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Industrialization of Developing  
Countries; Implications for NAMA  
Negotiations**

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of Trade Policy Incentives on Industrialization of Developing Countries;  
Implications for NAMA Negotiations**

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## **I. Introduction**

In the Doha Declaration taking full account of the special needs and interests of developing and least developed countries was a stated objective of the Doha Development Round of trade negotiation on NAMA. In particular, developing countries were supposed to receive special and differential treatments which according to Article XXVIIIbis (para 3.b) of GATT/WTO included their need for “more flexible use of tariffs protection” (Shafaeddin, 2009). The flexible use of tariffs would imply that the tariff structure of developing countries would be such that it would allow discriminatory and dynamic trade policy. Discriminatory use of tariffs means that different tariff rates could be applied to different industries in each point time; dynamic trade policy would imply that the tariff rates and structure could change over time.

In practice during the negotiation on NAMA developed countries have been trying to impose on developing countries changes in the tariffs contrary to the stated objectives and spirit of the Round. Their proposals for tariff rates of developing countries for negotiation has four main elements: drastic reduction in the level and dispersion of tariffs rates; binding of individual tariffs lines at reduced (low) levels; zero tariffs for some products; applying the same principles to all developing countries with a few temporary exceptions for least developed and “vulnerable” countries. Therefore if agreed the tariff structure of developing countries would suffer not only from low tariff rates, but more importantly from a tendency towards “uniformity”, “rigidity” and “universality”. Uniformity would imply the tendency towards application of the same tariff rates to all industries i.e. neutrality of tariff structure rather than selectivity. Rigidity means the lack of flexibility in changing tariff rates over time for pursuing a dynamic trade policy. Universality implies applying the same rules to various developing counties irrespective of their level of

development and industrial capacity-although a few exceptions are envisaged on temporary basis.

I have explained the need for industrial policy and outline elsewhere the elements of a dynamic and flexible trade and industrial policies (Shafaeddin, 2005.b and 2006.b). The purpose of this study is two fold. The first is to argue for the need for selectivity of the tariff structure for industrialization of developing countries. The second objective is to explain that the need for selective incentive structure has increased during the last couple of decades due to changes in the market structure and international context of industrialization and competition. Yet the means for implementing such a strategy have been constrained by the conditionalities imposed on the developing countries through international financial institutions, changes in international trade rules through GATT/WTO and bilateral trade agreements between developing and developed countries. Hence if the proposals of developed countries on NAMA are also agreed upon they would lock production and trade structure of developing countries which are at early stages of industrialization in primary products and resource-based products and at best in assembly operation and labour intensive items. It also will create constrains for upgrading of the industrial structure of those of them which have some industrial base and export capacity in manufactured goods.

To precede, in the following section, we will shed some light on the theoretical controversy on the implications of neutrality and non-neutrality of incentive structure for industrialization. In sections III the historical evidence for the use of selectivity will be briefly reviewed before providing some empirical evidence for more recent years in section IV. Subsequently, in section V we will refer to changes in the methods of production and forms of international competition and the increasing need for nurturing of domestic firms. The final section will conclude the study.

Let us first clarify the concept of neutral trade policy as there is some confusion in the

literature in this respect. Trade neutrality is usually defined as a trade regime in which the incentives given to the exports and imports as a whole are equal (Balassa, 1989). Neo-liberals regard trade neutrality is synonymous with free trade, i.e. a situation where no incentive is provided to either exports or imports. It should be mentioned, however, that the equality of trade-based incentives for exports and imports can be reached at zero incentive (tariff) level or at positive incentive (tariff) levels. In the first (restrictive) case free trade prevails, whereas in the second (general) case export incentives offset import restrictions and other incentives given to production for the home market. Applying the usual (restrictive) definition of trade neutrality confuses a trade regime with high government intervention with that of free trade. Such confusion has emerged, for example, in the case of studies on East Asian countries (Chen and Devereux, 1997). Note also that even when exports and imports on average may receive equal incentives, each export and import item may receive different levels of incentives. Our definition of neutral trade regime is the general one thus implying that a neutral trade regime may, or may not, involve free trade.

## **II. Theoretical issues**

The theoretical arguments pro and cons of selectivity of the incentive structure is the extension of the argument in favour or against infant industry argument and other forms of government intervention in trade and industrial development. The proponents of universal free trade argue that selectivity contributes to price distortion and inefficiency because of the resultant mis-allocation of resources. When the use of tariffs, or other forms of intervention, is accepted, by some Neo-classical economists, for supporting infant industries, there is a bias in favour of a uniform, and low tariff rates for all industries. For example, Haberler, the pioneer of modern international economics argues that: "A uniform import tariff on manufactured goods, or on

broad categories of such goods, is probably the best method of infant industry protection” (Haberler, 1959, 36). Similarly, Balassa (1975) recognizing the learning effects and externalities involved in the promotion of new industries in developing countries, accepted temporary protection of these industries. Nevertheless, he maintained that the tariff rates should be gradually decreased to an across- the- board rate of about 10 per cent.

According to some economists the infant -industry case should be distinguished from the protectionist argument. To handle special problems of infant industries, provision of selective policy measures is acceptable. Nevertheless, these measures should address the problems directly at their source rather than using import duties (Baldwin, 1969).

The argument on uniform tariff rates centres mainly on low administrative costs and simplicity and easiness: as the government capacity in making and implementing decisions is often limited in developing countries, it is easier to manage a simple and uniform incentive structure, including tariffs, than a selective one. Moreover, it is also argued that the success of East Asian countries is due to the provision of neutral incentives to exports and home markets (Balassa, 1982). Even when the existence of selective intervention and incentive in the case of East Asian countries is admitted, it is concluded that its application and emulation by other countries can not contribute to their industrial development (World Bank, 1993). Furthermore, as far as tariffs are concerned, it is argued that the WTO agreement makes the application of discriminatory tariff rates often difficult.

The lack of capacity in decision making and implementation, however, should not be used as an argument against non-neutrality of incentives. It is true that there is a positive correlation between the decision making capability of the Government and the level of development. The lower the level of development, the lower is the capacity of the Government machinery. The scarcity of decision making capacity is, in fact, an argument in favour of selectivity rather than

against it as explained above. Moreover, the capacity of the government machinery can, and should, be improved. In fact, the process of trial and error itself contributes to development of such capacity building. It is true that mistakes may be made in the process, but if no decision is made, or implemented, the capacity of the bureaucracy would be never enhanced. In other words, the lack of government capacity is not an argument for lethargy. Whatever capacity exists should be devoted to a limited number of industries on selective basis. By being active the government may achieve its objective, or it may make mistakes. Both contribute to learning. By being passive nothing would be achieved including gaining experience and improving its capabilities of the government. In 1950s the Korean Government was regarded incompetent and inefficient. Over time the managerial capabilities of the Government in all aspects of the Governance has improved tremendously (Madsen, 1989).

The opponents of neo-liberal economists provide four main arguments in favour of selectivity: supply response to relative prices, scarcity, externality and strategic trading.

#### *1. Supply response to relative prices*

Supply response to prices is much lower, particularly in developing countries, when all the outputs of a sector are equally affected and stronger when relative prices increase only for one good, or for a few goods (Streeten, 1987). Even in industrialized countries there is some evidence that reallocation of resources from non-tradable to tradable sectors, and within tradables from importables to exportables (and in the latter from traditional to new products), are more responsive to targeted incentives than uniform price structure (Schydlosky, 1982). These general characteristics of the pricing system can be applied to relative prices of various goods affected by tariff and non-tariff measures. As a result, if the differential prices of good A and good B are affected by tariffs or subsidies in favour of good A, its supply will, *cet. par*, respond better than the supply of good B.

## 2. *The scarcity argument*

The scarcity argument is complementary to the infant industry argument. Real and financial resources, particularly foreign exchange and skilled labour are scarce in developing countries. So is the decision making capabilities and the management capacity of the government in developing countries at early stages of their development. Hence, to spread resources in an excessively diversified manner, without being able to accumulate in any sector the level necessary to start a process of cumulative causation, is sub-optimal (Ocampo, 1986, 158).

The scarcity argument is linked with the dynamic comparative advantage theory. A country can not by definition develop dynamic comparative advantage in all production lines. Hence, it should concentrate on development of industries on selective basis. Specific industries, however, require specific and specialized factors for attaining and upgrading competitive advantage as generalized factors do not themselves provide an advantage in modern international competitiveness. Development and upgrading of specialized and high skilled labour requires government intervention for training in specific fields (Porter, 1990, 79) since knowledge and skills are to a large extent industry-specific and firm specific and “occupation specific” (Lall, 2005, and Kambaourove and Manovsky, 2007).

Hirschman (1958) argues that “it is impossible for a truly LDC to leap forward on all fronts simultaneously”. The debate he started on the theory of *unbalanced growth, vis-à-vis*, the theory of balanced growth was in fact a debate on selectivity versus uniformity in the general context of development rather than trade and industrialization *per se*. The theories of balanced and unbalanced growth have three main features in common. One is the belief in the market failure and the need for government intervention. Another is the important role played by capital accumulation in the process of development. The third feature is the importance given to linkages, complementarity effects and externalities. Nevertheless, the two theses were different in

one important respect. According to the theory of balance growth, industrialization should start on all front in a balance manner (Rosenstein-Rodan, 1943, Fleming, 1955 and Murphy, *et. al*, 1989). By contrast Hirschman argued that it was impossible to develop on all front simultaneously mainly because of the scarcity of resources, particularly the decision making ability in combining various factors of production. For this reason, he added: “ .. The fundamental problem of development consists in generating and energizing human action in a certain direction.”(*Ibid*:25). To him, the scarcity of financial and physical resources and market imperfection were not the only obstacles to development; imperfection in making development decisions was a more important obstacle: “ The taking of development decisions is held back, not by physical obstacles and scarcities, but by imperfection in the decision-making process”(*Ibid*, 26). In other words, he argues, the ability to take decisions in the right time and in the right manner is a scarce resource causing deficiency in the combining process and organization of economic activities. Such scarcity exist both at the level of the government and firms.

To overcome this scarcity, Hirschman argues, the decision making should be induced. One mechanism to induce investment decision making is to invest in strategic industries<sup>1</sup> with the highest forward and backward linkages, as various industries involve different linkages and spill-over effects. Such industries are regarded as supply dynamic industries which contribute to productivity at the industrial level (UNCTAD,2002) Industries with high linkages will push development of other industries as a result of the unbalance created in the supply and demand providing opportunities for further investment. The externalities created by forward and backward linkages are an additional argument in investing in “ strategic industries”as will be explained shortly. Here, the inducement effects of investment decision making is emphasized. He

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<sup>1</sup> This is in addition to the need for investment in social overhead.

also regards dynamic industries, i.e. industries which enjoy growing demand, a source of inducement to investment, particularly if they provide linkages. Industries with dynamic demand in international market also have better prospects for exports.

