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INDUSTRIAL POLICY AND THE WTO

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1. THE ISSUE

The general objective of how to promote exports and to achieve rapid structural change and economic growth has been an integral part of development economics and policy making for many decades. There have been waves of different approaches and thinking on how this objective can best be met ranging from the inward looking or import substitution industrialization behind high protection, to outward oriented or export orientation and promotion strategies considered to be part of the success story of East Asia. The range of instruments used for conducting industrial policy has also changed with the evolution of rules in the global context, as well as unilateral liberalization and reforms moves pushed by structural adjustment loans or the recognition to undertake structural adjustment policies to increase competitiveness of the economy, and competition for investment. The combination of strategy and instruments used have been the subject of numerous studies with mixed results on the value of interventions and their outcomes. There has also been a plethora of studies which show that industrialization behind protective walls have often extended beyond reasonable periods of “infancy” and have led to efficiency and welfare losses, and entrenched vested interests.

Despite the strong theoretical case against activist industrial policy, it is still pursued widely in a number of countries. In the nineties, however, the context in which it is pursued is different. Rapid technological change, shorter product cycles, and developments in information technology have combined with privatisation, trade and foreign investment liberalisation policies to produce a global economy that is distinctly different. In this context, developing countries are striving to ensure that their industries are competitive by using industrial policy to promote particular sectors.

It should be pointed out at the outset that industrial policy is not a well-defined term. It is ill-defined in relation to the objectives, the industries which are covered and the instruments that are used. The World Bank (1992) has provided a working definition of industrial policy as “government efforts to alter industrial structure to promote productivity based growth.” This definition is useful as it focuses on the objective of economy-wide factor productivity growth rather than merely changing the structure of industrial outputs.

On the objective, many developing countries have in mind the potential for long run productivity improvements. However, in most cases industrial policy is pursued with multiple objectives including, short-term employment, increased output, better distribution and enhancing technological capacity. There are often also, rightly or

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1 A number of countries have pursued interventionist industrial policies with some degree of success. Korea, Taiwan Province of China and Japan are three such examples where government intervention in the form of activist policies was important for the pace and direction of development (Lall, 1994; Singh 1996, Asian Development Bank, 1999, pp. 208-210). This intervention, however, was broad based and not confined to protection. It included aspects of targeted technological promotion and skill development. In an effort to replicate this success many developing countries have taken the position that they too should be allowed to pursue such policies and not be restricted by multilateral rules.
wrongly, non economic objectives of national pride and prestige, as well as the perceived need to promote “strategic” industries domestically.

These objectives are also further confused to the extent that many developing countries have taken the strict view that ownership of assets matters. There is a concern that foreign ownership may not always fit in well with broader development objectives, including enhancing domestic capabilities. In some cases, foreign ownership could crowd out domestic firms. Thus, even if the World Bank definition is adopted and productivity based growth materialises, developing countries have raised concerns about the source of growth. Growth in per capita GDP based on domestic assets seems to be preferred to growth based on foreign assets. The latter would not constitute “development” per se. Some countries may be prepared to trade off a lower rate of growth in per capita GDP combined with lower foreign ownership against a higher rate of growth with more foreign ownership.

The focus of “industries” almost invariably seems to be on the manufacturing sector. This leaves out agriculture and mining, although a part of both primary sectors raise much the same issues, and services. Processing of agricultural and mining products occurs in the manufacturing sector and the line between unprocessed and semi-processed products on the one hand and processed products on the other is arbitrary. Similarly, many services sector industries add value to manufactures and they raise issues which parallel those of industrial development in manufacturing industries. Restriction of the discussion to manufacturing industries alone discriminates against non-manufacturing industries and leads to inefficiencies in the production allocation of the economy. Although the growth of industry output and exports in some developing countries in Asia and elsewhere is concentrated in manufactures, in others primary and service sector development is an important part of growth. In this paper, industrial policy is not restricted by sector.

