined in this study. The results indicate that a substantial part of Singapore's potential exports may be subjected to medium to high tariff in India. Such export potentials could be to the extent of 10 billion USD in a year. In the agricultural sector, Singapore is likely to be benefited in the exports of vegetables and oils. In the manufacturing sectors, the country can get significant tariff concessions in products like chemicals, plastic products, gems & jewellerys, base metals, machinery and electronic products. There could be a large market access in the exports of petro-chemicals products to India, but the reduction of tariff may be low in this case.

We recommend the imposition of stringent rules of origin to prevent large scale deflection of trade to the Indian market from the third country. The ROO should comprise of three tests for the determination of originating status of export products. The percentage criteria for the domestic content requirement should be put at least at 50%. The domestic content requirement can be relaxed at a maximum to the extent of 20% if the intermediate input from the importing country is used by the exporting partner country. The change in heading test and the specific process tests may be the other components of the ROO.

In case both the countries decide to go ahead with the proposal of the FTA, there should be some way to compensate India in giving market access in some other sectors including trade in services. The proposal for the setting up of joint ventures in India can reduce the pressure of imports from Singapore. We have examined complementarity between potential exports of Singapore with its production capabilities in the domestic economy. The results indicate that some of Singapore's industries maintained a high growth rate in the 90s. Looking at the industrial performance of Singapore based on output growth and infrastructure of the specific industries, we can conclude that performances of some industries are fairly good in the 90s. Therefore, some kind of JV can be worked out depending upon the availability of technology with Singapore. On the basis of their industrial performance and the depth of the industrial infrastructure, we can think of undertaking JVs in specific product segments like food processing industry, made-up textiles, paper, printing pharmaceutical and electronic products.

India can think of creating production corridors with Singapore, similar to the *Batam* type of arrangement, to promote joint production and exports to third country

References

- Hirsch, Moshe (1998), "The Asymmetric Incidence of Rules of Origin: Will Progressive and Cumulation Rules Resolve the Problem?", *Journal of World Trade*, Vol.34(4), pp.41-53.
- James, William E. (1997), "APEC and Preferential Rules of Origin: Stumbling Blocks for Liberalization of Trade?", *Journal of World Economy*, June, Vol.31(3), pp.113-34.
- Kumar, Nagesh & S.K. Mohanty (2000), *Relevance of a Clearing and Payments Arrangement for the IOR-ARC Region*, Institute of Policy Studies and Research & Information System for the Non-Aligned and Other Developing Countries, New Delhi.
- Mehta, Rajesh and S.K. Mohanty (1999), *WTO and Industrial Tariffs: An Empirical Analysis for India*, Research & Information System for the Non-Aligned and Other Developing Countries, New Delhi. (First reprint in 2001)
- Mohanty, S.K. (2001), 'Trade Prospects of India from IOR-ARC: Some recent evidences', in *Regional Cooperation in Indian Ocean: Trends and perspectives*, (ed.) P V Rao, South Asian Publishers, New Delhi.
- Panchamukhi, V.R. and Ram Upender Das (2001), 'Conceptual and Policy Issues in Rules of Origin: Implications for SAPTA and SAFTA', *South Asia Economic Journal*, (forthcoming).
- Rodriguez, Peter L. (2001), "Rules of Origin with Multistage Production", *Journal of World Economy*, February, Vol.24 (2), pp.201-20.
- Rugman, M. Alan (1998), "The Rules of Foreign Investment in NAFTA", *Latin American Business Review*, Vol.1, No.1.
- UNCTAD and WTO (1998), *Market Access Development since UR, Implications, Opportunities and Challenges*, May, UNCTAD.
- TRAINS (2000), *Trade Analysis and Information System*, Spring, UNCTAD.

Table 1: Singapore's Trade with Major Regions of the World

Region	Actual Trade in Million USD													
	Export							Import						
	1991	1992	1993	1994	1995	1996	1997	1991	1992	1993	1994	1995	1996	1997
Africa	1182	1210	1202	1395	1407	1415	1346	404	808	960	632	539	601	608
Middle East	1818	1820	1663	1733	1950	2009	2041	6066	5741	5935	6666	8127	10186	10261
Asia	26039	27481	34255	48812	60766	64185	64673	22665	24764	30851	38397	47485	49230	50441
Europe	946	843	1072	1319	1715	1706	1494	499	527	537	755	1123	1206	1249
EU	8665	10002	10808	12973	15826	16283	17450	8619	9816	10631	13384	16577	18989	18449
Western Hemisphere	969	1051	1327	1418	1608	1986	2136	799	783	786	858	1109	1411	1382
Oil exporting countries	1696	1649	1511	1459	1603	1687	1819	5873	5524	5688	6220	7456	9744	9758
Non-oil developing countries	29285	30794	38039	53219	65843	69614	69871	24569	27105	33396	41088	50927	52889	54182
Developing Countries	30981	32444	39550	54678	67446	71302	71690	30442	32629	39084	47308	58383	62634	63941
Industrial Countries	28200	30995	34483	41676	50692	53754	53575	35818	39545	46304	54976	66009	69053	68589
DOTS World Total	59219	63475	74071	96911	118187	125126	125302	66271	72181	85393	102642	124394	131693	132540

Note: Geographic regions are not mutually exclusive

Source of Data: Direction of Trade Statistics, International Monetary Fund, 1998.

Table 2: Size of Singapore's Major Markets in the World

Region	(in percentage)													
	Export							Import						
	1991	1992	1993	1994	1995	1996	1997	1991	1992	1993	1994	1995	1996	1997
Africa	2.0	1.9	1.6	1.4	1.2	1.1	1.1	0.6	1.1	1.1	0.6	0.4	0.5	0.5
Middle East	3.1	2.9	2.2	1.8	1.6	1.6	1.6	9.2	8.0	7.0	6.5	6.5	7.7	7.7
Asia	44.0	43.3	46.2	50.4	51.4	51.3	51.6	34.2	34.3	36.1	37.4	38.2	37.4	38.1
Europe	1.6	1.3	1.4	1.4	1.5	1.4	1.2	0.8	0.7	0.6	0.7	0.9	0.9	0.9
EU	14.6	15.8	14.6	13.4	13.4	13.0	13.9	13.0	13.6	12.4	13.0	13.3	14.4	13.9
Western Hemisphere	1.6	1.7	1.8	1.5	1.4	1.6	1.7	1.2	1.1	0.9	0.8	0.9	1.1	1.0
Oil exporting countries.	2.9	2.6	2.0	1.5	1.4	1.3	1.5	8.9	7.7	6.7	6.1	6.0	7.4	7.4
Non-oil developing countries	49.5	48.5	51.4	54.9	55.7	55.6	55.8	37.1	37.6	39.1	40.0	40.9	40.2	40.9
Developing Countries	52.3	51.1	53.4	56.4	57.1	57.0	57.2	45.9	45.2	45.8	46.1	46.9	47.6	48.2
Industrial Countries	47.6	48.8	46.6	43.0	42.9	43.0	42.8	54.0	54.8	54.2	53.6	53.1	52.4	51.7
DOTS World Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Geographic regions are not mutually exclusive

Source of Data: Direction of Trade Statistics, International Monetary Fund, 1998.

Table 3: Growth Performance of Singapore's Trade with Major Regions
(in percentage)

Region	Export						Import					
	1992	1993	1994	1995	1996	1997	1992	1993	1994	1995	1996	1997
Africa	2.4	-0.7	16.1	0.9	0.6	-4.9	100.0	18.8	-34.2	-14.7	11.5	1.2
Middle East	0.1	-8.6	4.2	12.5	3.0	1.6	-5.4	3.4	12.3	21.9	25.3	0.7
Asia	5.5	24.6	42.5	24.5	5.6	0.8	9.3	24.6	24.5	23.7	3.7	2.5
Europe	-10.9	27.2	23.0	30.0	-0.5	-12.4	5.6	1.9	40.6	48.7	7.4	3.6
EU	15.4	8.1	20.0	22.0	2.9	7.2	13.9	8.3	25.9	23.9	14.6	-2.8
Western Hemisphere	8.5	26.3	6.9	13.4	23.5	7.6	-2.0	0.4	9.2	29.3	27.2	-2.1
Oil exporting countries	-2.8	-8.4	-3.4	9.9	5.2	7.8	-5.9	3.0	9.4	19.9	30.7	0.1
Non-oil developing countries	5.2	23.5	39.9	23.7	5.7	0.4	10.3	23.2	23.0	23.9	3.9	2.4
Developing Countries	4.7	21.9	38.3	23.4	5.7	0.5	7.2	19.8	21.0	23.4	7.3	2.1
Industrial Countries	9.9	11.3	20.9	21.6	6.0	-0.3	10.4	17.1	18.7	20.1	4.6	-0.7
DOTS World Total	7.2	16.7	30.8	22.0	5.9	0.1	8.9	18.3	20.2	21.2	5.9	0.6

Note: Geographic regions are not mutually exclusive

Source of Data: Direction of Trade Statistics, International Monetary Fund, 1998.

Table 4: Important Trading Partners of Singapore: The EU Taken as a Single Market