Inducement of investment decisions is important because investment contributes to the expansion of production capacity. Nevertheless, Hirschman also emphasises the need for maintenance and efficient management of the established firms. The expansion of capacity is necessary, but not sufficient. The established capacity should also be utilized efficiently, as most developing countries suffer from the lack of the ability to use their existing industrial capacity efficiently (see also Steiglitz, 1989 and X-efficiency below). While there exist scarcity of management at all levels, the principal scarcity at the firm level is, according to him, the ability to maintain and run firms efficiently which is far more important than the ability to establish them. Hence, there is a need for a mechanism to induce efficiency and growth within a new firm (Hirschmann, *op. cit*, Chapter 8). To resolve this problem, it is not enough to invest in dynamic industries which enjoy growing demand when running and maintaining firms are a problem. They should also invest in a few industries where technology is complicated and must be maintained in top working conditions. "It is in these industries that the *maintenance habit* can be acquired and from there spread to the rest of the economy." (*Ibid*, 142). Regarding efficient management of established capacity, we will refer to the concept of X-efficiency shortly.

### 3. *Externality argument*

There are two types of externality argument for selective protection/trade liberalization. The first is the traditional one which deals with technological and pecuniary externalities created

in the production process<sup>2</sup>. The second is externalities related to the scarcity of resources. With respect to the former, if external economies did not exist, or all industries were subject to similar externalities, either there would be no need for government intervention or all industries could be provided the same degree of incentives and support. In practice, some industries show more dynamic externalities than others. In other words, the nature and the size of dynamic externalities may vary from one sector to another and from one industry to another.

Technological change and learning effects are regarded an important source of dynamic externalities (Stewart and Ghani, 1991). Some industries are subject to more and more rapid technological change and learning effects than others thus involving more dynamic externalities. There is usually an inverse relationship between the level of industrialization and the potential technological change. In developing countries transfer and imitation of existing technology provides opportunities for faster technological change as compared with industrialized countries. In these countries technological change require changes in frontier technology. In developing countries support for industries which involve high degree of technological change during the phase of infancy is justified. It should be added that if externalities are international (Etier, 1982) i.e. and were transmitted from one country, or region, easily to another there would not be any need for supporting specific industries even if they involved more externalities than others. This would be case because the fruit of externalities created in other countries, would be also reaped by an industry located in a specific country. In practice, however, most externalities are nation-specific. They may even be mostly region- specific-benefiting from “collective efficiency” (Smith, 1995) as is the case in the cluster of semiconductor industries in Silicon Valley in

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<sup>2</sup> Pecuniary external economies are the result of influences of activities of an economic agent on another (other) agent(s) through prices. Technological externalities influence other agents directly.

California.

Whether or not a specific industry or activity, or a range of activities, should be supported depends on the spill-over effect of externalities. If externalities are external to firms, but internal to a specific industry, or country, (externality is nation-specific), that industry should be given special support. But if all industries are subject to externalities of the same degree, non-discriminatory industrial support is required. An example of the later type is learning management techniques which could spill-over from any industry to all other industries. By contrast, the technological change in the semiconductor industry is specific to this industry even if its benefits spill over to all other industries. Hence, the nature of industry and externalities involved is important (Steward and Ghani, 1991).

A somewhat similar approach is taken by the proponents of the technological *capability building theory* (CBT). Accordingly, competitiveness is achieved at the firm level. To achieve competitiveness, firms should develop their technological, production, investment and linkages (production and technological links with other firms) capabilities. Development of such capabilities do not takes place necessarily automatically. It requires two elements: “ an environment that allows market forces to operate for most economic decision- making” and “government intervention mainly where the market fails or where the motives are more social and political than economic ”(Dahlman, *et. al.* 1987).

According to CBT not all market failures are generic calling for functional intervention i.e. market friendly policies. Certain market failures are specific to an industry, or market thus requiring specific interventions. Skills and technologies needed for industrial development require “activity- specific capabilities that have to be acquired” (Lall and Latsch, 1996, 23). In other words, “development of technological capabilities by firms is costly and risky and is faced with market failure specific to an industry, or group of industries, since technologies differ in

their learning needs and externalities". Hence, to develop them requires selective intervention.

(*Ibid*, 24). Moreover:

... since all capabilities cannot be developed simultaneously, and since the accumulation of any one capabilities takes time and experience, the sequence in which various capabilities are developed is crucial. And the required capabilities change as a firm or country matures, because of changes in existing capabilities and because of changes in market conditions. Since everything cannot be done at once, selectivity is at the heart of national policy for technological development (Dahlman, *et.al.*, 1987).

Technological change is not the only a source of external economies requiring selective intervention. Economies of scale and time are two other justifications for selective intervention. Economies of scale are not present in all industries/firms or plants, or different industries may involve different scale of production. When scale economies are a source of dynamic comparative advantage in a specific industry, that industry may require assistance by the government, at least temporarily, until it reaches a scale which it becomes cost competitive. One condition for such support is that scale economies be external to the firm, or industry.

The opponents of selective intervention argue that the size of the domestic markets in many developing countries is a hindrance to the exploitation of scale economies. Hence, outward orientation policies should be pursued in order to break this bottleneck (Balassa, 1971). In this respect, two points worth mentioning. First, outward orientation is regarded, by Balassa, and most opponents of selectivity as neutrality of incentives for exports and imports through free trade i.e. zero tariff rates. However, such neutrality can be attained also with positive tariff rates (or other incentive measures) for both exports and imports as mentioned earlier.

Secondly, since development of export capabilities take time and require experience, to benefit from the economies of scale sheltering of the domestic market up to a point is regarded as

prerequisite for penetration into the international markets in industries which involve economies of scale (Krugman, 1984). Entering the international market requires competitiveness; an industry subject to economies of scale cannot become competitive in the international market before a minimum scale of production is reached. It should be added that the learning period in some industries is in particular long. The engineering industry is, for example, a typical case because of the technological complexities involved and its requirements for large scale of production. The infancy stage in this industry is quite long reaching at least up to 20 years as is evident for the successful case of Korea (Jacobsson, 1993). He argues that:

The performance of an infant industry is to be compared with what is necessary to compete successfully within a strategic group of the international industry. The point at which an infant industry changes into an "adult" would be defined by it fulfilling all the demand in terms of resources and performance that are required for successful competition within a particular strategic group (*Ibid*, 410).

In this sense there exist more than one type of infancy to acquire production and managerial capabilities to compete in internal and international markets. There exists infancy periods in production, technological learning, exportation, marketing in international markets, and management in developing strategic advantages. In other words, the infant industry argument is applicable not only to production for domestic market, but more importantly to production for exportation.

Moreover, the faster is the technological change, the longer will be the learning period, thus the higher will be and the higher will be the costs related to the learning process and the risk involved in achieving dynamic competitiveness. Such risks have increased in recent years due to the changes in the organization of firms and the nature of competition in the international market as will be explained in section IV.

Various industries may not be subject to similar external economies including economies of time. Economies of time are defined as the positive impact of present production on the cost of production in the future because of the experience gained through the production process. Experience gained in various industries during the current period may have different impact on current and future cost of production in other industries both at present and in the future. In such cases support for specific industries, rather than all industries, is justified. Inter-sectoral differences in learning are significant and “they go beyond the obvious differences due to product cycle considerations” (Teubal, 1986, chap. 7). In other words, differences in the degree of knowledge accumulated in different industries would imply that productivity do not increase uniformly in all industries.

Finally, there is yet another type of externality argument which has implication for selectivity. This is related to the diseconomies created for infant and other industries as a result of consumption of imported luxury goods. In developing countries where there is a shortage of foreign exchange, “each dollar spent on these goods denies availability of that amount of scarce foreign exchange to industries where the need for it may be great.” (Shafaeddin, 1991, b: 94). Hence, high tariffs on these products are justified in order to facilitate development of "selected" industries by facilitating availability of supply of their imported inputs. Nevertheless, ways should be found, e.g. through denying licenses that production of luxury items is not encouraged behind high tariff walls.

#### 4. *Strategic trading theory*

Another argument put forward in favour of selective intervention, targeting, is “strategic trading”. The strategic trade theory is related to the existence of increasing return, imperfect competition, dynamic learning economies and the power of governments. Some sectors may directly yield higher value per unit of input or high returns per unit of inputs because they

generate external economies such as high-technology industry. Trade takes place in a “strategic environment” where a small number of large governments and firms are active in international trade. In particular firms make strategic moves to affect their rivals' actions. Accordingly, it is advocated that the government should intervene in the industries which involve rent and/or external economies (e.g. Spencer, 1986). According to him advantages from targeting depend on “...the right choice of industry to target but...the nature of the targeting instruments...” (Ibid: 86). Another important issue is whether to “focus towards a single firm or product, or broadly focussed towards an industry as a whole...”(*Loc.cit*).

In particular, when trade in a product is “manipulated”, managed, or targeted for support by foreign competitors, the Government may intervene in the related industry. The aim is to defend the domestic producers through eliminating, deterring or compensating for practices which are not adequately regulated by multilateral trade rules (Tyson, 1992). Such argument is even made in the case of developed countries. For example, Tyson argues in favour of such intervention in the case of hi-tech products of the USA, particularly those which are widely used as industrial inputs or face excessive market power by foreign suppliers, or are critical for national security. There is, however, some controversy in the use of strategic trading. For example Krugman (1987) argues that even though some industry may yield high return, either directly, or through creating externalities, the theoretical support for strategic trade is weak about designation of any sector as strategic. Krugman is concerned with developed countries, but elsewhere (Krugman, 1987), clearly defends protection of industries subject of increasing return in developing countries. No doubt industries subject to increasing return are among “strategic” sector.

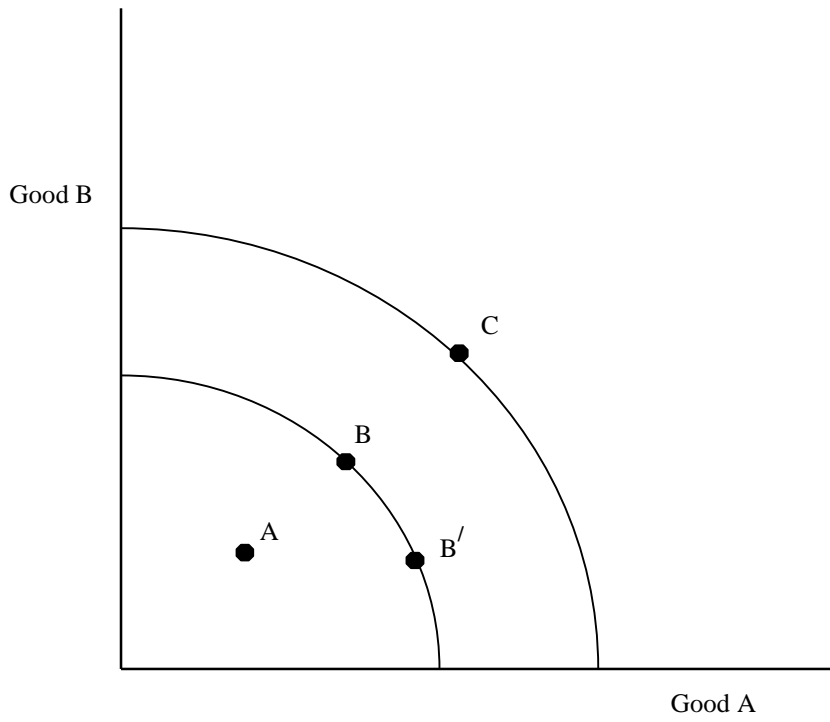
*X-efficiency and external economies*

The expansion of the supply capacity alone is not sufficient. As mentioned earlier the maintenance of the existing capacity and its efficient operation is also important. To discuss the importance of the efficient operation of the installed capacity, we need to explain the concept of X-efficiency which is also related to external economies.