On instruments, the traditional focus has been on tariffs or subsidies or export subsidies to industries as a way of rectifying alleged market failures due to externalities or missing markets or other failures (Lall, 1994). Recently, however, more attention has been devoted to factor markets, especially foreign direct investments (FDI). Here the belief is that FDI is a bundle of assets, which can contribute to economic development. At the same time, however, the use of these assets by affiliates of transnational corporations (TNCs) can also hinder a country’s development efforts. Government intervention is then required to control the operations of foreign affiliates in order to minimise their negative effects (UNCTAD, 1999). Countries have also used subsidized financing or directed credit through the financial sector to promote certain industries or types of companies (e.g. state owned enterprises in strategic industries, Chaebols and so on). There is the debate on narrow and broad definition of industrial policy. …

In reality developing countries have used a mix of import protection, export promotion, foreign investment restrictions and performance requirements, tax incentives and other measures to promote industrialisation. The types of instruments used by developing economies have changed, especially since the 1980s, due to increased restrictions on their
use through multilateral and regional agreements, as well as domestic regulatory reforms
initiated through structural adjustment loans or domestic efforts to restructure their
economies. The major changes faced by countries from multilateral rules are the various
GATT Codes that emerged prior to the Uruguay Round, in particular the GATT Code on
Subsidies and Countervailing Duties in 1979 which restricted signatories from utilizing
export subsidies. The multilateral trade agreements agreed upon by WTO members as
part of the Uruguay Round negotiations have further created new disciplines on the use of
such polices. Meanwhile commitments under the Uruguay Round and regional
agreements, and unilateral efforts to liberalize, have led to a decline in the use of tariff
and non tariff measures.

The aim of this paper is to review the objectives and instruments of industrial policy in a
changing global context and multilateral rules and discipline. The remainder of this
paper is divided into four sections. In the next section an analytical review of the
objective and justification for industrial policy pursued by countries is undertaken. The
importance of having an analytical framework is that it becomes the benchmark against
which objectives, instruments and outcomes can be measured (section 2). In the third
section the use of different instruments for industrial policy is reviewed. An attempt is
made to assess whether changes have been due to compliance to multilateral and/or
regional commitments, and whether due to unilateral reform efforts. It will also be
important to review whether there has been emergence of the use of new non traditional
instruments to continue to pursue protection once the use of traditional instruments
became restricted. The fourth section focuses on the role of industrial policy in the post
Uruguay Round era with a view to the next round of WTO negotiations. It examines
both the theoretical and applied aspects of industrial policy before surveying the extent to
which existing WTO rules affect a member’s ability to pursue industrial policy
objectives. The possibilities and implications of revising rules that affect the use of
industrial policy instruments in the next round then follow in the fifth section. The
paper concludes with a final section to review the implications for developing economies.

2. THEORY OF INDUSTRIAL POLICY

This section begins with a brief review of the traditional arguments against infant
industry protection. This argument still lurks behind most advocacy of government
assistance for industrial development in developing (and developed) countries.
Moreover, an examination of this argument highlights pitfalls in policy development
which apply equally to other modern arguments as they are essentially variants of the old
infant industry argument.

The traditional infant industry argument justified a tariff, or a subsidy based on the output
of firms which had an equivalent effect on output, on the basis of some dynamic
externality. Kemp (1964) provides probably the first careful statement of the argument.
He identified learning processes such as worker learning by doing or on-the-job training
as the source of the cost saving and distinguished between learning processes which are
internal to the firm and those which are external. The former is appropriable by the firm.
Only those that are external to the firm warrant assistance and then only if the reductions
in cost over time compensate for the higher costs during the period of assistance\(^2\), with all flows are appropriately discounted. The tax-subsidy is temporary. This is now the standard basic story.

This argument immediately raises a number of policy difficulties. It never provides a justification for blanket assistance to all firms in an industry or even a sub-industry as the existence of an externality and the required cost saving have to be demonstrated in every case.