Destination	Actual Trade (in Million USD)																Rank											
	Export							Import									Export					Import						
	1991	1992	1993	1994	1995	1996	1997	1991	1992	1993	1994	1995	1996	1997	91	92	93	94	95	96	97	91	92	93	94	95	96	97
United States	11674	13396	15074	18093	21576	23063	23120	10501	11882	13955	15630	18725	21551	22383	1	1	1	2	2	1	1	2	2	3	3	3	2	2
Malaysia	8800	7932	10497	19029	22665	22512	21871	10128	10609	14042	16725	19250	19722	19949	2	3	3	1	1	2	2	3	3	2	2	2	3	3
EU	8665	10002	10808	12973	15826	16283	17450	8619	9816	10631	13384	16577	18989	18449	3	2	2	3	3	3	3	4	4	4	4	4	4	4
China, P.R.: Hong Kong	4260	4962	6425	8383	10126	10208	11097	1992	2203	2689	3456	4107	4200	3566	5	4	4	4	4	5	4	9	9	9	9	8	10	10
Japan	5133	4825	5526	6766	9219	10252	8849	14115	15202	18663	22511	26308	23841	23273	4	5	5	5	5	4	5	1	1	1	1	1	1	1
Thailand	3706	3955	4213	5355	6824	7096	5784	2107	2681	3518	4885	6418	7176	6813	6	6	6	6	6	6	6	8	7	5	5	5	5	5
Taiwan Prov.of China	2098	2572	2876	3894	4813	4872	5628	2711	2899	3381	3936	5116	5263	5548	7	7	7	7	7	7	7	6	6	6	6	7	6	7
Korea	1393	1305	2062	2532	3243	4715	4637	1889	2129	2747	3915	5399	4863	4470	9	9	8	8	8	8	8	10	10	8	7	6	8	9
China, P.R.: Mainland	858	1113	1905	2098	2759	3394	4053	2227	2253	2404	2885	4042	4439	5669	11	10	9	10	9	9	9	7	8	10	10	9	9	6
Australia	1458	1509	1675	2283	2592	2847	2960	1247	1227	1477	1562	1803	1984	1795	8	8	10	9	10	10	10	12	11	11	11	11	12	12
Philippines	681	809	1373	1578	1928	2297	2947	275	317	504	780	1100	1390	1982	12	12	11	11	11	11	11	19	19	17	15	15	14	11
India	1004	935	955	1261	1877	2075	2284	421	533	676	790	921	1012	1047	10	11	13	13	12	12	12	16	14	15	14	16	16	16
Vietnam	0	389	980	1328	1790	1716	1666	0	130	153	450	449	436	542	104	17	12	12	13	13	13	130	28	24	18	19	19	20
Brunei Darussalam	553	663	635	815	1466	1710	1395	185	266	216	208	223	224	212	14	13	15	14	14	14	14	22	20	22	22	28	31	28
United Arab Emirates	604	646	681	796	849	901	937	1281	671	901	873	1436	2055	1634	13	14	14	15	16	15	15	11	13	13	13	13	11	13
Russia	0	0	0	748	911	879	737	0	0	0	153	311	105	157	130	130	130	16	15	16	16	128	128	123	26	21	36	32
Myanmar	269	262	335	391	637	722	706	89	108	111	140	211	210	173	21	24	22	22	17	17	17	27	31	36	27	29	32	31
Panama	349	361	385	451	466	577	668	56	69	141	134	134	203	205	19	19	18	19	21	19	18	34	36	25	29	35	33	29
Bangladesh	364	332	346	431	589	670	556	56	29	33	33	24	32	47	18	21	21	20	18	18	19	35	47	45	45	51	51	43
Mexico	91	108	132	204	187	388	487	51	46	40	61	160	305	463	37	36	32	29	33	25	20	36	42	42	40	32	23	21
Brazil	111	119	294	241	436	488	424	291	256	304	352	360	338	259	33	34	24	28	23	21	21	18	21	20	20	20	21	26
Cambodia	0	251	369	383	500	515	420	0	8	21	32	42	48	59	115	25	19	23	20	20	22	127	61	47	47	46	48	42
Sri Lanka	232	341	311	338	377	387	398	46	29	40	57	54	51	47	24	20	23	24	26	26	23	38	48	41	41	44	46	44
Canada	453	463	481	598	572	401	382	402	329	337	414	524	589	687	17	15	16	17	19	23	24	17	18	19	19	17	18	18
New Zealand	192	293	227	315	384	384	377	159	185	180	191	207	236	227	27	22	26	26	25	27	25	23	25	23	23	30	28	27
Saudi Arabia	453	377	356	329	326	380	375	3398	3366	2962	3667	3796	4995	5387	16	18	20	25	27	28	26	5	5	7	8	10	7	8
South Africa	0	0	0	0	459	436	332	0	0	0	0	241	234	301	132	132	132	132	22	22	27	118	118	125	118	25	29	24
Liberia	234	224	223	409	315	315	300	0	49	105	68	42	150	41	23	26	27	21	28	29	28	107	41	32	37	45	34	48
Pakistan	263	264	262	308	306	270	273	109	82	67	68	64	71	60	22	23	25	27	29	30	29	25	34	35	36	42	43	41
Switzerland	463	406	437	514	400	400	246	610	739	922	1108	1529	1665	1546	15	16	17	18	24	24	30	13	12	12	12	13	14	
Malta	75	65	99	145	233	214	204	30	63	65	133	159	241	175	40	42	38	34	31	32	31	43	37	36	30	33	27	30
Papua New Guinea	146	164	155	170	172	155	195	13	27	23	18	28	34	32	29	30	29	32	34	35	32	52	49	46	50	50	50	52
Argentina	62	145	153	185	148	154	187	67	49	36	63	87	71	30	44	31	30	30	35	36	33	33	40	44	38	39	42	53
Turkey	139	131	128	68	136	170	170	86	122	141	208	188	247	389	31	33	33	44	36	34	34	29	29	26	21	31	26	22
Israel	100	113	113	161	234	230	168	72	108	126	155	232	271	341	35	35	35	33	30	31	35	31	32	28	25	26	25	23
Guam	230	177	152	182	209	196	162	2	1	3	4	3	2	4	25	29	31	31	32	33	36	80	90	68	70	81	89	80
Cyprus	103	93	104	104	133	136	134	15	11	5	9	65	317	34	34	39	36	36	37	37	37	51	59	64	61	40	22	50
Iran, I.R. of	148	187	97	64	122	117	132	506	507	651	589	476	363	582	28	28	39	46	39	40	38	14	15	16	17	18	20	19
Nigeria	219	220	159	73	94	102	128	29	13	13	15	38	77	8	26	27	28	42	42	42	39	44	54	51	51	49	39	67
Maldives	98	103	104	100	101	125	123	5	5	2	3	3	9	9	36	38	37	38	40	39	40	69	70	74	74	84	66	65

Source of Data: Direction of Trade Statistics, International Monetary Fund, 1998.

Table 5: Important Trading Partners of Singapore: The EU Member Countries Taken Separately

Destination	Actual Trade (in Million USD)														Rank													
	Export							Import							Export						Import							
	1991	1992	1993	1994	1995	1996	1997	1991	1992	1993	1994	1995	1996	1997	91	92	93	94	95	96	97	91	92	93	94	95	96	97
United States	11674	13396	15074	18093	21576	23063	23120	10501	11882	13955	15630	18725	21551	22383	1	1	1	2	2	1	1	1	1	2	2	2	1	1
Malaysia	8800	7932	10497	19029	22665	22512	21871	10128	10609	14042	16725	19250	19722	19949	2	2	2	1	1	2	2	2	2	1	1	1	2	2
Thailand	3706	3955	4213	5355	6824	7096	5784	2107	2681	3518	4885	6418	7176	6813	4	4	4	4	4	4	4	7	5	3	3	3	3	3
China, P.R	858	1113	1905	2098	2759	3394	4053	2227	2253	2404	2885	4042	4439	5669	13	12	10	11	10	9	8	5	7	9	9	8	8	4
Taiwan	2098	2572	2876	3894	4813	4872	5628	2711	2899	3381	3936	5116	5263	5548	6	6	6	5	5	5	5	4	4	4	4	5	4	5
Saudi Arabia	453	377	356	329	326	380	375	3398	3366	2962	3667	3796	4995	5387	21	23	27	32	34	34	32	3	3	5	6	9	5	6
Germany	2509	2695	2941	3421	3998	3838	3621	2115	2358	2605	3446	4323	4794	4529	5	5	5	6	6	7	9	6	6	8	8	6	7	7
Korea	1393	1305	2062	2532	3243	4715	4637	1889	2129	2747	3915	5399	4863	4470	10	10	8	9	7	6	6	10	9	6	5	4	6	8
United Kingdom	1796	1844	2216	2607	3070	3535	4166	1905	2014	2235	2819	3307	3593	3724	7	8	7	7	9	8	7	9	10	10	10	10	11	9
France	692	973	1004	1307	2012	2460	2469	1698	1799	1805	2170	2796	3724	3659	14	13	14	15	12	12	13	11	11	11	11	11	10	10
Hong Kong	4260	4962	6425	8383	10126	10208	11097	1992	2203	2689	3456	4107	4200	3566	3	3	3	3	3	3	3	8	8	7	7	7	9	11
Philippines	681	809	1373	1578	1928	2297	2947	275	317	504	780	1100	1390	1982	15	15	12	12	13	13	12	25	25	22	18	18	16	12
Italy	561	654	655	687	770	508	518	912	1283	1136	1444	1771	2261	1962	17	17	18	21	21	25	24	14	12	13	13	13	12	13
Australia	1458	1509	1675	2283	2592	2847	2960	1247	1227	1477	1562	1803	1984	1795	9	9	11	10	11	11	11	13	13	12	12	12	14	14
U A E	604	646	681	796	849	901	937	1281	671	901	875	1436	2055	1634	16	18	17	18	20	19	19	12	16	16	16	15	13	15
Switzerland	463	406	437	514	400	400	246	610	739	922	1108	1529	1665	1546	19	21	23	23	30	30	38	15	15	15	14	14	15	16
Kuwait	51	83	76	86	73	72	68	5	340	683	760	1167	1356	1199	63	55	55	52	59	62	60	79	22	18	19	16	17	17
Netherlands	1551	1980	1921	2571	3147	2889	3050	571	664	791	1065	1129	1268	1145	8	7	9	8	8	10	10	16	17	17	15	17	18	18
India	1004	935	955	1261	1877	2075	2284	421	533	676	790	921	1012	1047	12	14	16	16	14	14	14	19	18	19	17	19	19	19
Sweden	180	164	139	157	171	136	123	391	387	416	516	665	773	906	34	39	43	43	42	47	52	22	21	23	23	21	20	20
Belgium-Luxemburg	367	412	414	475	445	416	419	334	446	517	610	741	717	812	22	20	24	24	28	28	28	23	20	21	21	20	21	21
Qatar	24	28	21	19	29	27	53	95	228	120	112	293	604	726	76	77	82	85	75	81	64	37	31	43	44	32	22	22
Canada	453	463	481	598	572	401	382	402	329	337	415	524	589	687	20	19	22	22	24	29	30	21	24	25	25	24	24	23
Africa	1182	1210	1202	1395	1407	1415	1346	404	808	960	632	539	601	608	11	11	13	13	17	18	18	20	14	14	20	23	23	24
Iran, I.R. of	148	187	97	64	122	117	132	506	507	651	589	476	363	582	38	37	52	59	51	53	49	17	19	20	22	25	28	25
Spain	299	333	298	370	339	318	346	192	222	260	352	554	578	562	26	27	31	30	33	35	33	28	32	28	27	22	25	26
Vietnam	0	389	986	1328	1790	1716	1666	0	130	153	450	449	436	542	148	22	15	14	15	15	16	148	39	34	24	26	26	27
Mexico	91	108	132	204	187	388	487	51	46	40	61	160	305	463	49	49	44	36	40	31	25	48	55	56	52	44	31	28
Turkey	139	131	128	68	136	170	170	86	122	141	208	188	247	389	42	43	45	57	47	43	43	40	41	36	29	43	36	29
Finland	60	130	96	137	168	206	284	117	134	299	350	381	419	351	58	45	54	45	44	40	36	35	38	27	28	27	27	30
Israel	100	113	113	161	234	230	168	72	108	126	155	232	271	341	47	48	48	42	37	38	44	43	44	41	37	37	34	31
Ireland	160	231	501	702	1204	1431	1985	84	84	132	194	262	286	312	37	34	21	20	18	17	15	41	46	39	31	33	33	32
South Africa	0	0	0	0	459	436	332	0	0	0	0	241	234	301	141	141	133	128	27	27	34	134	134	141	141	34	39	33
Chile	72	64	64	75	87	76	75	72	134	89	136	236	292	281	53	57	57	54	57	60	58	44	37	48	40	35	32	34

Source of Data: Direction of Trade Statistics, International Monetary Fund, 1998.