In technical terms a firm/economy is X-efficient if it produces on a production possibility curve (B in Figure 1) rather than inside it (e.g. point A). Efficient allocation of resources (allocative efficiency) is accompanied by a move on the production possibility curve. By contrast, an improvement in X-efficiency leads to growth through movement from point A towards point on curve B. Technical progress or expansion of resources (creative efficiency) will lead to growth through movement from curve B to curve C. Allocative efficiency is concern of the theory of static comparative advantage. Creative efficiency is in the realm of dynamic comparative advantage.

**Figure 1 production possibility curve**

*Figure 4.1: Production possibility curves*



*Attention: pleas remove the heading above (figure 4.1.....) which is in picture and I could not do it*

The utilization of existing inputs by a firm takes place outside market mechanism, i.e. within firms, and is affected, *inter alia* by both organizational factors within the firm and institutional factors outside the firm (Leibenstein 1980 and 1989). Moreover, an improvement in X-efficiency may involve dynamic externalities. According to Arndt (1955), dynamic externalities related to increasing return and complementarity of various lumpy activities may be due to the construction of new equipment (investment), or due to the fuller utilization of existing equipment (which is a type of X-efficiency). X-efficiency may not only spill over to other firms (through the learning effect), but if it takes place in a number of firms/industries, it would involve dynamic pecuniary externalities (see footnote 4); if the product produced is used as an input to other industries, the reduction in its cost of production will benefit other industries.

Institutional factors also contribute to ex-efficiency. The organizational and institutional factors also act similarly to infrastructure; in a sense one may refer to them as socio-economic infrastructure. Both economic growth at the macro-level and profit of a firm at micro-level depend on the availability and efficient use of resources once allocated, i.e., X-efficiency. Hence, institutional and organizational deficiencies result in X-inefficiency.

In Figure 1, in order to move rapidly from point A to curve B in order to improve competitiveness, or from curve B to curve C to expand production capacity, or to upgrade the production structure, the development of capacity in organizational, institutional and infrastructural factors as well as back-up services are required. In practice, developing countries are characterized by underdeveloped organizational and institutional framework, particularly for production and exports of manufactured goods. The market mechanism would not function well if these factors act as constrains. And they will not be developed on their own. If their development is left to the market and the private sector, it would take a long time. Moreover,

since their development involves externalities, and is often lumpy, underinvestment would prevail. Hence, the government ought to intervene in institutional build up, organizational development and provision of other factors necessary for the operation of market forces and enterprises<sup>3</sup>.

Incidentally, as far as the role of import is concerned Hirshman (1958), like F.List (1856) considers the role of import differently at different stages of development. Before, an infant “strategic” industry is established “imports fulfil the very important function of demand formation and demand reconnaissance for the country’s entrepreneurs” (Hirshman, *Ibid.*:123). He recommends selective import restriction both before and after the establishment of an infant industry. “ During this *prenatal* stage of an industry it is desired to prepare the ground for the creation of a particular industry by allowing the inflow of import of the related product freely. In the meantime, it might be advisable to restrict *other* imports so as to channel import demand artificially toward the product whose eventual domestic production is to be fostered.” (*Ibid.*: 124).<sup>4</sup>

Trade liberalization should also be, like protection, selective and targeted. The impact of trade liberalization on an industry and firm would depend on the level of development of technological capabilities of the industry and the speed and degree of liberalization. A rapid and neutral liberalization would for example, be detrimental to immature industries. By contrast, a slow, gradual and targeted liberalization, which differentiates among activities according to their technological capabilities and degree of their maturity, could not only benefit the industrial

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<sup>3</sup> While government might be able to improve some of the institutional and organization deficiencies, it will not be able to improve all market deficiencies, since some of the problems facing the government are similar to those facing the market. Such are imperfect knowledge, information, and insight (Stiglitz 1989).

<sup>4</sup> List (1856) has made a similar argument with respect to the role of imports (see Shafaeddin, 2005.c).

development of the country, but is also essential.<sup>5</sup> Otherwise, the industry in question becomes inefficient behind prolonged protective walls. Before, subjecting an industry to foreign competition, it should become subject of domestic competitive pressure (Shafaeddin, 2005.b).

Before ending this section, two points are worth mentioning. The first point is that there are also some practical problems in implementing neutral trade policy. Unless there are zero tariff rates on all imports, the introduction of a uniform tariff rate structure to various industries would not provide a uniform effective rate of protection to those industries. A uniform effective rate of protection requires non-uniform nominal tariff rates because various industries do not use the same inputs which could be produced domestically, or imported. Even if they did, the input - output coefficients as well as the import coefficients are different for various industries.

The import coefficient for specific industries is not readily available. Nevertheless, there are some data available at the sectoral level. For example, the related data available for a few Latin American countries for 1994 before the conclusion of the Uruguay round are shown in table 1. The table indicates that in each country there is a wide range import coefficients in different industries. Accordingly, the ratio of maximum import coefficient to minimum coefficient for various industrial groups range from 31 in the case of Peru to 4.3 in the case of Brazil.

**Insert table 1 here**

The second point is that an argument against selective incentive structure is that it creates distortions in the price structure. Two points worth mentioning in this respect. First, the international price structure even if it were not distorted, would not represent the domestic production capacities and factor endowments of developing countries. It is further influenced by monopolistic power of large TNCs and by government's interferences in international trade. Hence, it is already distorted. In the presence of such distortion in the international market, a

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<sup>5</sup> For more details see Lall and Latsch (1996) and other contributions to the same volume.

distorted domestic price structure is a second best policy. Second, when the objective is to attain dynamic comparative advantage in certain industries, investment decisions can not be governed by the current price structure. The current price structure is a more useful tool for current production than for investment decisions (Scitovsky, 1954). Accordingly, there is a need for distorting the current price structure in favour of selected industries to attain the objective of attaining dynamic comparative advantage (see also Amsden, 1989).

### **III. Historical Evidence**

I have shown elsewhere that all early industrializing countries, including UK, USA, Germany; and Japan have pursued selective trade policy (Shafaeddin, 2005.c and change, 2002). In the following pages I will concentrate on the case of East Asian countries as they have been often used by both proponents of neutrality of trade incentive (free trade) and selective Government intervention to prove their point of view. For example, the proponents of free trade attribute success of Republic of Korea (RK) and other East Asian countries in rapid industrialization and export expansion to the operation of market forces (Krueger, 1981). Moreover, even when the existence of selective intervention in the market of these countries is admitted, it is concluded that selective intervention did not contribute to their success ( Benson and Weinstein, 1994). Similarly, it is argued that selectivity in trade policy would be an inappropriate tool to be employed in the case of other developing countries (e.g. World Bank, 1993). By contrast, the proponents of selective intervention attribute the success of East Asian countries, *inter alia*, to selective intervention (Westphal, 1985, Amsden, 1989 and Wade 1990).

Two important points are worth emphasising in this section. First, selective intervention contributed to the success of East Asian countries, but selective, and functional, intervention alone can not be the source of their success. The combination of market forces and dynamic

enterprises together with government functional and selective intervention played a significant role in industrialization of East Asian countries. However, the relative importance of the role of government in relation to market forces and enterprises has changed over time. Second, to succeed selective intervention requires some preconditions, and some other factors, than trade policy, also play a role.

1. *Selectivity, the role of Government, market and enterprises; the case of Republic of Korea*

We will use the case of Republic of Korea (RK) as an example, in the following pages and make a brief reference to other countries. The Government of RK pursued a dynamic policy changing not only its industrial and trade policy, but also the role which it attributed to government selective and functional intervention, market and enterprise over time.

In 1950s, the government intervention continued at three levels. The first was functional intervention for development of infrastructure and institutions to strengthen the operation of market forces and human resource development. The second was direct intervention in capital accumulation through establishment of public enterprises. The third was intervention for development of selected infant industries, basically for satisfying the domestic market.

A distinctive feature of the Korean industrial policy was, however, to switch rapidly, in late 1950s, to promoting exports of products of "selected" industries which had been established through infant industry protection. In the meantime, it embarked on development of some other "selected" infant industries. In other words, beginning late 1950s, the Government followed a policy mix of export promotion and import substitution. Attempts for export promotion was initially a reaction to the balance of payments problems in 1958/9, but achievements in export expansion led the government to continue its effort for export expansion while consolidating its industrial structure.

Thus, vigorous export promotion which started in late 1950s-early 1960s became dominates government policies in the following decades. The exchange rate was devalued, the tariff structure was changed, some imports were liberalized and export subsidies were introduced (Hong, 1977 chap.3). In particular, imports of non-competitive capital goods and inputs were liberalized. The import intensity of exports increased rapidly from 40 per cent in 1966 to 51 per cent in 1969. With the implementation of policies for import substitution of intermediate inputs in 1970s, the import intensity of exports started declining reaching 38 per cent in 1976 (*Ibid*, table 3.8). In other words, despite the fact that emphasises was placed on export promotion, RK did not abandon its import substitution policies. In 1960s it achieved considerable degree of import substitution in cement, fertilizers, refined petroleum, textile yarn and fabrics. Some of these products later on became major export items (Hong, 1977). While in early 1960s labour intensive, low technology intensive products, in which the country had static comparative advantage, constituted the major items of export, the capital and technology intensity of exports gradually increased as the country developed products along its dynamic comparative advantage based initially on import substitution (*Ibid*). In fact in mid-1980s it pushed rapidly into production of capital and technology intensive products<sup>6</sup>. For example, the share of electric machinery in total MVA which was 2 per cent in 1975 reached 15 per cent in 1985. Moreover, the share of these products in total industrial exports reached over 19 per cent in 1986 (Lütkenhorst (1989, tables 2 and 5).

The Government of RK also operated a dual policy structure in its industrial policy in another sense:

“The duality is between industries in which Korea has a static comparative advantage and

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<sup>6</sup> For more details and the evolution of this policy see Lee (1995) and Amsden (1989).

those in which it does not. In the former sectors, market forces operating in response to largely neutral incentives prevail; in the latter sectors, market forces are influenced by selective promotional incentive policies and supplemented by instruments of direct control and allocation"(Pack and Westphal, 1986, 102).

As mentioned before, Scitovsky (1954) distinguishes between production decisions and investment decisions. He argues that market prices are more useful tools for coordinating current production decision. Investments tend to involve more externalities. As externalities create divergence between private and social benefits, they require government intervention. Pack and Westphal argue that the Government of republic of Korea practiced a different type of duality of policies:

"...the crucial duality is not between production and investment decisions. It is 'more nearly' between investment in established industries where there is a static comparative advantage and investment in infant industries where there is the potential for dynamically achieving a comparative advantage" (*Ibid*, 125).