Baldwin (1969) raised a second difficulty. He pointed out that a tariff (or subsidy) provides no incentive per se for a firm to acquire more knowledge because it is an output-based intervention. A firm will increase output by the least costly method, not necessarily by acquiring more technology. The correct policy implied by the argument, supposing it is demonstrated, calls for a subsidy related to the knowledge creation; for example, a subsidy on the particular workers who learn by doing. Most knowledge or skill acquisition is process- or job- or product-specific. In these cases the corrective subsidy will be confined to the process or job or product or whatever and based on the variable with which the externality is associated. Thus, there are severe qualifications to the infant industry argument.

This line of argument is in fact an example of a much more general theme in the literature of government intervention. Each externality or market failure calls for a tax-subsidy whose base is the variable which generates the externality or failure, and the tax-subsidy rate will be that rate which gives the optimal effect. Bhagwati (1971) gives an early statement of the rule. Any tax-subsidy other than the optimal tax-subsidy causes what Corden (1974) called by-product effects that impose costs on the economy. Moreover, the tax-subsidy rate varies across firms in an industry if the strength of the effect justifying intervention varies across firms. Even when an intervention is called for, a choice of a sub-optimal instrument with by-product effects reduces the net benefits obtainable from the optimal instrument and may in fact be welfare-reducing.

### 2.1 Second-best arguments for industry protection

There are a number of variants of the infant industry argument based on the presence of other taxes-subsidies or constraints that produce an argument for protection of importable goods. Instead of deriving from the presence of some externality that operates over time, these arguments derive from the presence of some other distortions in the economy, such as tariffs or commodity taxes, which are considered unremoveable and therefore permanent. These are applications of the theory of the second-best. In their famous article, Lipsey and Lancaster (1956) had shown, that if an optimisation problem is modified by the addition of new constraints, the first-order conditions that characterised the first-best optimisation, are in general violated.

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\(^2\) If the instrument of assistance is a subsidy rather than a tariff, one should add the costs imposed by the tax which funds the subsidy costs.
In the context of international trade, this means that the standard finding that free trade is the best policy for a small competitive economy may not be applicable. In the 1970s, a number of economists produced examples of this theory. For example, if a subset of importable goods is subject to unremovable distortions in the form of tariffs, the second-best optimum calls for tariffs or trade subsidies on some or all of the remaining goods whose prices are not fixed. The nature of the second-best set of taxes-subsidies can be characterised in terms of the relationships of substitutability and complementarity between the two sets of goods (see Lloyd, 1974 and Hatta, 1977). Again, as with the infant industry argument, the optimal government intervention and the associated rates of tax-subsidy depends on the exact nature of the constraints. These arguments usually find that a tariff is called for on the outputs of some industries, but this applies because in the models that were used, each industry produces only one good. If there are many-good industries, the second-best taxes-subsidies will vary across the goods in an industry.

These models also pose major difficulties for policy makers. In the first place, it is not clear why we should consider that some tariff rates or other government taxes-subsidy rates are permanently totally unchangeable and other are freely changeable. Secondly, as the second-best is the solution to a complex constrained general equilibrium of an economy, the determination of the second-best requires perfect knowledge of all aspects of the economy. This includes all supply and demand parameters, in fact the determinants of the behavior of all agents in the economy. This is grossly unrealistic. Third-best interventions made in ignorance of the true values of some behavioral parameters may be welfare-reducing.