Table 6: Growth Performance of Singapore's Trade with Major Trading Partners
(in percentage)

Countries	Export						Import					
	1992	1993	1994	1995	1996	1997	1992	1993	1994	1995	1996	1997
Japan	-6.0	14.5	22.4	36.3	11.2	-13.7	7.7	22.8	20.6	16.9	-9.4	-2.4
United States	14.8	12.5	20.0	19.3	6.9	0.2	13.2	17.4	12.0	19.8	15.1	3.9
Malaysia	-9.9	32.3	81.3	19.1	-0.7	-2.8	4.7	32.4	19.1	15.1	2.5	1.2
Saudi Arabia	-16.8	-5.6	-7.6	-0.9	16.6	-1.3	-0.9	-12.0	23.8	3.5	31.6	7.8
Taiwan Prov. of China	22.6	11.8	35.4	23.6	1.2	15.5	6.9	16.6	16.4	30.0	2.9	5.4
China, P.R.: Mainland	29.7	71.2	10.1	31.5	23.0	19.4	1.2	6.7	20.0	40.1	9.8	27.7
Germany	7.4	9.1	16.3	16.9	-4.0	-5.7	11.5	10.5	32.3	25.4	10.9	-5.5
Thailand	6.7	6.5	27.1	27.4	4.0	-18.5	27.2	31.2	38.9	31.4	11.8	-5.1
China, P.R.: Hong Kong	16.5	29.5	30.5	20.8	0.8	8.7	10.6	22.1	28.5	18.8	2.3	-15.1
United Kingdom	2.7	20.2	17.6	17.8	15.1	17.9	5.7	11.0	26.1	17.3	8.6	3.6
Korea	-6.3	58.0	22.8	28.1	45.4	-1.7	12.7	29.0	42.5	37.9	-9.9	-8.1
France	40.6	3.2	30.2	53.9	22.3	0.4	5.9	0.3	20.2	28.8	33.2	-1.7
United Arab Emirates	7.0	5.4	16.9	6.7	6.1	4.0	-47.6	34.3	-3.1	64.5	43.1	-20.5
Australia	3.5	11.0	36.3	13.5	9.8	4.0	-1.6	20.4	5.8	15.4	10.0	-9.5
Italy	16.6	0.2	4.9	12.1	-34.0	2.0	40.7	-11.5	27.1	22.6	27.7	-13.2
Switzerland	-12.3	7.6	17.6	-22.2	0.0	-38.5	21.1	24.8	20.2	38.0	8.9	-7.1
Netherlands	27.7	-3.0	33.8	22.4	-8.2	5.6	16.3	19.1	34.6	6.0	12.3	-9.7
Iran, I.R. of	26.4	-48.1	-34.0	90.6	-4.1	12.8	0.2	28.4	-9.5	-19.2	-23.7	60.3
Oman	-73.8	5.4	-2.6	31.6	-6.0	29.8	-45.7	3.9	-58.4	126.3	0.4	-36.4
India	-6.9	2.1	32.0	48.9	10.5	10.1	26.6	26.8	16.9	16.6	9.9	3.5
Canada	2.2	3.9	24.3	-4.3	-29.9	-4.7	-18.2	2.4	22.8	26.6	12.4	16.6
Sweden	-8.9	-15.2	12.9	8.9	-20.5	-9.6	-1.0	7.5	24.0	28.9	16.2	17.2
Belgium-Luxemburg	12.3	0.5	14.7	-6.3	-6.5	0.7	33.5	15.9	18.0	21.5	-3.2	13.2
Brazil	7.2	147.1	-18.0	80.9	11.9	-13.1	-12.0	18.8	15.8	2.3	-6.1	-23.4
Philippines	18.8	69.7	14.9	22.2	19.1	28.3	15.3	59.0	54.8	41.0	26.4	42.6
Bahrain	48.5	-32.7	-9.1	-13.3	7.7	3.6	-26.9	-12.9	-23.4	11.2	23.9	0.0
U.S.S.R.	-100.0	-	-	-	-	-	-100.0	-	-	-	-	-
Spain	11.4	-10.5	24.2	-8.4	-6.2	8.8	15.6	17.1	35.4	57.4	4.3	-2.8
Brunei Darussalam	19.9	-4.2	28.3	79.9	16.6	-18.4	43.8	-18.8	-3.7	7.2	0.4	-5.4
Norway	-37.7	153.5	-47.7	-7.5	-0.8	55.3	0.0	-15.8	25.9	92.0	-40.8	14.6
New Zealand	52.6	-22.5	38.8	21.9	0.0	-1.8	16.4	-2.7	6.1	8.4	14.0	-3.8
Venezuela	40.9	58.1	-49.0	-36.0	-31.3	45.5	-13.4	-87.9	135.7	-87.9	1250.0	-38.9
Austria	72.6	-28.2	4.4	-18.5	-12.3	2.2	-4.5	-4.7	38.0	113.2	-27.2	-20.8
Denmark	-5.8	-6.2	2.5	-7.2	26.7	4.1	105.7	-47.8	37.1	20.4	5.0	-19.2
Finland	116.7	-26.2	42.7	22.6	22.6	37.9	14.5	123.1	17.1	8.9	10.0	-16.2
Pakistan	0.4	-0.8	17.6	-0.6	-11.8	1.1	-24.8	-18.3	1.5	-5.9	10.9	-15.5

Source of Data: Direction of Trade Statistics, International Monetary Fund, 1998.

Table 7: Share of Major Trading Partners in the total Export/Import of Singapore (in percentage)

Countries	Export							Import						
	1991	1992	1993	1994	1995	1996	1997	1991	1992	1993	1994	1995	1996	1997
Japan	8.7	7.6	7.5	7.0	7.8	8.2	7.1	21.3	21.1	21.9	21.9	21.1	18.1	17.6
United States	19.7	21.1	20.4	18.7	18.3	18.4	18.5	15.8	16.5	16.3	15.2	15.1	16.4	16.9
Malaysia	14.9	12.5	14.2	19.6	19.2	18.0	17.5	15.3	14.7	16.4	16.3	15.5	15.0	15.1
Saudi Arabia	0.8	0.6	0.5	0.3	0.3	0.3	0.3	5.1	4.7	3.5	3.6	3.1	3.8	4.1
Taiwan Prov.of China	3.5	4.1	3.9	4.0	4.1	3.9	4.5	4.1	4.0	4.0	3.8	4.1	4.0	4.2
China, P.R.: Mainland	1.4	1.8	2.6	2.2	2.3	2.7	3.2	3.4	3.1	2.8	2.8	3.2	3.4	4.3
Germany	4.2	4.2	4.0	3.5	3.4	3.1	2.9	3.2	3.3	3.1	3.4	3.5	3.6	3.4
Thailand	6.3	6.2	5.7	5.5	5.8	5.7	4.6	3.2	3.7	4.1	4.8	5.2	5.4	5.1
China, P.R.: Hong Kong	7.2	7.8	8.7	8.7	8.6	8.2	8.9	3.0	3.1	3.1	3.4	3.3	3.2	2.7
United Kingdom	3.0	2.9	3.0	2.7	2.6	2.8	3.3	2.9	2.8	2.6	2.7	2.7	2.7	2.8
Korea	2.4	2.1	2.8	2.6	2.7	3.8	3.7	2.9	2.9	3.2	3.8	4.3	3.7	3.4
France	1.2	1.5	1.4	1.3	1.7	2.0	2.0	2.6	2.5	2.1	2.1	2.2	2.8	2.8
United Arab Emirates	1.0	1.0	0.9	0.8	0.7	0.7	0.7	1.9	0.9	1.1	0.9	1.2	1.6	1.2
Australia	2.5	2.4	2.3	2.4	2.2	2.3	2.4	1.9	1.7	1.7	1.5	1.4	1.5	1.4
Italy	0.9	1.0	0.9	0.7	0.7	0.4	0.4	1.4	1.8	1.3	1.4	1.4	1.7	1.5
Switzerland	0.8	0.6	0.6	0.5	0.3	0.3	0.2	0.9	1.0	1.1	1.1	1.2	1.3	1.2
Netherlands	2.6	3.1	2.6	2.7	2.7	2.3	2.4	0.9	0.9	0.9	1.0	0.9	1.0	0.9
Iran, I.R. of	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.8	0.7	0.8	0.6	0.4	0.3	0.4
Oman	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.6	0.3	0.3	0.1	0.2	0.2	0.1
India	1.7	1.5	1.3	1.3	1.6	1.7	1.8	0.6	0.7	0.8	0.8	0.7	0.8	0.8
Canada	0.8	0.7	0.6	0.6	0.5	0.3	0.3	0.6	0.5	0.4	0.4	0.4	0.4	0.5
Sweden	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.6	0.5	0.5	0.5	0.5	0.6	0.7
Belgium-Luxemburg	0.6	0.6	0.6	0.5	0.4	0.3	0.3	0.5	0.6	0.6	0.6	0.6	0.5	0.6
Brazil	0.2	0.2	0.4	0.2	0.4	0.4	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.2
Philippines	1.1	1.3	1.9	1.6	1.6	1.8	2.4	0.4	0.4	0.6	0.8	0.9	1.1	1.5
Bahrain	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.1	0.1	0.1	0.1	0.1
U.S.S.R.	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Spain	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Brunei Darussalam	0.9	1.0	0.9	0.8	1.2	1.4	1.1	0.3	0.4	0.3	0.2	0.2	0.2	0.2
Norway	0.3	0.2	0.3	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2
New Zealand	0.3	0.5	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2
Venezuela	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Austria	0.2	0.4	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.3	0.2	0.2
Denmark	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.4	0.2	0.2	0.2	0.2	0.1
Finland	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.4	0.3	0.3	0.3	0.3
Pakistan	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0

Source of Data: Direction of Trade Statistics, International Monetary Fund, 1998.

Table 8: Structure of Singapore's Export Potentials in India in 1997:Section-wise Analysis
(in million USD)

Section	Description	India's Imports from		Export Potential of Singapore	Contribution of Singapore to India's total imports	Potential Export as a % of India's Total Import(%)	Share of Singapore's Actual to Potential Exports(%)
		World	Singapore				
I	Live Animals and Animal Products	27.0	0.5	1.2	1.93	4.54	42.54
II	Vegetable Products	1059.9	12.1	273.2	1.14	25.77	4.44
III	Animal or Veg Fats & Oils	782.3	10.1	457.6	1.30	58.49	2.22
IV	Prepared Foodstuff, Beverages, etc.	264.8	4.2	18.7	1.60	7.07	22.59
V	Mineral Products	10573.9	39.5	4547.4	0.37	43.01	0.87
VI	Products of the Chemicals	5047.2	119.7	1368.5	2.37	27.12	8.75
VII	Plastics & Articles thereof	1021.0	33.8	483.7	3.31	47.37	6.99
VIII	Raw Hides & Skins, Leather	149.8	0.8	27.2	0.53	18.15	2.94
IX	Wood & Articles of Wood	423.5	37.4	132.4	8.82	31.27	28.22
X	Pulp of Wood or of other Fibres	922.8	34.3	287.9	3.72	31.20	11.92
XI	Textile & Textile Articles	830.6	10.1	249.6	1.21	30.05	4.04
XII	Footwear, Headgear, Umbrellas	31.3	0.2	7.2	0.68	23.07	2.95
XIII	Articles of Stone, Plaster, Cement	147.9	4.1	31.6	2.76	21.38	12.93
XIV	Natural or Cultured Pearls, Jewellery	6582.9	17.4	2546.2	0.26	38.68	0.68
XV	Base Metals & Articles of Base Metal	3236.9	109.8	1453.0	3.39	44.89	7.56
XVI	Machinery & Mechanical Appliances	6443.0	495.0	2765.5	7.68	42.92	17.90
XVII	Vehicles, Aircraft, Vessels	1049.9	15.8	174.8	1.50	16.65	9.02
XVIII	Optical, Photograph, Cinematography	830.8	34.7	450.2	4.18	54.18	7.71
XIX	Arms & Ammunition	1.0	0.0	0.0	0.00	0.00	0.00
XX	Misc. Manufactured Articles	87.9	3.8	10.6	4.28	12.05	35.51
XXI	Works of Art Collectors' Pieces	0.3	0.1	0.0	35.07	0.00	0.00
	Total	39514.7	983.5	15286.6	86.14	577.87	229.78

Source of Data: UNCTAD, Trade Analysis and Information System, Spring 2000.