Such a dual policy framework has been applied by RK to attain two main objectives: to promote export and to establish infant industries. First, a combination of free trade and provision of incentives for exports of well- established industries were applied. The capital and intermediate inputs used in export production were exempted from import duties and unitary exchange rate was introduced. Further, relatively significant export subsidies were introduced through direct tax reduction, preferential interest rates and access to import licences (Westphal, 1990). Note that although export incentives were largely applied uniformly to all well-established industries, the number of well-established industries- mainly textiles and several other light industries- were limited. In other words, incentives were not provided to *all products*, but to *all selected* products. Moreover, the Government applied non-uniform incentives for some industries and changed the

level and structure of incentive over time. Not only the rate of protection varied for different industries, but also varied for various products within an industry. For example, in 1982 the effective rate of protection for the chemical products varied from 414 to - 6525. (Gunasekera, 1989, table, 1).

The second aspect of the dual industrial policy mentioned above was development of infant industries, industries in which the country could develop dynamic comparative advantage. For this purpose non-neutral policies were applied. Protection was the main incentive in most industries, but fiscal and monetary incentive was also used. An important aspect of the industrial policy applied to infant industries was that they were right from the beginning encouraged to export a part of their production mainly through marginal cost pricing (*ibid*, 47-49).

The Government's role was not confined to the provision of incentives alone. It also relied on and closely interacted with firms and market. In particular, it made the companies subject to “performance requirements”; the incentive provided to them was in exchange for their performance. In other words, it set certain performance standards and targets for production and export by firms and envisaged sanctions in the case of non performance. Sanctions could consist of withdraw of privileges, including import license, tax holidays, fund allocation, subsidy and preferential interest rates, from firms including their closure (Westphal, *op. cit*, Amsden, *op.cit.*). There was also a time pressure on industries to become efficient by fast reduction of import duties after a certain period of protection. Thus the response of firms to the incentives would take place initially not only through the market forces but also through the reaction to the set targets and envisaged sanctions.

Nevertheless, the government followed a dynamic trade and industrial policies as far as the role of government, market and the private sector is concerned. As time passed and experience was gained in exportations in certain industries, the role of market forces and

competition among enterprises increased and the importance of targeting and sanctions were reduced. Moreover, as international competitiveness improved, the amount of subsidies was gradually reduced. For example between 1963 and 1980 the rate of export subsidy was, on average, declined from around 40 to 50 per cent, to around 20 per cent (Kim, 1994, 621). In other words, over time, private enterprises felt more pressure from competition and market forces than from the Government.

The Government and the private sector closely cooperated in setting and implementing the targets, in exchanging information on the market prospects in removing the bottlenecks and in finding solutions. Both the private sector and market played important roles in industrialization of RK. For developing infant industries and promoting exports, the government helped development of private enterprises, *chaebols*. Nevertheless, certain industries, particularly heavy industries were initially developed directly through public enterprises. Public enterprises established industries for which large investment was required and/or the private sector was not prepared to take the related risks. Shipbuilding, chemicals and steel are examples of these industries. *Chaebols* are large conglomerates which apart from their function as production agents initially internalized some functions of the market because of the lack of supporting infrastructure and institutions such as credit, trade, marketing, distribution, etc. at early stages of development. For example, the private sector, dominated by *Chaebols* relied on internal sources of finance within the firms for about half of their need in 1963-5. As the credit and financial institution developed, however, this ratio declined to about 26 per cent in 1987-91 and the reliance on these institutions increased to about 74 per cent (Amsden and Euh, 1993, table 1). Over time, however, the relative role of large private enterprises, *Chaebols*, in production increased as is shown in table 2.

**Insert table 2 here**

## 2. *The role of other factors*

It would be a mistake to attribute Korea's success in acceleration of industrialization and development solely to non-neutrality of the incentive structure alone. Many other factors such as high saving rate, acceleration of investment in human and physical capital etc. were also very important in the success of the country in acceleration of development and export expansion of the country (Broadford, 1987). So was development of agriculture, human capital, and infrastructure and market institutions.

Development of agriculture facilitates industrialization and competitiveness in two ways. First, the traditional view is that increase in agricultural output and productivity improves the income level of farmers thus contributing to the increased size of the domestic market. As a result demand for industrial goods will increase allowing infant industries to exploit economies of scale and eventually make transition to outward-orientation by becoming internationally competitive (Grabowsky, 1994a and 1994.b). The existence of the resultant growing domestic market would further increase the credibility of government's attempt to discipline the firms by threatening them to withdraw protection and support because the firms see they have more at stake to lose if the government withdraw its support (*op.cit.*).

The second and more important way in which the growth of agriculture could contribute to development and competitiveness of the manufacturing sector is through the expansion of food production. Availability of food products as basic (wage) goods contributes to non-inflationary growth of a country easing the pressure on the balance of payments and helping to prevent wage increases in the urban areas. Agriculture, however, is a "supply determined" activity the growth of which is constrained by various factors such as natural, availability of fertile land and water;

institutional, e.g. credit facilities and agricultural support services; and infrastructural factors, road and transport facilities. Hence, its development can not be left to the operation of market forces alone. Moreover, the fact that international prices of main food items have been distorted by agricultural protection and subsidies in developed countries particularly in post-war II period, has made competitiveness of domestically produced items difficult.

One important contributory factor to the acceleration of industrial development, not only in RK but also in other East Asian countries, is their special attention to the development of food prior and during the period of industrial development. In Republic of Korea the emphasis was placed on the development of this sector, particularly food, in the tariff and other incentive structure and in general development policy (Kuznets 1997). In Japan important improvement in agricultural development took place during Tokugawa period, i.e. before the Meiji revolution. These efforts were intensified during the Meiji period and continued over time including the post-world war II. Throughout these periods production of rice, as the main staple food, was protected and heavily supported by the Government (Hayami and Ruttan, 1985). Similarly, both Taiwan and Korea emphasized development of the agricultural sector during their industrial development (Grabowski, 1994.a). In a more recent period the success of Indonesia in non-inflationary development is attributed to a large extent to the channelling of oil revenues to the development of rice production (Shafaeddin, 1989). Industrial development of Thailand and Malaysia is also indebted to the development of food production.

As far as human capital, experience and know-how is concerned, it should be mentioned that when RK started its industrialization in a vigorous manner i.e. after the Korean war of 1950-53; its industrial base was small then. The share of Manufacturing sector in GDP was only 6 per cent in 1953 (Hong, 1977, table 2.5). Nevertheless, the country had experienced considerable industrial activities before the war and inherited a wealth of experience and human capital

necessary for industrialization and institutional and infrastructural development. Even back in 1940 the share of manufactures in total value added was 15 per cent (*Ibid*, table 2.1). The industrial base of the country was ruined during the war, but the country had a wealth of experience and know-how, inherited from the Japanese colonial era and the Korean War (Bruton, 1998). Moreover, both before and after the war the Government placed emphasis on education, hence the general level of education of the country was relatively high in 1950s. The percentage of population enrolled in schools in 1954 was 17 as against 7 for India, 9 for Brazil, 12 for Mexico, 13 for Germany, 15 for England and Wales, 16 for Argentina, 22 for the USA and 23 for Japan (Amsden, 1989, Table 9.1). In 1946 over half of the work force had primary education. Moreover, secondary and college education was expanded rapidly in 1950s and 1960s. For example, in 1946, 7.4 per cent of the workforce had secondary education. This ratio reached 33.9 in 1963 and the percentage of the workforce with college education increased from nil to 7.6 over the same period (*Ibid*, Table 9.3).

Furthermore, serious effort was made by the Government to develop infrastructure and market institutions such as the banking and credit system, stock market, trading companies for marketing and collection of information, saving institutions, etc. Significant attempt was made to develop the capacity of bureaucracy to gather and analyse information, review targets, make decisions and implement plans.

Selective intervention in RK was not without costs. These costs included not only the cost of protection in general, but also the cost of making mistakes and corruptions (Amsden, 1989, 146). For example, it is argued that targeting of the automobile sector in mid 1970s was premature because of the small size of the domestic market and underdevelopment of skilled labour. Similarly, cost is believed to have occurred in the case of Taiwan (Auty, 1993). Moreover, it was argued, the long-term benefits may be limited because of rapid technological

change which limits the scope for exporting on a scale which Japan exported at a similar stage of development of its car industry (*Ibid*). While the argument about premature development of the industry may be valid, the argument about the long term-benefits of supporting the automobile industry was not necessarily confined to the car industry and could apply to a lot of industries, e.g. electronics and other industries where technological development is rapid. Further, the fact, that technological development is rapid in an industry makes make targeting more relevant (see below).

### 3. *Other countries*

While the case of RK was used for illustration, it should be mentioned that with the exception of Hong Kong almost all early and late industrializes pursued their industrialization and manufacture export expansion on selective basis. England started infant industry protection with woollen and cotton products and moved later on to some other selected items. USA, Germany and France pursued somewhat similar approaches (Shafaeddin, 1998 and 2005.a). Japan started its infant industry development through so-called “wild-geese- flying pattern” (Akamatsu, 1961 and Baba and Tatemoto, 1968). In this model a product was chosen for a successive pattern of imports, domestic production and exports. In other words, the policy was not confined to import substitution, it stressed the “continuity of import substitution while pushing into and perusing export expansion” (Yamazawa, 1990, p.xi). At the beginning cotton yarns and machinery were imported and domestic production of cotton textiles was protected. But exportation of cotton cloth began in early 1890s and import substitution of spinning machinery began in late 1890s. Exportation of spinning machinery started in early 1920s and Japan was the net exporter of these machinery in 1930s (Baba and Tatemoto, 1968). Hence, a cycle which began in 1878 was completed in about fifty years. While reference was made here to

one industry, the Government chose some other industries and followed the same cycle of industrial deepening through infant industry development and infant export expansion policy by providing necessary incentives for exports through subsidization and other incentives.

In the case of Japan, there is overwhelming agreement that selective intervention has contributed significantly to industrialization of the country. Nevertheless, some have argued that the Government has made mistakes in choosing the industries. Some industries chosen during 1955- 90 for support were among slow-growth industries such as mining and processed food etc. (Benson and Weinstein, 1994). In this respect, however, three points worth emphasizing. First, the choice of industries and the degree of support has changed over time from one period to another. So has the rate of growth of production and export during the course of the life cycle of the industry. For example, while textile was a dynamic sector during early stages of industrialization, later on its importance in the industrial structure declined in favour of other industries. Secondly, dynamic growth was not the only criteria in choosing an industry for support. Some industries were supported for their linkages and externalities, other were supported because they were strategic (in the sense of the need for possessing some domestic production capacity for security reasons). Examples are mining, coal and oil refining and food processing. Some other industries were chosen for support because they were technological leaders. Finally, whether or not one has made a mistake becomes clear only ex-post. To make decisions is an ex-anti process involving trial and error. Making mistakes is not an argument for the lack of intervention in all circumstances or for providing all industries the same incentives. Taking action always involves risks of making some mistakes. The one, who does not act, does not make many mistakes. Nonetheless, not to act itself is the worse mistake.