Table 9: Structure of Singapore's Export Potentials in India in 1997: Chapter-wise Analysis

(in million USD)

Chapter	Description	India's Imports from		Export Potential of Singapore	Contribution of Singapore to India's total imports(%)	Potential Export as a % of India's Total Import	Share of Singapore's Actual to Potential Exports(%)
		World	Singapore				
1	Live Animal	0.8	0.0	0.0	0.00	0.00	0.00
3	Fish & crustaceans, molluscs	11.5	0.3	0.4	2.27	3.21	70.65
4	Diary products: Birds, eggs	8.0	0.3	0.9	3.27	10.73	30.50
5	Products of animal origin	6.8	0.0	0.0	0.00	0.00	0.00
6	Live trees and other plants bulb	5.1	0.2	0.0	4.09	0.00	0.00
7	Edible vegetables & certain roots	345.5	2.5	31.6	0.73	9.14	7.94
8	Edible fruits & nuts: peel or melon	360.5	6.3	219.1	1.75	60.79	2.87
9	Coffee, tea, mate and spices	37.0	2.4	8.3	6.43	22.50	28.57
10	Cereals	265.8	0.0	0.0	0.00	0.00	0.00
11	Products of the milling industry	1.4	0.0	0.0	0.21	0.00	0.00
12	Oil seeds and leiginous fruits	13.6	0.0	0.2	0.23	1.18	19.38
13	Lac; gums, resins & other vegetable	29.8	0.5	14.0	1.53	46.83	3.26
14	Vegetable plaiting materials	1.2	0.3	0.0	20.39	0.82	2500.00
15	Animal or vegetable fats & oils	782.3	10.1	457.6	1.30	58.49	2.22
16	Preparations of meat and fish	0.0	0.0	0.0	3.33	0.00	0.00
17	Sugars and sugar confectionery	134.2	2.0	4.9	1.45	3.68	39.55
18	Cocoa & cocoa preparations	7.5	1.5	1.3	20.21	17.26	117.12
19	Prep. of cereals, floor, starch, etc.	25.0	0.1	0.0	0.29	0.15	189.47
20	Prep. of vegetables, fruit, nuts, etc.	1.5	0.0	0.0	0.00	0.00	0.00
21	Miscellaneous edible preparations	57.6	0.1	0.8	0.22	1.37	16.31
22	Beverages, spirit & vinegar	17.2	0.3	0.4	1.89	2.56	73.70
23	Residues & waste from food industries	18.9	0.0	10.7	0.25	56.60	0.45
24	Tobacco & manufactured tobacco	2.8	0.2	0.5	6.65	18.73	35.52
25	Salt, sulphu, earths & stone plaster, etc.	381.8	2.1	44.2	0.54	11.58	4.64
26	Ores, slag and ash	140.4	0.8	48.8	0.55	34.78	1.57
27	Mineral fuels mineral oils & products	10051.7	36.6	4454.4	0.36	44.31	0.82
28	Inorganic chemicals compounds, etc.	1203.5	3.9	31.1	0.32	2.58	12.52
29	Organic chemicals	1981.5	74.6	767.8	3.77	38.75	9.72
30	Pharmaceutical Products	122.1	0.7	49.1	0.60	40.17	1.49
31	Fertilisers	842.8	10.3	132.0	1.22	15.67	7.77
32	Tanning or dyeing extracts	179.2	7.0	67.1	3.93	37.48	10.48
33	Essential oils & resinoids	39.7	3.7	5.8	9.31	14.70	63.30
34	Soap, organic surface active agents	76.3	1.7	30.9	2.21	40.43	5.47
35	Albuminoidal substance; modified	29.6	1.3	23.0	4.32	77.74	5.55
36	Explosives: pyrotechnic products	1.3	0.0	0.0	0.00	0.00	0.00
37	Photographic or cinematographic goods	167.6	3.5	46.2	2.11	27.59	7.65
38	Miscellaneous chemical products	403.7	13.0	215.5	3.21	53.39	6.02
39	Plastics and articles thereof	739.3	27.1	340.5	3.67	46.06	7.96
40	Rubber and articles thereof	281.8	6.7	143.2	2.38	50.82	4.69
41	Raw hides & skins (other than fur skins)	145.7	0.6	26.6	0.43	18.25	2.38
42	Articles of leather, saddlery & ham	1.8	0.1	0.0	3.80	0.00	0.00
43	Fur skins and artificial fur	2.3	0.1	0.6	4.28	26.40	16.22
44	Wood & articles of wood	421.4	37.4	132.4	8.87	31.43	28.22
45	Cork and articles of cork	2.1	0.0	0.0	0.00	0.00	0.00
46	Manufactures of straw, of esparto, etc.	0.0	0.0	0.0	0.00	0.00	0.00
47	Pulp of wood or of other fibrous materials	283.2	9.9	82.6	3.50	29.18	11.98
48	Paper and paperboard	490.8	7.9	120.1	1.61	24.46	6.57
49	Printed books, newspapers, pictures	148.8	16.5	85.2	11.11	57.27	19.40
50	silk	76.1	1.0	4.6	1.26	6.07	20.77
51	Wool, fine or coarse animal hair	189.9	0.1	147.1	0.04	77.45	0.05

52	Cotton	66.4	0.1	11.3	0.15	17.09	0.90
53	Other vegetable textile fibres; paper	23.9	0.0	0.0	0.00	0.00	0.00
54	Man-made filaments	86.3	3.9	15.0	4.53	17.38	26.05
55	Man-made staple fibres	163.4	1.1	59.2	0.69	36.26	1.92
56	Wadding, felt and non-wovens; special	28.7	1.7	4.2	5.80	14.70	39.48
57	Carpets & other textile floor covering	2.2	0.0	0.0	1.94	0.00	0.00
58	Special woven fabrics; tufted textile	18.2	0.1	0.1	0.78	0.61	127.68
59	Impregnated, coated, textile fabrics	117.5	1.8	5.6	1.56	4.80	32.43
60	Knitted or crocheted fabrics	10.1	0.0	0.0	0.00	0.00	0.00
61	Articles of apparel & clothing knitted	1.9	0.1	0.0	3.81	1.85	205.56
62	Articles of apparel & cloth not knitted	2.8	0.0	0.0	0.11	0.00	0.00
63	Other made up textile articles	43.2	0.1	2.3	0.31	5.22	5.85
64	Footwear, gaiters & like; parts of article	22.7	0.2	7.2	0.82	31.65	2.60
65	Headgear & parts thereof	0.1	0.0	0.0	3.65	0.00	0.00
66	Umbrellas, sun umbrella, walking-stick	8.3	0.0	0.0	0.25	0.38	65.63
67	Prepared feathers & down & articles	0.1	0.0	0.0	0.00	0.00	0.00
68	Articles of stone, plaster, cement, etc.	26.5	0.4	6.2	1.33	23.24	5.71
69	Ceramic products	50.4	0.1	4.7	0.17	9.37	1.80
70	Glass and glassware	71.1	3.7	20.7	5.14	29.19	17.61
71	Natural or cultured pearls, Jewellery	6582.9	17.4	2546.2	0.26	38.68	0.68
72	Iron and steel	1413.7	30.7	740.4	2.17	52.37	4.14
73	Articles of Iron or steel	487.6	13.6	103.1	2.79	21.15	13.21
74	Copper and articles thereof	637.1	44.1	312.8	6.92	49.09	14.10
75	Nickel and articles thereof	108.6	1.5	29.6	1.37	27.21	5.05
76	Aluminium and articles thereof	210.2	7.8	126.9	3.73	60.39	6.17
78	Lead and articles thereof	40.7	2.1	31.3	5.28	76.89	6.87
79	Zinc and articles thereof	127.2	3.8	59.6	3.01	46.83	6.42
80	Tin and articles thereof	26.0	1.6	23.8	6.04	91.58	6.59
81	Other base materials; cermets; articles	52.3	1.0	11.5	2.00	21.96	9.10
82	Tools, implements, cutlery, spoon, etc.	102.8	2.8	6.1	2.70	5.89	45.79
83	Miscellaneous articles of base metal	30.7	0.8	8.0	2.52	25.99	9.71
84	Nuclear reactors, boilers, machinery	4464.0	284.2	1707.6	6.37	38.25	16.64
85	Electrical machinery, equipments & parts	1978.9	210.8	1057.9	10.65	53.46	19.93
86	Railway or tramway locomotives	27.2	0.6	0.0	2.28	0.12	1881.82
87	Vehicles other than railway or tram	416.9	2.8	31.2	0.68	7.48	9.09
88	Aircraft, spacecraft & parts thereof	356.1	4.7	2.6	1.33	0.74	180.59
89	Ships, boats & floating structures	249.8	7.6	141.0	3.04	56.44	5.38
90	Optical, photographic, cinematograph, etc.	804.8	34.4	449.3	4.27	55.83	7.65
91	Clocks and watches and parts	23.3	0.3	0.0	1.19	0.00	0.00
92	Musical instruments; parts & accessories	2.7	0.1	0.9	2.44	32.22	7.58
93	Arm & ammunition; parts & accessories	1.0	0.0	0.0	0.00	0.00	0.00
94	Furniture; bedding, mattresses	21.5	0.1	2.2	0.65	10.23	6.36
95	Toys, games & sports, requisite	22.1	0.8	4.0	3.72	17.93	20.72
96	Misc. Manufactured articles	44.3	2.8	4.4	6.32	10.00	63.23
97	Works of art, collectors' pieces	0.3	0.1	0.0	35.07	0.00	0.00
	Total	39514.7	983.5	15286.6	297.74	2113.08	6272.77

Source of Data: UNCTAD, Trade Analysis and Information System, Spring 2000.

Table 10: Structure of India's Export Potentials in Singapore in 1997:Section-wise Analysis

(in million USD)

Section	Description	Singapore's Imports from		Export Potential of India	Contribution of India to Singapore's total imports	Potential Export as a % of Singapore's Total Import(%)	Share of India's Actual to Potential Exports(%)
		World	India				
I	Live Animals and Animal Products	988.8	19.5	151.3	2.0	15.3	12.9
II	Vegetable Products	1055.5	46.8	326.3	4.4	30.9	14.4
III	Animal or Veg Fats & Oils	290.0	0.5	1.8	0.2	0.6	25.2
IV	Prepared Foodstuff, Beverages, etc.	2196.1	10.5	288.7	0.5	13.1	3.6
V	Mineral Products	8523.1	35.4	1125.4	0.4	13.2	3.1
VI	Products of the Chemicals	5361.5	84.5	872.4	1.6	16.3	9.7
VII	Plastics & Articles thereof	2582.4	12.1	323.2	0.5	12.5	3.7
VIII	Raw Hides & Skins, Leather	234.8	3.1	150.4	1.3	64.0	2.1
IX	Wood & Articles of Wood	281.2	0.6	0.0	0.2	0.0	0.0
X	Pulp of Wood or of other Fibres	1013.2	2.3	123.9	0.2	12.2	1.9
XI	Textile & Textile Articles	2416.3	59.5	825.4	2.5	34.2	7.2
XII	Footwear, Headgear, Umbrellas	205.0	1.5	84.8	0.7	41.4	1.8
XIII	Articles of Stone, Plaster, Cement	849.1	14.2	93.5	1.7	11.0	15.1
XIV	Natural or Cultured Pearls, Jewellery	1200.6	63.8	0.0	5.3	0.0	0.0
XV	Base Metals & Articles of Base Metal	5407.7	78.9	1142.2	1.5	21.1	6.9
XVI	Machinery & Mechanical Appliances	56988.2	138.9	5354.9	0.2	9.4	2.6
XVII	Vehicles, Aircraft, Vessels	5961.9	13.6	735.3	0.2	12.3	1.9
XVIII	Optical, Photograph, Cinematography	3936.4	11.0	532.2	0.3	13.5	2.1
XIX	Arms & Ammunition	2.0	0.0	0.0	0.0	0.0	0.0
XX	Misc. Manufactured Articles	930.1	2.0	21.5	0.2	2.3	9.2
XXI	Works of Art Collectors' Pieces	14.1	0.6	0.0	4.3	0.0	0.0

Source of Data: UNCTAD, Trade Analysis and Information System, Spring 2000.

Table 11: Structure of India's Export Potentials in Singapore in 1997:Chapter-wise Analysis

(in million USD)

Chapter	Description	Singapore's Imports from		Export Potential of India	Contribution of India to Singapore's total imports	Potential Export as a % of Singapore's Total Import(%)	Share of India's Actual to Potential Exports(%)
		World	India				
1	Live Animal	210.3	0.0	0.0	0.0	0.0	0.0
2	Meat and edible meat offal	169.7	0.0	0.0	0.0	0.0	0.0
3	Fish & crustaceans, molluscs	344.2	19.1	150.1	5.6	43.6	12.8
4	Diary products: Birds, eggs	261.6	0.1	0.4	0.0	0.2	18.7
5	Products of animal origin	2.9	0.3	0.8	10.7	27.8	38.6
6	Live trees and other plants bulb	40.1	0.7	0.0	1.8	0.0	0.0
7	Edible vegetables & certain roots	203.2	10.4	22.0	5.1	10.8	47.6
8	Edible fruits & nuts: peel or melon	283.5	5.9	10.7	2.1	3.8	55.1
9	Coffee, tea, mate and spices	200.7	14.0	127.2	7.0	63.4	11.0
10	Cereals	147.6	7.4	102.7	5.0	69.6	7.2
11	Products of the milling industry	67.5	0.0	0.9	0.0	1.3	1.5
12	Oil seeds and leiginous fruits	81.3	5.5	51.0	6.7	62.7	10.8
13	Lac; gums, resins & other vegetable	21.3	2.9	11.9	13.5	55.9	24.1
14	Vegetable plaiting materials	10.3	0.0	0.0	0.0	0.0	0.0
15	Animal or vegetable fats & oils	290.0	0.5	1.8	0.2	0.6	25.2
16	Preparations of meat and fish	119.6	0.1	4.8	0.1	4.0	2.4
17	Sugars and sugar confectionery	119.2	0.1	20.0	0.1	16.7	0.6
18	Cocoa & cocoa preparations	96.3	0.0	0.0	0.0	0.0	0.0
19	Prep. of cereals, floor, starch, etc.	132.7	0.5	47.6	0.4	35.9	1.1
20	Prep. of vegetables, fruit, nuts, etc.	123.9	1.2	49.0	1.0	39.6	2.5
21	Miscellaneous edible preparations	191.6	3.1	83.5	1.6	43.6	3.7
22	Beverages, spirit & vinegar	429.0	0.4	48.9	0.1	11.4	0.8
23	Residues & waste from food industries	25.0	1.1	13.2	4.5	52.9	8.5
24	Tobacco & manufactured tobacco	959.0	3.9	21.7	0.4	2.3	17.8
25	Salt, sulphur, earths & stone plaster, etc.	309.4	8.6	51.3	2.8	16.6	16.7
26	Ores, slag and ash	35.1	0.0	0.2	0.0	0.6	6.7
27	Mineral fuels mineral oils & products	8178.7	26.9	1073.8	0.3	13.1	2.5
28	Inorganic chemicals compounds, etc.	350.3	2.5	51.2	0.7	14.6	4.9
29	Organic chemicals	1565.2	52.1	228.9	3.3	14.6	22.8
30	Pharmaceutical Products	321.2	6.8	0.0	2.1	0.0	0.0
31	Fertilisers	12.9	0.0	1.0	0.1	7.5	1.2
32	Tanning or dyeing extracts	474.1	10.6	202.5	2.2	42.7	5.2
33	Essential oils & resinoids	519.0	5.2	68.3	1.0	13.2	7.6
34	Soap, organic surface active agents	146.2	0.9	36.5	0.6	25.0	2.4
35	Albuminoidal substance; modified	83.0	0.1	10.6	0.1	12.7	1.0
36	Explosives: pyrotechnic products	19.5	0.0	0.0	0.0	0.0	0.0
37	Photographic or cinematographic goods	529.0	1.0	0.5	0.2	0.1	191.0
38	Miscellaneous chemical products	1341.0	5.3	273.0	0.4	20.4	1.9
39	Plastics and articles thereof	1946.3	5.7	275.7	0.3	14.2	2.1
40	Rubber and articles thereof	636.1	6.4	47.5	1.0	7.5	13.4
41	Raw hides & skins (other than fur skins)	63.7	1.9	12.8	3.0	20.2	14.7
42	Articles of leather, saddlery & ham	170.7	1.2	137.5	0.7	80.6	0.9
43	Fur skins and artificial fur	0.4	0.0	0.0	0.0	0.0	0.0
44	Wood & articles of wood	278.0	0.5	0.1	0.2	0.0	401.5
45	Cork and articles of cork	0.7	0.0	0.0	0.0	0.0	0.0
46	Manufactures of straw, of esparto, etc.	2.5	0.0	0.0	1.8	0.0	0.0
47	Pulp of wood or of other fibrous materials	12.4	0.0	0.0	0.0	0.0	0.0
48	Paper and paperboard	741.0	1.4	123.9	0.2	16.7	1.1
49	Printed books, newspapers, pictures	259.8	0.9	0.0	0.4	0.0	0.0
50	Silk	25.6	1.6	3.1	6.2	12.1	51.4
51	Wool, fine or coarse animal hair	7.3	0.1	1.0	1.8	13.7	13.4
52	Cotton	166.2	18.0	36.7	10.8	22.1	48.9
53	Other vegetable textile fibres; paper	1.6	0.6	0.2	35.6	11.1	322.0
54	Man-made filaments	56.6	0.8	15.9	1.5	28.1	5.3

55	Man-made staple fibres	266.8	4.3	100.2	1.6	37.6	4.3
56	Wadding, felt and non-wovens; special	49.1	0.4	9.3	0.8	19.0	4.1
57	Carpets & other textile floor covering	52.7	2.0	9.7	3.7	18.3	20.3
58	Special woven fabrics; tufted textile	46.3	0.8	0.4	1.6	0.8	217.7
59	Impregnated, coated, textile fabrics	83.5	0.5	0.8	0.6	1.0	56.1
60	Knitted or crocheted fabrics	223.3	0.2	69.4	0.1	31.1	0.2
61	Articles of apparel & clothing knitted	797.6	4.1	325.8	0.5	40.8	1.2
62	Articles of apparel & cloth not knitted	534.8	24.9	252.0	4.7	47.1	9.9
63	Other made up textile articles	104.9	1.5	0.7	1.4	0.7	196.0
64	Footwear, gaiters & like; parts of article	183.3	1.3	83.7	0.7	45.6	1.5
65	Headgear & parts thereof	9.3	0.0	1.1	0.2	12.1	1.5
66	Umbrellas, sun umbrella, walking stick	6.9	0.0	0.0	0.0	0.0	0.0
67	Prepared feathers & down & articles	5.5	0.2	0.0	4.3	0.0	0.0
68	Articles of stone, plaster, cement, etc.	229.6	11.6	46.8	5.0	20.4	24.7
69	Ceramic products	233.5	2.0	36.3	0.9	15.6	5.5
70	Glass and glassware	386.0	0.6	10.4	0.2	2.7	5.9
71	Natural or cultured pearls, Jewellery	1200.6	63.8	0.1	5.3	0.0	0.0
72	Iron and steel	1211.9	5.0	247.6	0.4	20.4	2.0
73	Articles of Iron or steel	1631.7	32.4	487.7	2.0	29.9	6.6
74	Cooper and articles thereof	829.3	2.8	184.1	0.3	22.2	1.5
75	Nickel and articles thereof	68.9	0.0	0.0	0.1	0.0	226.3
76	Aluminium and articles thereof	733.7	31.4	199.6	4.3	27.2	15.7
78	Lead and articles thereof	39.2	0.7	2.1	1.7	5.4	31.1
79	Zinc and articles thereof	207.1	0.9	0.2	0.4	0.1	492.5
80	Tin and articles thereof	23.0	0.2	0.0	0.9	0.0	0.0
81	Other base materials; cermets; articles	60.5	0.0	0.0	0.1	0.0	0.0
82	Tools, implements, cutlery, spoon, etc.	394.1	3.2	11.0	0.8	2.8	28.7
83	Miscellaneous articles of base metal	208.4	2.3	10.0	1.1	4.8	23.0
84	Nuclear reactors, boilers, machinery	22388.9	45.2	3265.0	0.2	14.6	1.4
85	Electrical machinery, equipments & parts	34599.4	93.6	2089.9	0.3	6.0	4.5
86	Railway or tramway locomotives	41.1	0.0	0.0	0.0	0.0	0.0
87	Vehicles other than railway or tram	1506.4	3.5	129.7	0.2	8.6	2.7
88	Aircraft, spacecraft & parts thereof	2594.0	3.8	0.0	0.1	0.0	0.0
89	Ships, boats & floating structures	1820.4	6.3	605.7	0.3	33.3	1.0
90	Optical, photographic, cinematograph, etc.	3038.3	10.1	531.9	0.3	17.5	1.9
91	Clocks and watches and parts	837.1	0.6	0.0	0.1	0.0	0.0
92	Musical instruments; parts & accessories	60.9	0.3	0.4	0.4	0.6	73.9
93	Arm & ammunition; parts & accessories	2.0	0.0	0.0	0.0	0.0	0.0
94	Furniture; bedding, mattresses	525.0	0.9	0.0	0.2	0.0	0.0
95	Toys, games & sports, requisite	238.3	0.4	1.7	0.1	0.7	20.7
96	Misc. Manufactured articles	166.8	0.7	19.8	0.4	11.9	3.6
97	Works of art, collectors' pieces	14.1	0.6	0.0	4.3	0.0	0.0

Source of Data: UNCTAD, Trade Analysis and Information System, Spring 2000.

Table 12: Tariff Structure ¹ of India in 1997: Basic MFN Tariff Rates

Section	Description	Tariff Bands														Total
		0	2	3	5	10	20	25	30	40	50	100	125	190	260	
I	Live Animals and Animal Products	4				157	1		25	14						201
II	Vegetable Products	17	1		16	85	2		58	91			1			271
III	Animal or Veg Fats & Oils					1	2		36	7						46
IV	Prepared Foodstuff, Beverages, etc.	4				4	2		9	150		8		1	8	186
V	Mineral Products	5		1	31	18		57	21	15						148
VI	Products of the Chemicals	12			2	29	3	45	633	60	1					785
VII	Plastics & Articles thereof			1			4		126	67						198
VIII	Raw Hides & Skins, Leather	32			13	4				25						74
IX	Wood & Articles of Wood	12							63	6						81
X	Pulp of Wood or of other Fibres	21			6	1	73			47						148
XI	Textile & Textile Articles	2					15	36	63	703	3					822
XII	Footwear, Headgear, Umbrellas									55						55
XIII	Articles of Stone, Plaster, Cement								6	141						147
XIV	Natural or Cultured Pearls, Jewellery	4				1			1	46						52
XV	Base Metals & Articles of Base Metal				1	20	61	55	387	47						571
XVI	Machinery & Mechanical Appliances				1	9	556		49	189						804
XVII	Vehicles, Aircraft, Vessels	16		3	1			9		103						132
XVIII	Optical, Photograph, Cinematography					1	99	25	30	82	1					238
XIX	Arms & Ammunition									17						17
XX	Misc. Manufactured Articles							43		87						130
XXI	Works of Art Collectors' Pieces	1								5						6
Total		130	1	5	58	339	822	270	1507	1957	5	8	1	1	8	5112

Note: 1 Figures in each cell denote number of product lines at 6-digit HS level in the corresponding tariff band

Source of Data: UNCTAD, Trade Analysis and Information System, Spring 2000.

Table 13: Tariff Structure ¹ of Singapore in 1997: Basic MFN Tariff

Section	Description	No.of National Lines (Zero Tariff)
I	Live Animals and Animal Products	240
II	Vegetable Products	318
III	Animal or Veg Fats & Oils	55
IV	Prepared Foodstuff, Beverages, etc.	278
V	Mineral Products	185
VI	Products of the Chemicals	829
VII	Plastics & Articles thereof	238
VIII	Raw Hides & Skins, Leather	81
IX	Wood & Articles of Wood	96
X	Pulp of Wood or of other Fibres	154
XI	Textile & Textile Articles	975
XII	Footwear, Headgear, Umbrellas	60
XIII	Articles of Stone, Plaster, Cement	142
XIV	Natural or Cultured Pearls, Jewellery	54
XV	Base Metals & Articles of Base Metal	627
XVI	Machinery & Mechanical Appliances	928
XVII	Vehicles, Aircraft, Vessels	148
XVIII	Optical, Photograph, Cinematography	236
XIX	Arms & Ammunition	17
XX	Misc. Manufactured Articles	160
XXI	Works of Art Collectors' Pieces	7
	Total	5828

Note: 1 Figures in each cell denote number of product lines at 6-digit HS level in the corresponding tariff band.