The experience of other developing countries also shows that non-neutrality of tariff rates and non-tariff measures are important for providing incentives to production, particularly for

exports. For example, it has been shown that during 1960s till mid-1970s, 90 per cent of clothing exports from developing countries originated in the few countries that allowed exporters access to inputs at international prices (Chenery and Keesing, 1979). These countries protected their domestic market at the time by imposing high rates of tariff on output but left imports of inputs free. In the case of other newly industrialized countries also selective intervention has, *inter alia*, contributed to their success (Dahlman, *et. al.*). Generally speaking, the empirical evidence does not necessarily disprove the efficacy of selective infant industry protection during 1960s and 1970s even though it requires certain preconditions (Westphal, 1981).

#### 4. *Preconditions for selective intervention*

The experience of East Asian countries indicates that success in selective intervention requires a few important preconditions: government will and capacity of the bureaucracy for decision making, designing and implementing policies. Moreover, it requires development of human capital, infrastructure and institutions as mentioned earlier.

Government's strong determination for rapid industrialization and export expansion, and indeed general development, is required to surmount bottlenecks and problems created on the way of development of the selected sectors. The capacity of the Government's machinery is important because decisions are to be made in correct manner and in right time and should be implemented and reviewed efficiently. As far as Government will is concerned, it is crucial no matter if a neutral or non-neutral incentive structure is perused as long as the objective is to accelerate the course of development beyond what is feasible by the market forces.

While the design of policies is important, the policy instruments used in East Asian countries have been similar to those applied in some other developing countries. The major difference has been in the role of trial and error and " the manner of implementation [of

decisions] and monitoring [of their results]"(Bruton, 1998, 924). Both in Japan and RK there was no rigid blueprint for industrial policy. When a policy worked it was pursued, when it did not it was changed. In other words, " Government learning, not government minimizing, is the objective."(Ranis, 1978 cited in *ibid*, 925). To implement its policies, while providing incentives, the Government of RK also managed to enforce the discipline in the private sector in the manner explained above. Many other developing countries provided incentives, but either did not require performance, or did not discipline the private sector where the targets were not met.

#### **IV. Some empirical evidence in recent decades**

The historical evidence available on the question of "selectivity" is confined mainly to a few countries located in East Asia. As the tariff structure of some other developing countries show dispersion, even if they did not try purposefully and systematically to apply non- neutrality in their trade policies, it would be interesting to examine how it has affected their export and output performance.

##### *1. Methodology and data*

To do so, we have chosen 1980-87 periods and studied a sample of 32 developing countries. There are two main reasons for our choice of the period. The first is availability of data. UNCTAD started compiling data on trade control measure, although not on annual basis, for the period beginning 1980. The second reason is that developing countries began trade liberalization under the pressure from the World Bank and IMF through Structural Adjustment and Stabilization Programmes from early 1980s after the emergence of economic downturn in the world economy and appearance of balance of payments problems in developing countries. As time passed, their average tariff rates declined and their structure of tariffs became more and more non-discriminatory under the pressure from the International Financial institutions and subsequently

due to the Uruguay Round trade agreement. In other words, there has been a trend toward lowering tariffs and uniform tariff rates while non-tariff measures have been reduced to nil or to a bear minimum in most cases. Thus, 1980-87 is a reasonable length of period during which still some discriminatory tariff structure prevails in the sample countries before further changes. Since then more and more countries have not only reduced their tariff and non-tariff measure considerably but they also have reduced dispersion in their tariff rates as already mentioned.

Third, the choice of the sample is also driven, to a large extent, by the stage of development of the manufacturing sector of the country. Two cut-off points were chosen to exclude countries which did not have some manufacturing export capacity around mid-1980s. The reason was that it was noticed that for a large number of countries data on manufacturing exports included re-exportation or shipment of some equipment for repairing abroad. First, the sample includes countries with minimum export of manufactured goods of 75 million dollars in 1986. Second, manufactured products should constitute at least 5 per cent of total exports of the country in the same year. However, five countries for which one or both of the above two criteria are not met were also included in the sample in order to have some low income countries with small industrial base in the sample. These are Ghana, Nigeria, Sierra Leone, Ecuador and Bolivia. The sample includes countries from different regions, with different levels of development, industrial base and also with different initial policy stance and varied attempt at trade liberalization and exchange rate adjustments.

The data on exports and output are from World Bank sources which are, in turn, based on the UNIDO's definition of manufactured goods which include both processed and semi-processed products. Such inclusion may inflate growth of exports in cases value added in processing is small and the weight of the processed and semi-processed goods in total exports has increased. The growth of exports for certain countries could be inflated also for another reason;

that is, the increase in the import intensity of exports partly caused by trade liberalization. This is particularly true in the case of countries where exports from export processing zones constitute a significant proportion of total exports of manufactured goods, e.g. Mauritius, Malaysia and to some extent Mexico. For example, in the case of Mauritius, the import intensity of EPZ's exports rose from 56 per cent in 1982 to 68 per cent in 1986 (Shafaeddin, 1991).

Data on exports in real terms are used as an indicator of export volume. For calculating exports in real terms the World Bank unit value indices for exports of manufactured goods of countries concerned, which is the only index readily available for these products, are applied. These indices seem to be estimates and hence should be regarded with certain degree of caution.

The data used for trade control measures are based on *UNCTAD Directory of Import Regimes*, for the period 1984-1987. The use of data for the last 3 years of the period concerned underestimates the degree of non-neutrality for the whole period as there has been a tendency towards uniformity of tariff rates around mid-1980s. Hence, it will intensify the results as will be shown shortly. The index of neutrality of tariffs (I) is calculated as follows:

$$I = \frac{R}{X}$$

where R is the range and X is the average tariff rate for manufactured goods. R is the difference between the maximum tariff rates and minimum tariff rates for (16) sub-groups of product categories used by UNCTAD (see appendix A.1). The use of range for sub-groups was preferred to that for individual products for two reasons. First, sub-groups represent various industries. As one is more concerned with industries than specific products they are more suitable. Second, the range for individual products may be extremely high because of extremely high tariffs on a few luxury products or on some other products for revenue reasons.

The higher the index (I), the higher the selectivity of tariffs; I=0 indicates absolute

neutrality. For each product category the maximum (minimum) tariff rates are the “ average of the highest (lowest) tariff rate within each CCCN [Customs Cooperation Council Nomenclature] heading belonging to the corresponding product category”. Mean tariffs are calculated similarly. The averaging of maximum, or, minimum tariffs for various products in each category prevents inclusion of extreme values of the range. The extent of non-tariff measures also varies from one product to another. Nevertheless, such variation is not easily measurable. Hence, tariff range is used as an indication of neutrality/selectivity of tariff rates. Total charges include tariffs, commissions and all other fees and charges imposed on imports at the border.

The sample countries are grouped into three main categories according to their performance in export of manufactured goods, i.e. high export growth, low, or negative, export growth and moderate export growth. As the last group include only three countries, the focus of analysis is on the first two groups. Within each group, countries are classified into three sub-groups according to their rate of growth in MVA<sup>7</sup>, i.e. slow, moderate and high.

## 2. *Results*

The data on indicators of trade control measures are shown in tables 3 and A.2. Table 3 indicates first of all that on average countries in group A (those with high export growth) show lower than the average level of nominal protection for the sample as a whole in terms of mean charges. The mean charges for group A is 35.5 as against 41.7 for the sample as a whole. Moreover, 9, out of 11 countries in the group, show significantly lower than average, or around average (for Sri Lanka and Thailand), total charges. Only Turkey and particularly Pakistan show substantially higher than average charges. Similarly, with the exception of Turkey, Indonesia and Pakistan all countries in Group A show significantly lower mean

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<sup>7</sup> For the definition of low, slow, moderate and high export and MVA growth rates see footnote "h" at the bottom of table A.2.

NTMs than the sample as a whole. Although the mean non-tariff measures (NTMs) for groups B and C are lower than the average value of NTMs for Group A, the average for Group A is inflated by three countries: Indonesia, Turkey and Pakistan. When these countries are excluded, the average for Group A and Sub-Group "a" declines to 21.6 and 19.2, respectively.

**Insert table 3 here**

By contrast, countries in group B and C, i.e. those with moderate, low or negative, export growth show, on average, higher indicators of protection than the sample as a whole. The mean value of total charges for these groups are higher than the average for the sample and around 45 per cent of countries in these two groups show higher than, or around, average nominal charges. Moreover, around half of these countries show higher, or around, the average indicator of NTMs for the sample as a whole.

Hence, in the first sight one may attribute better export performance of group A to its lower level of protection and its trade control measures and its higher growth rates of MVA to export growth. While this statement is to a large extent correct, two points should be emphasized. The first is that the countries covered by group A, B and C is not at the same level of development and their needs for trade policy are different. Most countries in group A, particularly in sub-group a, are those with relatively higher level of development and considerable industrial base and export capabilities (table A.3). When countries reach a certain level of development and industrialization, they need to liberalize, on selective basis, in order to provide incentive to and pressure on domestic producers of industries which are near maturity to make them internationally competitive and expand exports. In fact, when this was delayed, for example, in the case of Brazil and India in the period concerned, export expansion was slow. By contrast, most countries in group B and C are those with small industrial base and little experience in

industrialization and exports of manufactured goods (table A.3). For these countries, although selective liberalization is needed, uniform liberalization may lead to deindustrialization in terms of output losses and the lack of investment in the industrial sector as most of their industries can not survive competition from imports.

The second point is that countries at early stages of development and industrialization need to build-up their supply capabilities before entering the international market. In fact, if one disregards group C because of its small size in the sample, the sub-groups with higher control measures have shown higher rates of growth of MVA. This is not unexpected as protection shelters the domestic market. This should not however imply that protection should be prolonged. Beyond a limit, even if domestic production increases it will be at the cost of inefficiency and the lack of ability to exploit external markets. As the example of Republic of Korea in Group A indicates, the country achieved the highest rate of growth of exports and output despite the fact that its mean charges and mean non-tariff measures (NTMs) is lower than the majority of the countries in Group A as mentioned earlier.

Another important finding is that the non-neutrality of tariffs seems to be an important factor in export, and particularly, output performance. According to table 3, the index of selectivity of tariffs for group A, countries with high rate of export growth, is much higher than the average for the sample and is considerably higher than that of group B, i.e. countries with low or negative rate of export growth. The number of countries included in group C is small and the average is inflated by the figure for Senegal. Within Groups A and B, with the exception of sub-group c-India-higher growth rate of value added is associated with higher index of selectivity. While output growth has been significant for India, its lack of success in its exportation until very recently could be attributed to prolonged protection and the lack of selectivity in its trade policy until early 1990s. High rate of tariffs were applied in this

country to almost all industries and products, including inputs and intermediate ones. For the 1984-87 periods, the average tariff rate for primary products and manufactured goods were 90.8 *per cent* and 101.9 *per cent*, respectively, and total charges for the same product group were 111 *per cent* and 119.7, respectively. Within the manufacturing sector only machinery and equipments were subject to slightly lower rates of around 90 *per cent* (UNCTAD, 1994).