Source of Data: UNCTAD, Trade Analysis and Information System, Spring 2000.

Table 14: Singapore's Actual and Potential Exports to India in relation to latter's Tariff Structure in 1997: Section-wise Analysis

(in million USD)

Section	Description	India' Imports from all Countries				Singapore's Actual Exports to India			Singapore's Potential Exp. to India		
		Total	Low Tariff	Med. Tariff	High Tariff	Low Tariff	Med. Tariff	High Tariff	Low Tariff	Med. Tariff	High Tariff
I	Live Animals and Animal Products	27.0	19.4	6.9	0.8	0.5	0.0	0.0	1.2	0.0	0.0
II	Vegetable Products	1059.9	651.7	85.3	322.8	3.0	2.4	6.8	31.6	8.3	233.3
III	Animal or Veg Fats & Oils	782.3	0.0	780.6	1.7	0.0	9.9	0.2	0.0	457.5	0.0
IV	Prepared Foodstuff, Beverages, etc.	264.8	107.6	10.7	146.5	0.0	1.5	2.6	10.7	3.1	4.9
V	Mineral Products	10573.9	5753.4	4795.2	25.3	38.4	1.1	0.0	4508.5	38.8	0.2
VI	Products of the Chemicals	5047.2	1146.6	3736.5	164.0	49.6	61.5	8.6	257.7	1039.7	71.2
VII	Plastics & Articles thereof	1021.0	0.9	771.9	248.2	0.1	27.8	6.0	0.8	369.1	113.8
VIII	Raw Hides & Skins, Leather	149.8	143.7	3.3	2.8	0.7	0.0	0.1	27.2	0.0	0.0
IX	Wood & Articles of Wood	423.5	385.8	37.7	0.0	36.4	1.0	0.0	116.7	15.7	0.0
X	Pulp of Wood or of other Fibres	922.8	601.6	273.6	47.5	11.3	16.8	6.3	146.9	122.3	18.7
XI	Textile & Textile Articles	830.6	34.8	470.9	324.8	0.0	5.8	4.3	0.0	211.2	38.4
XII	Footwear, Headgear, Umbrellas	31.3	0.0	0.0	31.3	0.0	0.0	0.2	0.0	0.0	7.2
XIII	Articles of Stone, Plaster, Cement	147.9	0.0	25.8	122.1	0.0	0.0	4.1	0.0	0.0	31.6
XIV	Natural or Cultured Pearls, Jewellery	6582.9	3210.6	7.7	3364.6	0.1	0.0	17.3	0.0	0.0	2546.2
XV	Base Metals & Articles of Base Metal	3236.9	112.4	3091.3	33.2	2.0	107.1	0.8	29.7	1415.3	8.0
XVI	Machinery & Mechanical Appliances	6443.0	208.6	5641.2	593.2	57.4	380.3	57.4	72.9	2367.4	325.2
XVII	Vehicles, Aircraft, Vessels	1049.9	577.9	25.9	446.1	12.2	0.0	3.6	143.6	0.0	31.2
XVIII	Optical, Photograph, Cinematography	830.8	1.6	740.9	88.3	0.5	27.8	6.5	0.0	437.2	13.0
XIX	Arms & Ammunition	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
XX	Misc. Manufactured Articles	87.9	0.0	22.1	65.8	0.0	0.8	2.9	0.0	4.0	6.6
XXI	Works of Art Collectors' Pieces	0.3	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0
	Total	39514.7	12956.9	20527.6	6030.2	212.1	643.7	127.7	5347.5	6489.6	3449.5

Note: Low tariff refers to below peak tariff (I.e., tariff less than equal to 10% *ad valorem*)

Medium Tariff: more than 10% and less than 40% *ad valorem*

High Tariff: more than 40% *ad valorem*

Source of Data: UNCTAD, Trade Analysis and Information System, Spring 2000.

**Table 15: Singapore's Actual and Potential Exports to India and India's Tariff Structure in 1997:
Chapter-wise Analysis**

(in million USD)

Chapter	Description	India's Imports from all Countries				Singapore's Actual Exports to India			Singapore's Potential Export to India		
		Total	Low Tariff	Med. Tariff	High Tariff	Low Tariff	Med. Tariff	High Tariff	Low Tariff	Med. Tariff	High Tariff
1	Live Animal	0.8	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
3	Fish & crustaceans, molluscs	11.5	11.5	0.0	0.0	0.3	0.0	0.0	0.4	0.0	0.0
4	Diary products: Birds, eggs	8.0	1.1	6.9	0.0	0.3	0.0	0.0	0.9	0.0	0.0
5	Products of animal origin	6.8	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	Live trees and other plants bulb	5.1	5.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
7	Edible vegetables & certain roots	345.5	345.5	0.0	0.0	2.5	0.0	0.0	31.6	0.0	0.0
8	Edible fruits & nuts: peel or melon	360.5	15.6	51.2	293.7	0.0	0.0	6.3	0.0	0.0	219.1
9	Coffee, tea, mate and spices	37.0	8.0	29.0	0.0	0.0	2.4	0.0	0.0	8.3	0.0
10	Cereals	265.8	265.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	Products of the milling industry	1.4	0.3	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	Oil seeds and leginous fruits	13.6	10.3	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.2
13	Lac; gums, resins & other vegetable	29.8	0.0	4.0	25.8	0.0	0.0	0.5	0.0	0.0	14.0
14	Vegetable plaiting materials	1.2	1.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
15	Animal or vegetable fats & oils	782.3	0.0	780.6	1.7	0.0	9.9	0.2	0.0	457.5	0.0
16	Preparations of meat and fish	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	Sugars and sugar confectionery	134.2	81.7	3.5	49.0	0.0	0.0	1.9	0.0	1.9	3.1
18	Cocoa & cocoa preparations	7.5	0.0	7.2	0.3	0.0	1.5	0.0	0.0	1.3	0.0
19	Prep. of cereals, floor, starch, etc.	25.0	0.0	0.0	25.0	0.0	0.0	0.1	0.0	0.0	0.0
20	Prep. of vegetables, fruit, nuts, etc.	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
21	Miscellaneous edible preparations	57.6	0.0	0.0	57.6	0.0	0.0	0.1	0.0	0.0	0.8
22	Beverages, spirit & vinegar	17.2	9.2	0.0	8.1	0.0	0.0	0.3	0.0	0.0	0.4
23	Residues & waste from food industries	18.9	16.8	0.0	2.1	0.0	0.0	0.0	10.7	0.0	0.0
24	Tobacco & manufactured tobacco	2.8	0.0	0.0	2.8	0.0	0.0	0.2	0.0	0.0	0.3
25	Salt, sulphur, earths & stone plaster, etc.	381.8	271.7	84.8	25.3	1.9	0.1	0.0	6.6	37.4	0.2
26	Ores, slag and ash	140.4	139.4	1.0	0.0	0.8	0.0	0.0	48.4	0.4	0.0
27	Mineral fuels mineral oils & products	10051.7	5342.3	4709.4	0.0	35.7	0.9	0.0	4453.5	0.9	0.0
28	Inorganic chemicals compounds, etc.	1203.5	177.5	1014.3	11.7	0.1	2.7	1.1	9.9	14.7	6.4
29	Organic chemicals	1981.5	610.6	1370.8	0.1	47.9	26.7	0.0	240.4	527.4	0.0
30	Pharmaceutical Products	122.1	1.0	121.1	0.0	0.0	0.7	0.0	1.0	48.1	0.0
31	Fertilisers	842.8	317.8	525.0	0.0	0.0	10.3	0.0	0.0	132.0	0.0
32	Tanning or dyeing extracts	179.2	34.5	107.6	37.1	1.4	3.5	2.1	1.6	37.5	28.1
33	Essential oils & resinoids	39.7	0.0	0.9	38.8	0.0	0.0	3.7	0.0	0.0	5.8
34	Soap, organic surface active agents	76.3	0.0	0.0	76.3	0.0	0.0	1.7	0.0	0.0	30.9
35	Albuminoidal substance; modified	29.6	0.0	29.6	0.0	0.0	1.3	0.0	0.0	23.0	0.0
36	Explosives: pyrotechnic products	1.3	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37	Photographic or cinematographic goods	167.6	5.2	162.4	0.0	0.2	3.4	0.0	4.7	41.5	0.0
38	Miscellaneous chemical products	403.7	0.0	403.7	0.0	0.0	13.0	0.0	0.0	215.5	0.0
39	Plastics and articles thereof	739.3	0.0	739.3	0.0	0.0	27.1	0.0	0.0	340.5	0.0
40	Rubber and articles thereof	281.8	0.9	32.6	248.2	0.1	0.7	6.0	0.8	28.6	113.8
41	Raw hides & skins (other than fur skins)	145.7	142.4	3.3	0.0	0.6	0.0	0.0	26.6	0.0	0.0
42	Articles of leather, saddlery & ham	1.8	0.0	0.0	1.8	0.0	0.0	0.1	0.0	0.0	0.0
43	Fur skins and artificial fur	2.3	1.3	0.0	1.0	0.1	0.0	0.0	0.6	0.0	0.0
44	Wood & articles of wood	421.4	385.8	35.6	0.0	36.4	1.0	0.0	116.7	15.7	0.0
45	Cork and articles of cork	2.1	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46	Manufactures of straw, of esparto, etc.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	Pulp of wood or of other fibrous materials	283.2	283.2	0.0	0.0	9.9	0.0	0.0	82.6	0.0	0.0
48	Paper and paperboard	490.8	281.1	162.2	47.5	0.3	1.3	6.3	57.9	43.4	18.7
49	Printed books, newspapers, pictures	148.8	37.4	111.5	0.0	1.1	15.5	0.0	6.4	78.8	0.0
50	Silk	76.1	0.0	76.1	0.0	0.0	1.0	0.0	0.0	4.6	0.0
51	Wool, fine or coarse animal hair	189.9	0.0	168.7	21.2	0.0	0.1	0.0	0.0	147.1	0.0
52	Cotton	66.4	21.2	4.8	40.3	0.0	0.0	0.1	0.0	0.0	11.3
53	Other vegetable textile fibres; paper	23.9	13.6	3.1	7.2	0.0	0.0	0.0	0.0	0.0	0.0
54	Man-made filaments	86.3	0.0	52.1	34.2	0.0	3.6	0.3	0.0	7.3	7.7
55	Man-made staple fibres	163.4	0.0	131.5	31.9	0.0	1.0	0.1	0.0	49.9	9.3

56	Wadding, felt and non-wovens; special	28.7	0.0	0.0	28.7	0.0	0.0	1.7	0.0	0.0	4.2
57	Carpets & other textile floor covering	2.2	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
58	Special woven fabrics; tufted textile	18.2	0.0	0.0	18.2	0.0	0.0	0.1	0.0	0.0	0.1
59	Impregnated, coated, textile fabrics	117.5	0.0	0.0	117.5	0.0	0.0	1.8	0.0	0.0	5.0
60	Knitted or crocheted fabrics	10.1	0.0	0.0	10.1	0.0	0.0	0.0	0.0	0.0	0.0
61	Articles of apparel & clothing knitted	1.9	0.0	0.0	1.9	0.0	0.0	0.1	0.0	0.0	0.0
62	Articles of apparel & cloth not knitted	2.8	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
63	Other made up textile articles	43.2	0.0	34.6	8.6	0.0	0.1	0.1	0.0	2.2	0.0
64	Footwear, gaiters & like; parts of article	22.7	0.0	0.0	22.7	0.0	0.0	0.2	0.0	0.0	7.2
65	Headgear & parts thereof	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
66	Umbrellas, sun umbrella, walking-stick	8.3	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0
67	Prepared feathers & down & articles	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
68	Articles of stone, plaster, cement, etc.	26.5	0.0	0.9	25.6	0.0	0.0	0.4	0.0	0.0	6.2
69	Ceramic products	50.4	0.0	24.9	25.4	0.0	0.0	0.1	0.0	0.0	4.7
70	Glass and glassware	71.1	0.0	0.0	71.1	0.0	0.0	3.7	0.0	0.0	20.7
71	Natural or cultured pearls, Jewellery	6582.9	3210.6	7.7	3364.6	0.1	0.0	17.3	0.0	0.0	2546.2
72	Iron and steel	1413.7	3.8	1409.9	0.0	0.5	30.2	0.0	0.2	740.3	0.0
73	Articles of Iron or steel	487.6	0.0	487.6	0.0	0.0	13.6	0.0	0.0	103.1	0.0
74	Cooper and articles thereof	637.1	0.0	637.1	0.0	0.0	44.1	0.0	0.0	312.8	0.0
75	Nickel and articles thereof	108.6	108.6	0.0	0.0	1.5	0.0	0.0	29.6	0.0	0.0
76	Aluminium and articles thereof	210.2	0.0	210.2	0.0	0.0	7.8	0.0	0.0	126.9	0.0
78	Lead and articles thereof	40.7	0.0	40.7	0.0	0.0	2.1	0.0	0.0	31.3	0.0
79	Zinc and articles thereof	127.2	0.0	127.2	0.0	0.0	3.8	0.0	0.0	59.6	0.0
80	Tin and articles thereof	26.0	0.0	26.0	0.0	0.0	1.6	0.0	0.0	23.8	0.0
81	Other base materials; cermets; articles	52.3	0.0	52.3	0.0	0.0	1.0	0.0	0.0	11.5	0.0
82	Tools, implements, cutlery, spoon, etc.	102.8	0.0	100.2	2.5	0.0	2.8	0.0	0.0	6.1	0.0
83	Miscellaneous articles of base metal	30.7	0.0	0.0	30.7	0.0	0.0	0.8	0.0	0.0	8.0
84	Nuclear reactors, boilers, machinery	4464.0	3.4	4360.5	100.1	0.0	280.7	3.4	0.0	1675.8	31.8
85	Electrical machinery, equipments & parts	1978.9	205.3	1280.6	493.1	57.4	99.5	54.0	72.9	691.6	293.3
86	Railway or tramway locomotives	27.2	0.0	25.9	1.3	0.0	0.0	0.6	0.0	0.0	0.0
87	Vehicles other than railway or tram	416.9	0.1	0.0	416.7	0.0	0.0	2.8	0.0	0.0	31.2
88	Aircraft, spacecraft & parts thereof	356.1	347.0	0.0	9.1	4.7	0.0	0.0	2.6	0.0	0.0
89	Ships, boats & floating structures	249.8	230.8	0.0	19.0	7.5	0.0	0.1	141.0	0.0	0.0
90	Optical, photographic, cinematograph, etc.	804.8	1.6	720.9	82.2	0.5	27.7	6.2	0.0	436.3	13.0
91	Clocks and watches and parts	23.3	0.0	17.2	6.0	0.0	0.0	0.3	0.0	0.0	0.0
92	Musical instruments; parts & accessories	2.7	0.0	2.7	0.0	0.0	0.1	0.0	0.0	0.9	0.0
93	Arm & ammunition; parts & accessories	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
94	Furniture; bedding, mattresses	21.5	0.0	0.0	21.5	0.0	0.0	0.1	0.0	0.0	2.2
95	Toys, games & sports, requisite	22.1	0.0	22.1	0.0	0.0	0.8	0.0	0.0	4.0	0.0
96	Misc. Manufactured articles	44.3	0.0	0.0	44.3	0.0	0.0	2.8	0.0	0.0	4.4
97	Works of art, collectors' pieces	0.3	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0
	Total	39514.7	12956.9	20527.6	6030.2	212.1	643.7	127.7	5347.5	6489.6	3449.3

Note: Low tariff refers to below peak tariff (I.e., tariff less than equal to 10% *ad valorem*)

Medium Tariff: more than 10% and less than 40% *ad valorem*

High Tariff: more than 40% *ad valorem*

Source of Data: UNCTAD, Trade Analysis and Information System, Spring 2000.

Table 16: Trends in Production and Capital Stock of Industrial Sector: Singapore

ISIC	Description	Value Added				GFCF		Growth Rate
		1995	1996	1997	1998	GFC97	GFC98	Gr95-98
151	Processed meat, fish, fruit, vegetables, fats	146.6	157.8	182.6	185.8	39.4	48.9	8.91
1511	Processing/preserving of meat	52.1	57.4	68.6	73.1	13.2	33.5	13.44
1512	Processing/preserving of fish	22.5	32.3	39.1	44.7	14.4	11.1	32.89
1513	Processing/preserving of fruit & vegetables	5.8	5.9	8.3	8.4	4.6	1.8	14.94
1514	Vegetable and animal oils and fats	66.2	62.2	66.5	59.6	7.2	2.6	-3.32
1520	Dairy products	156.3	132.0	131.6	124.1	20.2	20.4	-6.87
153	Grain mill products; starches; animal feeds	22.4	25.1	27.1	27.8	2.1	7.6	8.04
1533	Prepared animal feeds	22.4	25.1	27.1	27.8	2.1	7.6	8.04
154	Other food products	471.2	709.3	736.0	697.8	136.7	125.0	16.03
1541	Bakery products	131.7	142.6	153.2	160.6	29.9	8.2	7.31
1543	Cocoa, chocolate and sugar confectionery	48.4	54.9	43.6	38.6	20.4	9.1	-6.75
1544	Macaroni, noodles & similar products	27.7	33.9	34.3	33.7	5.9	6.4	7.22
1549	Other food products n.e.c.	263.4	477.8	504.9	465.0	80.5	101.2	25.51
155	Beverages	291.8	287.2	305.7	321.0	50.3	53.8	3.34
1551	Distilling, rectifying & blending of spirits	5.1						
1554	Soft drinks; mineral waters	286.7	287.2	305.7	321.0	50.3	53.8	3.99
1600	Tobacco products	181.4						
171	Spinning, weaving and finishing of textiles	48.1	38.7	43.6	43.8	3.2	4.8	-2.98
1711	Textile fibre preparation; textile weaving	32.9	38.7	43.6	43.8	3.2	4.8	11.04
1712	Finishing of textiles	15.3						
172	Other textiles	25.2	24.8	26.9	22.1	4.2	0.8	-4.10
1721	Made-up textile articles, except apparel	15.2	24.8	26.9	22.1	4.2	0.8	15.13
1729	Other textiles n.e.c.	10.0						
1730	Knitted and crocheted fabrics and articles	18.9	16.1	18.6	17.0	3.1	0.1	-3.35
1810	Wearing apparel, except fur apparel	304.2	242.5	224.3	237.7	29.3	21.0	-7.29
191	Tanning, dressing and processing of leather	31.3	28.2	40.5	38.3	2.2	0.7	7.45
1912	Luggage, handbags, etc.; saddlery & harness	31.3	28.2	40.5	38.3	2.2	0.7	7.45
1920	Footwear	14.1	14.9	11.5	6.4	1.3	0.4	-18.20
2010	Sawmilling and planing of wood	12.1	9.6	8.2	6.7	1.2	0.9	-14.88
202	Products of wood, cork, straw, etc.	71.0	71.5	85.2	89.6	12.3	24.5	8.73
2021	Wvener sheets, plywood, particle board, etc.	11.4	10.8	7.4		0.9		
2022	Builders carpentry and joinery	37.4	39.4	55.1	61.3	5.5	9.5	21.30
2023	Wooden containers	19.0	21.4	22.7	28.3	5.8	15.0	16.32
210	Paper and paper products	469.8	471.9	462.4	404.0	84.9	116.8	-4.67
2102	Corrugated paper and paperboard	385.7	394.4	399.6	350.0	75.7	103.0	-3.09
2109	Other articles of paper and paperboard	84.1	77.4	62.8	53.9	9.2	13.8	-11.97
221	Publishing	800.7	819.6	918.1	790.5	24.6	30.6	-0.42
2211	Publishing of books and other publications	53.5	62.3	69.7	67.1	6.5	8.0	8.47
2212	Publishing of newspapers, journals, etc.	747.1	757.3	848.4	723.4	18.1	22.6	-1.06
222	Printing and related service activities	769.1	771.2	812.6	791.0	185.1	123.0	0.95
2221	Printing	652.7	653.0	693.4	675.2	157.4	109.7	1.15
2222	Service activities related to printing	116.5	118.2	119.2	115.8	27.8	13.4	-0.20
2230	Reproduction of recorded media	36.8	49.8	51.5	64.9	7.1	6.1	25.45
2320	Refined petroleum products	1721.6	2042.0	2132.5	1909.5	531.7	273.2	3.64
241	Basic chemicals	664.7	598.6	682.0	731.3	1011.3	198.2	3.34
2411	Basic chemicals, except fertilizers	245.6	180.6	224.6	211.5	114.3	96.9	-4.63
2413	Plastics in primary forms; synthetic rubber	419.1	418.0	457.4	519.8	897.1	101.2	8.01
242	Other chemicals	2518.5	2821.8	3249.7	4107.5	2057.6	376.3	21.03