The importance of selectivity of tariff rates in export and output growth is more evident in table 4. Accordingly, 54 *per cent* of countries in Group A show greater than the average index of selectivity. By contrast about 60 *per cent* of countries in group B and 67 *per cent* of countries in group C show lower than average indicator of selectivity. The sharp contrast between sub-group “a”-countries with higher rates of growth of exports and MVA- and sub-group “e”- countries with low, or negative, rates of growth of exports and outputs- indicates the greater influence of selectivity in growth of MVA than growth of exports. Therefore, at early stages of industrialization, when expansion of production is the main concern, selectivity takes more importance.

#### **Insert table 4 here**

In short, the empirical evidence indicates that specialization through selective support of industries tends to contribute to growth of exports and, particularly MVA.

These results are reached despite the fact that the selectivity index included only tariffs. In practice, non-tariff measures also may contribute to non-neutrality of trade policy regimes. Moreover, non-trade measures such as fiscal incentives, taxes, amortization allowance, preferential interest rates, subsidies on output or exports and inputs; drawbacks; import license and foreign exchange allocation; etc. might have been employed by some countries in their trade and industrial policies affecting non-neutrality of incentive structures. Moreover, theoretically speaking, it is possible that after countries undertook trade policy reform and moved toward

uniform tariff structure, their performance has improved. This is not, however, in fact the case as I have shown elsewhere (Shafaeddin, 2006.c).

## **V. New forms of competition and the growing need for selectivity**

In this section we will argue that while the need for nurturing of industrial sector on selective basis in developing countries has increase during the recent decades, the means to do it has been constrained. The policy space of developing countries has shrunk due to the conditionalities imposed on developing countries by international financial institutions, through Structural Adjustment and Stabilization Programmes, bilateral trade agreements and WTO rules.

### *1. New methods of production and competition*

The entry of new firms of developing countries into the world market has become more complicated in recent years. On the one hand trade liberalization through Uruguay Round has provided new opportunities for exports of developing countries through some improvement in market access in developed countries. On the other hand, three main developments have taken place making entry of new firms of developing countries into international market more difficult. These are: rapid technological change, increase in market concentration and dominance of TNCs in production and international trade, increase in the scale of production in most industries, globalization, production sharing and development of other new methods of production and competition. In other words, the barriers to entry of new firms have been mounting continuously (Jacobsson, 1993) thus increasing the risks of their success. The increase in technology intensity of production and distribution and the rapid pace of technological change itself contributes to the need for larger scale of production (Arthur, 1996). Further it increases the knowledge intensity of production, thus prolonging the process of learning and experience, and the need for R&D.

The increasing return related to the scale of production creates instability and movements away from equilibrium (Young, 1928). “ if a product or a company or technology -one of many competing in a market-gets ahead by chance or clever strategy, increasing returns can magnify this advantage, and the product or company or technology can go on to lock in the market.” (Arthur, 1996, 100). As a result, other companies need to adapt to be able to compete. But adaptation is not changes in reaction to the past events. It “means watching for the next wave that is coming, figuring out what shape it will take and positioning the company to take advantage of it.” In this sense “adaptation is what drives increasing- returns business, not optimization.” (*Ibid*, 105). In the world of increasing return the current behaviour of any firm affects not only the current, but also future, situation of other firms in the same industry (Young, 1928).

In such a Schumpeterian world “creative destruction” is a source of competitive process, competitive advantage and cumulative change. Competition does not take place on cost of production alone and products are not homogeneous. Competitive advantage of firms depends on their strategic behaviour in gaining and maintaining, or improving, their strategic position over time Porter (1990) and Best, 1990).

In fact, in recent years to reap economies of scale at the firm level, there has been a significant and unprecedented acceleration of mergers and acquisition during recent decades, particularly since early this century, as is shown in table 5. Furthermore, TNCs have been more and more concentrating on specialization in core products in order to benefit from scale economies both at the plant and firm levels. This is in contrast with the past when diversification was often emphasized in order to benefit from economies of scope. To provide some ideas about the scale of firms at the global level, in 2006, the total value of assets of the individual companies, among the biggest 100 TNCs, ranged from nearly \$700 billions to 50 billion as is shown in table 6. The same table indicates that the value of sale of these companies is also

significant and foreign affiliates account the bulk of assets and sales of the TNCs.

**Insert tables 5 and 6 here**

There is also a growing tendency towards globalization and development of new forms of competition in the world economy. Globalization, here, refers to the development of global networking in the form of production sharing, international consortia, cross licensing agreements and joint-ventures (Best, 1990, 260). A global firm produces and sells in many nations in order to benefit from economies of scale. Moreover, it collaborate with other firms to share activities such as production facilities, marketing, distribution, input procurement, product development and design at the global level without necessarily investing abroad directly ((*Ibid*, 256-262). Despite their strategic alliance, however, the collaborating firms also compete in the final market.

Flexible specialization is another form of new organization of firms for competition. In globalization firms compete mainly on costs through production sharing and networking and economies of scale and mass production. In flexible specialization the emphasize is placed on innovation and rapid adaptation to changes in the market. Here, firms compete mainly on differentiated products, speedy production and delivery time and cost reduction through capacity utilization by employing multi-use-equipments and skilled manpower. In flexible specialization firms may also collaborate with each other through clustering, regional conglomeration, federated enterprises and technological alliance. While there are some differences between the two methods, there are also some similarities. Integration through globalization requires, *inter alia*, large amount of capital, sophisticated technology and strategic planning; flexible specialization requires sophisticated technology, highly skilled labour and strategic thinking (*Ibid*, chap 1 and 8). In both cases knowledge and experience are important due to the need for sophisticated technology, strategic action/thinking and/or high skills.

Hence, the process of learning can be prolonged and become more costly due to these new

forms of competition in addition to other reasons mentioned above. Moreover, in both cases attempts for networking and collaboration usually takes place among established firms. As a result of combination of rapid technological change, increased scale of production, globalization, and the resultant rapid change in the conditions of competition, the late comer firms and countries are at disadvantage position for penetrating into the international market in terms of cost, learning period, the period of infancy, and the risk of success in the expansion of supply capabilities.

According to Lazonic, (1991) a new comer firm, here a firm, here a firm of a developing country, faces two types of risks: those related to productive uncertainty, and those related to competitive uncertainty. The first concerns the uncertainty in development of a product and the utilization if the developed production capacity. The competitive uncertainty is related to strategy and activities of its rivals-the established firms and TNCs. The large TNCs follow innovative strategy based on large fixed investment on R&D for development of new products and/or process. Their large scale permits them to ran low average cost and at the same time benefit from a monopoly rent. The small new comer firms which do not possess the new technology and do not have resources and skill to undertake R&D have to follow an “adaptive” strategy relying basically on cheap factors of production rather than on an innovative strategy. As they are factor driven, they ran less risks related to the productive uncertainty. But they ran greater competitive risk than established firms of developed countries. So they do run greater risks of upgrading as well as their ability to design and develop new products and process is limited.

The greater risks involved implies that they should be provided by higher rewards, than what would be provided by the market, (expected income) through support by the state in order to reduce cost and the profit margin. As far as cost is concerned the firms of developing countries also suffer from higher cost both for production and upgrading due to their obligations under

TRIPs and other international agreements on intellectual property right (e.g. WIPO) or bilateral Free Trade Agreements (Smith, 2008). TRIPs restrict application and transfer of technology to developing countries as renders patents protected for 20 years. The use of the technology through licensing, even when awarded, involves high costs in the forms of royalty payments. Development of endogenous technology for production or upgrading also involves high cost and long time even if the skill were available in a developing country. By contrast, the holders of patent earn royalties and enjoy its monopolist application in their production process for 20 years without marginal cost. A theoretical alternative is to develop endogenous technology. But the development of such technology in a developing country should also take place on selective basis because of the limited financial resources and technical adaptabilities.

## *2.The role of FDI*

FDI may provide certain skills and marketing channels for exports of firms of developing countries where the production plants are located. Further, it is argued that when an economy opens up to trade and FDI, an initial period of imitation will lead to a large catch-up opportunity followed by a shift towards innovation “as the knowledge gap is reduced and the economy’s technical maturity rises” (Elkan, 1996). However, a test of the impact of FDI on the industrialization of a developing country is its impact on development of local capabilities through spill-over channels of demonstration effects, learning effects and linkages effects (Paus, 2005). Such capabilities can be influenced, *inter alia*, by experience, skill development and the accumulation of knowledge by the labour force of the host country. Generally speaking the findings of the literature on the spillover effects of the FDI on the host country is mixed (for a comprehensive review of this literature see Görg and Greenaway, 2004). In countries where the government has managed FDI and supported R&D, technological development, training etc. in

order to develop the capabilities of the national firms, the country has succeed; on the contrary where the Government followed hands-off policies domestic capabilities have not developed much. The contrasting experience of Irland and Costa Rica (Pause, 2005) and China and Mexico (Gallaher and Shafaeddin, 2009, Gallaher and Zarosky, 2007 and Shafaeddin and Pizarro, 2009) provide good indications in this respect. Both China and Ireland have succeeded in considerable development of technological capabilities of their own local firms because of the active role of their government. By contrast, the success of Costa Rica and Mexico has been very limited because of the passive attitudes of the government. In other words the key to success, even with the involvement of FDI, is indeed the development of capabilities of the national firms which requires nurturing (Lall, 2005).

The afore-mentioned changes in the international market structure, technology and methods of production and competition have important implications for the new comer firms, particularly small ones, of developing countries at early stage of industrialization. At each point in time it is becoming increasingly more difficult for developing countries to mobilize enough resources, including decision making capacity of the government and managerial capabilities of the firms, to become mature in more than few industries. In other words, the scarcity argument in favour of selectivity discussed earlier becomes even stronger when one takes into account changes in the international market and development in new forms of organization and competition in recent years. Developing countries, with some experience in industrialization are endowed with more resources and capabilities than countries at early stages of development. Nevertheless, even in those countries deepening of industrialization and enhancing export capabilities require development of industries which are more technology intensive and are subject to more rapid technological change. Hence, for deepening their industrial structure they are also subject to similar consideration i.e. the need for selectivity.

While the need for selectivity in promotion of industries in developing countries has increased, the necessary policy instruments for infant industry support in general, and for targeting in particular, have become less and less available because of their international obligations. As far as trade policy is concerned liberalization of trade under Uruguay Round reduces the possibility of infant industry protection and targeting. The Articles of the Uruguay Round agreement prohibits various kinds of subsidies, including income and price support, to export and protection which are “specific to an enterprise or industry”(Shafaeddin,2005.a, chapter 8). Many developing countries have already decreased the level and dispersion of their tariffs through WTO, bilateral trade agreements and/or pressure from international financial institutions. They have been under further pressure by developed countries, during the negotiation on NAMA, to reduce tariffs and bind individual tariff lines at low levels.