2422	Paints, varnishes, printing ink and mastics	190.2	200.0	239.5	217.7	40.1	49.3	4.82
2423	Pharmaceuticals, medicinal chemicals, etc.	1129.3	1492.6	1589.9	2516.8	184.8	44.7	40.95
2424	Soap, cleaning & cosmetic preparations	132.3	160.1	175.5	161.0	13.4	9.1	7.23
2429	Other chemical products n.e.c.	1066.6	969.1	1244.6	1212.1	1819.2	273.3	4.55
251	Rubber products	107.3	104.6	122.3	137.4	52.6	26.3	9.35
2519	Other rubber products	107.3	104.6	122.3	137.4	52.6	26.3	9.35
2520	Plastic products	906.5	939.4	936.3	859.5	273.9	156.6	-1.73
2610	Glass and glass products	161.8	187.8	187.8	171.0	58.4	45.3	1.90
269	Non-metallic mineral products n.e.c.	519.8	566.7	592.0	547.7	104.6	67.8	1.79
2693	Struct. Non-refractory clay; ceramic products	22.3	17.6	15.5	16.1	0.6	0.4	-9.27
2694	Cement, lime and plastic	194.6	168.1	137.9		17.1		
2695	Articles of concrete, cement and plaster	164.7	195.6	255.0	346.4	56.7	53.0	36.77
2696	Cutting, shaping & finishing of stone	12.3	51.0					
2699	Other non-metallic mineral products n.e.c.	125.9	134.4	183.5	185.2	30.3	14.4	15.70
2710	Basic iron and steel	154.3	144.4	145.4	140.3	37.6	43.6	-3.02
273	Casting of metals	37.5	33.9	30.3	22.3	11.7	1.2	-13.51
2732	Casting of non-ferrous metals	37.5	33.9	30.3	22.3	11.7	1.2	-13.51
281	Struct. Metal products; tanks; steam generators	594.4	506.8	531.4	592.1	135.7	124.3	-0.13
2811	Structural metal products	542.6	456.8	483.6	548.1	130.6	123.8	0.34
2812	Tanks, reservoirs and containers of metal	30.6	33.0	29.5	24.7	2.9	0.5	-6.43
2813	Steam generators	21.2	17.1	18.3	19.0	2.2		-3.46
289	Other metal products; metal working services	1603.7	1675.2	1711.1	1637.8	413.8	306.9	0.71
2891	Metal forging/pressing/stamping/roll-forming	451.3	475.9	489.8	480.2	91.7	82.0	2.13
2892	Treatment & coating of metals	182.0	209.0	219.4	190.6	54.4	41.1	1.58
2893	Cutlery, hand tools and general hardware	100.4	81.2	84.7	74.2	4.3	2.9	-8.70
2899	Other fabricated metal products n.e.c.	869.9	909.1	917.2	892.7	263.4	180.9	0.87
291	General purpose machinery	953.8	997.8	1041.5	910.6	157.3	125.1	-1.51
2912	Pumps, compressors, taps and valves	23.8	25.6	29.0	29.9	3.4	2.8	8.54
2913	Bearings, gears, gearing & driving elements	215.0	206.0	220.8	217.9	36.0	30.3	0.45
2915	Lifting and handling equipment	186.7	219.4	248.7	233.0	28.1	33.1	8.27
2919	Other general purpose machinery	509.0	546.8	542.9	429.8	89.8	58.9	-5.19
292	Special purpose machinery	1212.2	1343.2	1440.8	1527.2	343.4	229.8	8.66
2922	Machine tools	395.7	418.2	458.5	426.2	168.4	77.0	2.57
2924	Machinery for mining & construction	348.8	399.3	437.8	588.1	64.8	47.9	22.87
2929	Other special purpose machinery	445.8	525.7	544.4	512.9	110.3	104.9	5.02
2930	Domestic appliances n.e.c.	137.2	145.0	153.1	151.2	9.8	11.4	3.40
3000	Office, accounting and computing machinery	7413.9	9450.7	9789.5	9385.5	1375.9	976.1	8.86
3110	Electric motors, generators and transformers	259.3	223.9	233.5	201.7	46.0	32.9	-7.40
3120	Electricity distribution & control apparatus	152.0	171.4	164.5	131.5	38.3	10.9	-4.50
3130	Insulated wire and cable	479.1	483.4	512.0	426.9	97.5	100.8	-3.63
3140	Accumulators, primary cells and batteries	157.0	163.0	174.5	129.2	16.5	5.6	-5.90
3150	Lighting equipment and electric lamps	58.1	13.1	13.1	11.6	2.1	1.8	-26.68
3190	Other electrical equipment n.e.c.	16.7	26.7	30.7	35.0	2.5	2.3	36.53
3210	Electronic valves, tubes, etc.	5563.6	5294.3	5381.5	5384.0	2372.4	2510.4	-1.08
3220	TV/radio transmitters; line comm. Apparatus	1000.1	721.7	832.1	900.6	50.7	85.1	-3.32
3230	TV and radio receivers and associated goods	1184.9	963.9	802.9	635.5	61.2	68.5	-15.46
331	Medical, measuring, testing appliances, etc.	559.1	616.2	679.8	955.9	163.0	68.8	23.66
3311	Medical, surgical and orthopaedic equipment	367.9	422.9	458.4	674.7	130.0	34.8	27.80
3312	Measuring/testing/navigating appliances, etc.	40.8	39.6	43.5	41.7	2.4	2.9	0.74
3313	Industrial process control equipment	150.4	153.6	177.9	239.5	30.6	31.1	19.75
3320	Optical instruments & photographic equipment	77.0	85.4	97.5	96.2	19.3	12.0	8.31
3330	Watches and clocks	64.9	64.0	63.6	62.7	9.9	11.4	-1.13
3410	Motor vehicles		95.8	115.5	148.1	22.3	6.6	0.00

3420	Automobile bodies, trailers & semi-trailers	46.0	64.3	825.9	112.7	19.2	4.2	48.33
3430	parts/accessories for automobiles	36.2	31.6	32.9	35.4	3.2	2.4	-0.74
351	Building and repairing of ships and boats	1253.9	1096.7	1085.8	1190.5	146.1	97.3	-1.69
3511	Building and repairing of ships	1040.5	875.2	854.9	957.4	121.5	75.6	-2.66
3512	Building/repairing of pleasure/sport. Boats	213.4	221.5	231.0	233.1	24.6	21.7	3.08
3530	Aircraft and spacecraft	818.0	902.3	1089.1	1252.2	90.6	131.1	17.69
359	Transport equipment n.e.c.	154.3	116.3	119.5	132.9	5.0	8.4	-4.62
3599	Other transport equipment n.e.c.	154.3	116.3	119.5	132.9	5.0	8.4	-4.62
3610	Furniture	220.7	228.2	246.7	206.7	38.3	17.0	-2.11
369	Manufacturing n.e.c.	194.9	174.2	196.6	162.9	51.7	217.7	-5.47
3691	Jewellery and related articles	35.6	31.2	30.2	30.0	1.9	0.8	-5.24
3694	Games and toys	24.4	5.7	12.4	4.1	0.9	0.3	-27.73
3699	Other manufacturing n.e.c.	134.9	137.3	154.0	128.8	49.0	216.7	-1.51
3710	Recycling of metal waste and scrap	8.3	12.9	17.2	19.4	11.6	4.0	44.58

Note: Value added in Million USD

Gross fixed capital formation in Million USD.

Source of Data: International Yearbook of Industrial Statistics, 2001, UNIDO.

RIS Discussion Papers

- #01 *World Trade Organisation and India – Challenges and Perspectives* by V.R. Panchamukhi, 2000
- #02 *WTO Regime, Host Country Policies and Global Patterns of Multinational Enterprises' Activity: Implications of Recent Quantitative Studies for India* by Nagesh Kumar, 2000
- #03 *Trade and Environment Linkages: A Review of Conceptual and Policy Issues* by T.R. Manoharan, Beena Pandey and Zafar Dad Khan, 2000
- #04 *Natural Resource Accounting: Economic Valuation of Intangible Benefits of Forests* by T.R. Manoharan, 2000
- #05 *Multinational Enterprises and M&As in India: Patterns and Implications* by Nagesh Kumar, 2000
- #06 *Explaining the Geography and Depth of International Production: The Case of US and Japanese Multinational Enterprises* by Nagesh Kumar, 2000
- #07 *Liberalisation Outward Orientation and In-house R&D Activity of Multinational and Local Firms: A Quantitative Exploration for Indian Manufacturing* by Nagesh Kumar and Aradhna Agarwal, 2000
- #08 *China as # 1: Threat or Opportunity?* by Ramgopal Agarwala, 2001
- #09 *Market Access for Industrial Sector in WTO Negotiations An Agenda for Developing Countries* by Rajesh Mehta, 2001
- #10 *India's Trade in 2020: A Mapping of Relevant Factors* by Nagesh Kumar, 2001
- #11 *Alternate Forms of Trading Arrangements in Indian Ocean Basin: Implication for India from IOR-ARC* by Rajesh Mehta and S.K. Mohanty, 2001
- #12 *INDO-Japanese Trade: Recent Trends* by Rajesh Mehta, 2001
- #13 *Post-Reforms Export Growth in India: An Exploratory Analysis* by Saikat Sinha Roy, 2001
- #14 *WTO's Emerging Investment Regime and Developing Countries: The Way Forward for TRIMs Review and the Doha Ministerial Meeting* by Nagesh Kumar, 2001
- #15 *India-Central Asian Republics Economic Cooperation with Special Reference to Kazakhstan – India Economic Relations* by N. Makhanov, 2001
- #16 *India-ASEAN Economic Cooperation with Special Reference to Lao PDR-India Economic Relations* by Thatsaphone Noraseng, 2001
- #17 *The Public-Private Debate in Agricultural Biotechnology and New Trends in the IPR Regime: Challenges before Developing Countries* by Sachin Chaturvedi, 2001
- #18 *Review of the WTO Agreement on Agriculture: The Current State of Negotiation* by Biswajit Dhar and Sudeshna Dey, 2001
- #19 *Indian Software Industry Development in International and National Development Perspective* by Nagesh Kumar, 2001
- #20 *Implementation of Article X of the Biological Weapons Convention in a Regime of Strengthened Intellectual Property Protection* by Biswajit Dhar, 2001

- #21 *Perceptions on the Adoption of Biotechnology in India* by Biswajit Dhar, 2001
- #22 *Product Standards and Trade in Environmentally Sensitive Goods: A Study of South Asian Experience* by Sachin Chaturvedi and Gunjan Nagpal, 2001
- #23 *Establishment of Free Trade Arrangement Among BIMST-EC Countries: Some Issues* by Rajesh Mehta, 2002
- #24 *Potential of India's Bilateral Free Trade Arrangements: A Case Study of India and Thailand* by Rajesh Mehta, 2002
- #25 *Intellectual Property Rights, Technology and Economic Development: Experiences of Asian Countries* by Nagesh Kumar, 2002
- #26 *Infrastructure Availability, Foreign Direct Investment Inflows and Their Export-orientation: A Cross-Country Exploration* by Nagesh Kumar, 2002
- #27 *Foreign Direct Investment, Externalities and Economic Growth in Developing Countries: Some Empirical Explorations and Implications for WTO Negotiations on Investment* by Nagesh Kumar and Jaya Prakash Pradhan, 2002
- #28 *Status and Development of Biotechnology in India: An Analytical Overview* by Sachin Chaturvedi, 2002
- #29 *Persistence in India's Manufactured Export Performance* by Saikat Sinha Roy, 2002
- #30 *Measuring Developments in Biotechnology: International Initiatives, Status in India and Agenda before Developing Countries* by Sachin Chaturvedi, 2002
- #31 *WTO and Indian Poultry Sector: Lessons from State Support Measures in Select Countries* by Rajesh Mehta, 2002
- #32 *Towards an Asian Economic Community – Vision of Closer Economic Cooperation in Asia: An Overview* by Nagesh Kumar, 2002
- #33 *Towards an Asian Economic Community: Monetary and Financial Cooperation* by Ramgopal Agarwala, 2002
- #34 *Towards an Asian Economic Community: The Relevance of India* by Nagesh Kumar, 2002
- #35 *India, the European Union and Geographical Indications (GI): Convergence of Interests and Challenges Ahead* by Sachin Chaturvedi, 2002.
- #36 *WTO and Product Related Environmental Standards: Emerging Issues and Policy Options before India* by Sachin Chaturvedi and Gunjan Nagpal, 2002.
- #37 *The Determinants of India's Exports: A Simultaneous Error-Correction Approach* by Saikat Sinha Roy, 2002.
- #38 *Analysis of Environment Related Non-Tariff Measures in the European Union: Implications for South Asian Exports* by S.K. Mohanty and T.R. Manoharan, 2002.
- #39 *Addressing Sanitary and Phytosanitary Agreement: A Case Study of Select Processed Food Products in India* by Rajesh Mehta, M. Saqib and J. George
- #40 *Liberalization, Firm Size and R&D Performance: A Firm Level Study of Indian Pharmaceutical Industry* by Jaya Prakash Pradhan, 2003

- #41 *Economic Co-operation Between India and Singapore: A Feasibility Study* by Rajesh Mehta, 2003
- #42 *Export Performance of Indian Enterprises in Knowledge-based Industries: Recent Trends, Patterns and Implications* by Nagesh Kumar and Jaya Prakash Pradhan, 2003
- #43 *Export Competitiveness in Knowledge-based Industries: A Firm-Level Analysis of Indian Manufacturing* by Nagesh Kumar and Jaya Prakash Pradhan, 2003
- #44 *Determinants of Outward Foreign Direct Investment From A Developing Country: The Case of Indian Manufacturing Firms* by Nagesh Kumar and Jaya Prakash Pradhan, 2003