The obligations to bind individual tariff lines at low levels, in particular, reduces the ability and flexibility of countries in using trade policy measures as a tool of selective promotion of their industries over time. According to WTO rules developing countries, particularly Least Developed Countries still have some room to manoeuvre, in applying selective support for infant industries (Rodrik, 2004). Nevertheless, pressure on them through bilateral trade agreements, particularly EPA, conditionalities of International Financial Institutions for the reduction of tariff levels and dispersion continues. Added to these pressures is the pressure through negotiation on NAMA. As I have discussed elsewhere acceptance of the proposed changes by developed countries on the level and structure of tariffs of developing countries will lead to de-industrialization of those developing countries which are at early stages of industrialization and development and creates constraints for upgrading of the industrial structure of those with some industrial and export capacities (Shafaeddin 2009).

## **VI. Conclusions and implications**

### **for negotiations on NAMA and other trade agreements**

This study sheds some light on the theoretical arguments on the use of selectivity and uniformity of trade policy in trade and industrialization for targeting industries and firms and provides a brief historical review of practices of East Asian countries with particular reference to Republic of Korea. Furthermore, it provides empirical evidence on the impact of non-neutral tariff rates for a sample of 32 developing countries for the period 1980-87 - before important changes towards neutrality of tariff structure of developing countries took place. The principal arguments in favour of selectivity are four: sharper supply response to discriminatory prices i.e. response to incentives is stronger when price incentives are provided to industries selectively; scarcity of resources, including the decision-making capacity of the government; differential externalities involved in various industries; strategic trading is another argument in favour of selectivity.

The historical evidence in the case of Republic of Korea and other East Asian countries indicates that targeting has paid despite the fact that it involved some costs and some mistakes in decision-making, but some other factors also played an important role. Such factors include attention to capital accumulation; development of agriculture, infrastructure, institutions and human resource. Moreover, in addition to functional and/or selective government intervention, at each point in time market and enterprises also played their own role and interacted with each other. Nonetheless, their relative role has changed over time as development proceeded. As did the relative importance of import substitution and export promotion. In fact, the Government applied a complex set of dynamic policies in which the relative importance of each policy in the set changed over time. This set consisted of a mixture of import substitution and export expansion; the use of incentives on selective basis for developing new industries and relying on market forces for the expansion of existing industries/products; the use of incentives and

sanctions in targeted industries and the use of infant industry protection not for domestic production but also for exports. At early stages of development, when many enterprises had to compensate for the lack of market institutions and infrastructure, the emphasize was placed on import substitution, functional intervention, development of public enterprises. Later on selective intervention for export promotion was given more emphasize. Eventually there was a tendency towards neutrality and reliance on market forces.

The selectivity in trade and industrial policies also requires certain preconditions such as political stability, development of the capacity of the bureaucracy in decision making, designing, implementing and revising policies; provision of incentives to the private sector in exchange for performance requirement and dynamism in trade and development policies.

The results of the empirical study of a sample for the 1980-87 period indicates first of all that on average countries with high rates of growth of exports ( Group A) showed lower than average level of nominal protection together with lower growth rate of MVA than others . By contrast, those with moderate, low, or negative export growth rates (Groups B and C) showed, on average, higher indicators of protection than the sample as a whole. But these countries also showed higher rate of growth of MVA than Group A. In other words, output is more responsive to protection than exports. Taking into account the characteristics of the countries concern these results are not unexpected. Countries in group A are those with established industrial base and export capabilities. But the majority of those in other groups are those with little industrial production capacity. At early stages of industrialization, when development of production capacity is the main concern, nurturing of infant industries and firms would be necessary. Nevertheless, as industries tend to maturity, selective liberalization becomes essential in order to provide incentives for, and put competitive pressure on, industries which are near maturity to become competitive in internal and international markets.

Furthermore, countries which had already developed their industrial base performed better, in terms of both exports and output, when they liberalized their trade regime selectively, countries which delayed such a liberalization-Brazil and India-suffered from poor export performance. It was also shown that higher indicators of non-neutrality of tariffs have been accompanied with better exports and particularly output performance in general.

Finally, the need for targeting and selectivity in industrial and trade policies has increased in recent years because of changes in the market structure, development of new forms of organization of firms, new forms of competition and rapid technological change. Nevertheless, the use of selective government intervention- indeed intervention in general- has become constrained by multilateral trade rules and conditionalities attached to international lending. In fact, our study for a longer period covering 1980-2003 indicates uniform and universal trade liberalization of recent decades has resulted in de-industrialization of the majorities of developing countries with the exception of those countries/industries which were near the stage of maturity (Shafaeddin, 2006.c)

#### *Implications for trade negotiations and WTO rules*

The results of our study have certain implications for the desired outcome of the NAMA negotiation, revision of the WTO rules, including possible agreement on NAMA, regional and bilateral trade agreements of developing countries with developed countries. Ideally the rules governing international trading system and trade agreements should follow certain principals in order to allow developing countries a dynamic, mixed, flexible and selective trade and industrial policies in general, and the tariff structure in particular (see Shafaeddin, 2005.b). First, and most important of all is that the tariff structure should allow dynamic trade policy which can be changed over time. As is exemplified in table 7 in each phase of industrialization some industries are protected and others are subject to free trade. No industry would be subject to permanent

protection. While benefiting from infant industry support at early stages of development, they will be liberalized gradually. The average tariff rates rises first and gradually declines reaching zero eventually.

Secondly, such a flexible tariff structure would dictate the need for dispersion of the individual tariff rate at each point in time and over time during the industrialization process. Thus the individual tariff line should not be bound particularly at low levels. While binding of average tariffs may not necessarily pose a problem, it should not sacrifice the flexibility of the tariff structure. The tariff structure should be allowed to change as the country develops.

Thirdly, the tariff structure of each country should be based on the stage of development and industrial capacity of the country. As is shown in table 7, countries which are at early stages of industrialization need to protect their light traditional industries but let free imports of inputs and capital goods. Those with higher industrial capacities need to protect their selected high technology and capital goods and liberalize their traditional industries. For this purpose Special and Differential Treatment of developing countries, based on their industrial and export capabilities, should be an integral part of trade agreements as a rule, not as an exception.

The principals outlined above are necessary conditions for a tariff structure which would allow expansion of supply capabilities, including exports, and upgrading of the industrial structure of developing countries. The sufficient condition is that before entering any trade negotiation, a developing country should be clear about its own trade and industrial strategy. Of course, the principles outline above is an ideal combination which developed countries resist to accept easily. Nevertheless, the first step is the realization for the need for such changes. Otherwise, developing countries at early stages of industrialization will be trapped in production of resource-based, labour intensive products, and ant best assembly operations, based on their static comparative advantage. Those with some industrial supply capacity and export capabilities

will face further de-industrialization or they will suffer from lack of capabilities for upgrading their industrial structure. There is also need for other changes in the WTO rules (Shafaeddin, 2009.b); we have concentrated in this study on the tariff structure alone.

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**Table 1**

**Import coefficient of various industrial sectors for some Latin American countries (1994)**

Country	Total manufacturing	Maximum		Minimum	
		Coefficient	Sector	Coefficient	Sector
Argentina	16.6	48.9	Metal work	2.8	Food, beverage, tobacco, traditional industries
Brazil	11.5	22.6	Metal work	5.2	Food, beverage, tobacco
Chile	60.4	233.2	Metal work	7.4	Food, beverage, tobacco
Colombia	35.9	113.4	Metal work	2.2	Food, beverage, tobacco
Peru	19.9	216.1	Metal work	6.1	Food, beverage, tobacco
Mexico	19.1 <sup>c</sup>	71.8	Metal work	6.4	Food, beverage, tobacco

<sup>a</sup> 1992

<sup>b</sup> includes capital goods

<sup>c</sup> 1990

Source: Based on Benavente *et al* (1996), Table 8

**Table 2****The share of *chaebol's* value added in GNP**

<b>Chaebols</b>	<b>1973</b>	<b>1978</b>	<b>1983</b>	<b>1989</b>	<b>1993</b>
Top 5	3.5	8.1	10.0	8.4	6.2
Top 20	7.1	14.0	16.0	13.0	10.2

Source: Hattori (1997), p. 466.

**Table 3**  
**Indicators of trade control measures on imports of  
 manufactured goods of selected developing country groups**

Groups	Trade Control Measures 1984-87				Growth rate (1980-87)		
	No. of countries	Total charges		NTMs <sup>c</sup> (Mean)	Exports	Man. V.A. <sup>d</sup>	GDP
		Mean	I <sup>a</sup>				
<b>A. High export growth:</b>	11	35.5	171.1	40.3	21	6.4	4.6
a. High output growth	(8)	38.0	194.0	46.2	21.5	8.2	5.7
b. Moderate or low output growth	(3)	29.2	110.1	25.7	19.4	1.6	1.1
<b>B. Low or negative export growth:</b>	18	44.1	126.8	38.1	-0.4	1.1	1.6
c. High output growth	(1)	151.9	64.5	76.5	2.6	8.3	4.9
d. Moderate output growth	(4)	53.5	137.0	50.6	3.5	4.1	4.1
e. Low or negative output growth	13	33.6	129.2	38.2 (62.8)	-1.7 (2.0 <sup>b</sup> )	0.28	0.5
<b>C. Moderate export growth:</b>	3	50.3	172	31.2	6.3	2.3	2.4
f. High output growth	(1)	32.3	323.2	6.1	7.2	5.2	3.7
g. Low output growth	(2)	59.6	96.5	43.8	5.9	2.3	1.7
A 11 countries	32	41.7	146.8	38.2 (40.2) <sup>b</sup>	1	3.49	2.9

<sup>a</sup> Range divided by mean; selectivity index of tariffs

<sup>b</sup> Figures in brackets exclude Singapore

<sup>c</sup> Non-tariff measures    <sup>d</sup> value added

Source: Table A.2

**Table 4**

**Distribution of selectivity index for various groups  
of selected developing countries (1987)**

Country groups	No. of countries	Percentage / Share of countries with I:		Total %
		greater than the average <sup>a</sup>	less than the average	
A. High export growth	11	54	45	100
a. high output growth	(8)	75	25	100
b. moderate or lower output growth	(3)	0	100	100
B. Low or negative export growth	17	41.2	58.8	100
e. high output growth	(1)	0	100	100
f. moderate output growth <sup>b</sup>	(3)	66.0	33.0	100
g. low or negative output growth	(13)	30.7	69.2	100
C. Moderate export growth	3	33.3	66.6	100
c. high output growth	(1)	100	0	100
d. low output growth	(2)	-	110	100
All countries	31	42.4	57.8	100

Source: Based on table A.2

<sup>a</sup> Average for all countries

<sup>b</sup> Excludes Singapore

**Table 5**

**Annual average cross-border mergers and acquisition with value of more than \$1billion  
(1987-2007)**

<u>Period</u>	<u>No. of deals</u>	<u>Value (\$billion)??average</u>
1987-96	29.3	60.7
1997-99	107	377.8
2000-2004	127.6	438.2
2005	182	564.4
2006	215	711.2
2007	300	1161

Source: Based on UNCTAD (2008): table 1.2

**Table 6:**  
**Assets and sales of non-financial TNCs in 2006**

Rank <sup>1</sup>	Firm	Industry	Assets \$ b.		Sale (\$b.)	
			Foreign	Total	Foreign	Total
1	General Electric	Electronic	442	697	74	163
10	Wal-Mart	Retail	110	151	77	344
25	Procter & Gamble	diversified	64	138	44	76
50	Uniliver	Diversifies	34	48	45	49
75	Metro	Retail	23	42	41	75
100	Statoil Asa	Petroleum	18	50	16	66

Source: UNCTAD ( 2008), Table A.1.15.

<sup>1</sup>By foreign assets in 2006

**Table 7**  
**Evolution of average tariffs for various groups of industries at different phases of industrialization**

Phase	RB&LI	LT	MT	HT	Manufactures (Average)
I	20	0	0	0	5
II	10	40	0	0	12.5
III	0	30	50	0	20
IV	0	20	40	40	25
V	0	10	30	40	20
VI	0	0	15	25	10
VII	0	0	5	15	5
VIII	0	0	0	0	0

Source: Akyüz (2005: 27).

Notations:

RB: Resource-based industries

LI: Labour-intensive industries

LT: Low-technology-intensive industries

MT: Medium-technology-intensive industries

HT: High-technology-intensive industries

### Appendix A.1

#### Definition of SITC-based product categories used in Directory of Import Regimes of UNCTAD

Product categories	SITC Rev. 2
<i>100 Primary products</i>	<i>(0 to 4) + 68</i>
110 <i>Food</i>	<i>0 + 1 + 22 + 4</i>
111 Cereals	041 to 045
112 Vegetable oils & oil seeds	22 + 42
120 <i>Agricultural raw materials</i>	<i>2 - (22 + 27 + 28)</i>
121 Textile fibres	26
130 <i>Crude fertilizers &amp; mineral ores</i>	<i>27 + 28</i>

140 <i>Mineral fuels</i>	3
150 <i>Non-ferrous metals</i>	68
<b>200 <i>Manufactured products</i></b>	<b>(5 to 8) - 68</b>
210 <i>Chemicals</i>	5
211 Medicaments	54
212 Toiletry & perfumery	55
213 Manufactured fertilizers	56
220 <i>Iron &amp; steel</i>	67
230 <i>Machinery &amp; equipment</i>	7
231 Non-electric machinery	71 to 75
232 Electric machinery	76 + 77
233 Transport equipment	78 + 79
240 <i>Other manufactured products</i>	(6 + 8) - (67 + 68)
241 Leather & travel goods	61 + 83
242 Rubber products	62
243 Wood products	63
244 Paper products	64
245 Textile & clothing	65 + 84
246 Non-metallic mineral products	66
247 Furniture	82
248 Footwear	85
249 Professional equipment	87 + 88
<b>300 <i>All product categories</i></b>	<b>0 + 9</b>

Source: UNCTAD, *Directory of Import Regimes*, New York, 1994.

**Appendix Table A.2**  
**Indicators of trade control measures and growth of**  
**exports of manufactured goods and outputs**

Country and (groups)*	Total changes (unweighted)		Incidence of NTM (unweighted)		Growth rates (1980-87) <sup>b</sup>		
	Mean	I <sup>a</sup>	Mean	I	X volume <sup>d</sup>	Man. V.A.	GDP
<b>A. High export growth</b>							
a) high output growth							
. Indonesia (II)	19.6	276	93.1	36.4	43.7	7.5	3.8
. Turkey (II)	44.9	280	98.1	45.9	42.9	8.4	5.6
. Malaysia (III)	16.2	245.6	3.2	13.4	16.9	6.7	4.7
. Republic of Korea (III)	25.9	55.6	5.5	203.6	14.8	10.9	8.7
. Sri Lanka (II)	40.2	139	14.1	248.2	14.0	6.2	3.9
. Mauritius (II) <sup>c</sup>	31.6 <sup>b</sup>	268	36.9	135.0	13.7	11.2	6.2
. Thailand (II)	42.5	127.3	7.8	1067.9	13.6	6.1	5.7
. Pakistan (II)	92.4	161.1	82.0	34.1	12.8	9.1	6.8
Average	38.0	194	46.2	223.1	21.5	8.2	5.7
b. Moderate or low output growth							
. Mexico (II)	17.1	140.4	11.5	371.3	23.8	0.5	1.1
. Venezuela (II)	32.4	74.5	43.7	82.9	19.1	2.7	0.6
. Morocco (II)	38.2	115.4	21.8	75.5	15.2	1.6	2.8
Average	29.1	110.1	25.7	176.7	19.4	1.6	1.1
<b>Average A</b>	<b>35.5</b>	<b>171.7</b>	<b>40.3</b>	<b>124.6</b>	<b>21.0</b>	<b>6.4</b>	4.6
<b>B. Lower or negative export growth</b>							
c. High output growth							
. India (II)	151.9	64.5	76.5	115.3	2.6	8.3	4.9
d. Moderate output growth							
. Bangladesh (I)	91.3 <sup>c</sup>	159	46.8	148.9	4.9	3.1	4.0
. Singapore (III)	0.4	n.a.	14.1	n.a.	4.2	4.9	6.0
. Kenya (I)	41.4	178.3	67.5	98.3	1.4	4.4	3.5
. Colombia (II)	81.0	73.7	74.2	93	-3.1	4.1	3.2
. Average	53.5		50.6		3.5		4.1
(excluding Singapore)	(71)	(137)	(62.8)	(113.4)	(2.0)	(13.4)	(3.6)

\*. The grouping of countries according to per capita income and industrial capacity is shown in the brackets is based on Table A.3

**Appendix Table A.2 (continued)**  
**Indicators of trade control measures and growth of exports of manufactured goods and outputs**

Country and (groups)	Total changes		Incidence of NTM		Growth rates (1980-87) <sup>b</sup>		
	Mean	I	Mean	I	X volume	Man. V.A.	GDP
<b>e. Low or negative output growth</b>							
. Ghana (I)	33.3	64.6	42.0	100.0	2.9	1.0	1.2
. Yugoslavia (II)	13.8	105.8	22.9	256.8	2.6	2.7 <sup>c</sup>	0.9
. Costa Rica (II)	60.9	213.3	1.0	20.9	2.2	0.0	1.4
. Chile (II)	21.8	56.4	12.3	57.3	1.4	2.0	1.3
. Nigeria (I)	23.0	203.0	15.5	552.9	1.1	1.0	-2.0
. Bolivia (II)	17.8	3.5	20.9	79.2	-0.3	-5.5	-1.6
. Côte d'Ivoire (II)	27.4	134.7	4.4	n.a.	-1.5	-2.0 <sup>e</sup>	2.4
. Uruguay (II)	29.2	79.8	15.5	363.0	-2.2	-0.6	-0.5
. Peru (II)	71.5	97.3	45.8	97.9	-2.5	3.0	2.3
. Argentina (II)	41.6	112.7	40.9	98.3	-3.8	-0.7	-0.6
. Jamaica (II)	19.4	209.8	4.8	1654.2	-4.1	2.2	1.0
. Ecuador (II)	50.1	194.2	57.2	163.7	-6.9	0.8	1.1
. Sierra Leone (I)	28.0	205.3	100		-6.7	2.1	0.3
Average	33.6	129.2	29.5	286.9	-1.7	0.28	0.5
<b>Average for B</b>	<b>44.1</b>	<b>126.8</b>	<b>38.1</b>	<b>225.3</b> ( 180)	<b>-0.4</b>	<b>1.1</b>	<b>1.6</b>
<b>C. Moderate export growth</b>							
<b>f. high output growth</b>							
Senegal (II)	32.3	323.2	6.1	97.1	7.2	5.2	3.7
<b>g. Low output growth</b>							
. Philippines (II)	33.5	103.3	46.3	188.3	5.3	0.1	0.5
. Brazil (II)	85.7	89.6	411.2	230.1	6.4	1.5	2.9
Average <sup>g</sup>	59.6	96.5	43.8	209.2	5.9	2.3	1.7
<b>Average C</b>	<b>50.5</b>	<b>172.0</b>	<b>31.2</b>	<b>171.8</b>	<b>6.3</b>	<b>2.3</b>	<b>2.4</b>
<b>AVERAGE TOTAL</b>	<b>41.7</b>	<b>146.8</b>	<b>38.2</b>	<b>278.9</b> (128.1)		<b>3.49</b>	<b>2.9</b>

<sup>a</sup> Indicator of selectivity: tariff range divided by tariff mean X 100

<sup>b</sup> 80-83; tariffs only

<sup>c</sup> Tariffs only

<sup>d</sup> Growth in export value in constant 1980 price

<sup>e</sup> 1980-86

<sup>f</sup> the industrial sector

<sup>g</sup> excluding Jamaica

<sup>h</sup> The notations for percentage growth rate are as follows:

Exports: high: more than 10; moderate: between 10 and 5; low: less than 5;

MVA: high: more than 5; moderate: between 5 and 3; low: less than 3;

Sources: UNCTAD, *Directory of Import Regimes*, New York 1994 and *Handbook of Trade Control Measures* of developing countries, Supplement, 1987, UNCTAD/ddm/Misc. 2

**Table A.3**  
**GDP per capita, MVA/GDP and the share of exports of manufactured goods**  
**to total exports (1986)**

Country / Group	GDP per capita (in \$)	MVA / GDP <sup>a</sup> (%)	Export of manuf./ Total exports (%)
<b>GROUP I</b>			
<u>Africa</u>			
. Kenya	333	12.3	12
. Nigeria	389	3.2	2
. Ghana	407	6.7	5
<u>Asia</u>			
. Bangladesh	153	9.3	66

Table A. 3 (continued)

Country / Group	GDP per capita (in \$)	MVA / GDP <sup>a</sup> (%)	Export of manuf./ Total exports (%)
<b>GROUP II</b>			
<u>Africa</u>			
.Sierra Leon	310	4	56
. Senegal	420	17	22
. Morocco	588	27	23
. Côte d'Ivoire	840	6(c)	9
. Mauritius	1238	18.7	9
<u>Asia</u>			
. India	284	18.7	57
. Pakistan	309	16.4	66
. Sri Lanka	389	18.1	44
. Indonesia	442	14.0	18
. Philippines	551	23.3	30
. Thailand	799	20.3	44
. Turkey	1157	26.5	59
.(yugoslavia):	2300	42(d)	58.5
<u>Latin America</u>			
. Bolivia	836	10.3	n.a
. Ecuador	1165	16.5	1
. Jamaica	1024	20.0	32
. Colombia	1176	22.4	15
. Peru	1254	19.3	15
.Costa Rica	1381	20.7	18
. Chile	1480	14	36
. Mexico	1570	21.0	45
. Brazil	2023	25.9	46
. Uruguay	2166	24.0	35
. Argentina	2540	24.7	26
. Venezuela	2797	18.4	5
. Trinidad and Tobago	4280	12.5	25
<b>GROUP III</b>			
. Malaysia	1733	22.0	16
. Korean Republic	2342	32.2	92
. Singapore	6773	24.8	59

<sup>a</sup>. at constant 1980 prices

<sup>b</sup>. 1985

<sup>c</sup>. current prices

<sup>d</sup>. Industry

Source: UNCTAD data base and World Bank, *World Development Report*, 1988.