Specific examples of this type of theory have occurred in the recent literature on protection in developing countries. Some of these authors have chosen a trade-related investment measure as the form of government intervention.³

One example is the use of local content programmes. Many developing countries have introduced local content programmes in the automobile industry in particular; for example, India, Malaysia and the Philippines in Asia and Mexico, Brazil and Argentina in Latin America. This has been done chiefly in the belief that any policy that increases the local content of a unit of output, that is, the proportion of domestic value added in the production of the goods, must be beneficial. This naïve belief ignores the effects which encouraging production of one industry has on other industries; the great strength of general equilibrium theory is that it brings out the economy-wide effects of intervention in one industry. It also ignores the volume effects within the industry. Dixit and Grossman (1982) have an elegant analysis of content plans in a general equilibrium model with a continuum of stages. Although there is no foreign direct investment in their model, it highlights the main effects of a content plan. They show that a content plan will raise the cost of intermediates to downstream and final producers and thereby lower their effective protection. It will increase the range of goods produced but may be anti-

³ There is an older literature which makes a similar case for export subsidies on the grounds that tariffs and other policies which promote import substitution have discriminated against exports; see Harris and Schmitt (1999) for a review of this literature.
protective in terms of the aggregate labour employed and value added in the protected industry. It is welfare-reducing.

There are second-best theory models which purport to show that content plans are welfare-improving for developing countries. These models introduce additional constraints due to the presence of unemployed factors due to a fixed minimum wage or to a tariff on the final good.

Chao and Yu (1993, 1999) put forward an argument in favour of protection by means of content plans. They construct a model of a dual economy with urban unemployment. The urban sector produces a processed good and the rural sector produces an agricultural commodity. The production of the processed good requires intermediate inputs which can be imported or sourced locally. In the tradition of the Harris-Todaro model, a fixed minimum wage is set institutionally in the urban sector giving rise to urban unemployment, while there is a flexible wage in the agricultural sector. It is easily shown that urban unemployment makes the marginal rates of transformation of the manufacture for the agricultural good exceed the relative price ratio. This gap implies an allocative inefficiency in the economy. Essentially, the agricultural output is under-produced because at the margin the social value of this good relative to that of the manufacturing good is greater than the rate of transformation.

This is a variant of the standard model of international trade with a factor market distortion which has been studied extensively as an argument for protection (see Magee, 1976 for a survey). The twist in favour of content protection comes from adding structure to the production sector of the model. The assumption made is that the domestic materials are produced by the agricultural sector and used in the manufacture of the urban product and that the materials sector is an infant industry whose domestic price is higher than the world price. As in the Dixit-Grossman model, the content protection increases the content per unit but reduces the aggregate output of the protected industry. This leads to an decrease in the demand for the output of the urban sector. This causes a reversal of migration to the urban sector and reduces the gap between the rate of transformation and the relative price. Chao and Yu (1993) claim that the effect is welfare-enhancing, though in their earlier paper they found it was welfare-reducing.

Richardson (1993) examines the effects of a content plan in a second-best situation due to the existence of a tariff on final manufacturing good. He adds foreign direct investment in both the final manufacture and its component suppliers. The content plan applies only to the foreign investor and is, therefore, a TRIMS. A content plan has offsetting negative allocation effects because it increases output and reduces imports in the components sector and positive revenue effects because it increase imports of the final manufacture and reduces payments to foreign capital which is specific to final manufactures. A domestic content policy set at low percentages is welfare-increasing in this context.

Rodrik (1987) and Greenaway (1992) have made a similar second-best case for TRIMS in the form of export share requirements. Rodrik considers an economy which is host to foreign direct investment by a multinational corporation. The prior distortions are tariffs
which induced foreign investment or oligopolistic behaviour in the industry. As is well-known, foreign investment is immiserising if the import industry is capital-intensive; it exacerbates the loss of tariff revenue. In this situation, an export requirement may partially offset the negative effect of foreign investment by lowering the profitability of foreign investment, reducing output and increasing imports or lowering the rate of return on foreign investment. In the case of oligopolistic interaction between the multinational corporation and the local firms, an export requirement reduces the output of the multinational and shifts profits to the local suppliers. Greenaway (1992) extends this line of argument to a range of TRIMS.

Morrissey and Rai (1995) too make a case for TRIMS based on the prior existence of a range of restrictive business practices by multinational corporations. These practices include some which restrict exports from the host country, such as international market allocation and intra-company restrictions on exports by affiliates.

All of these second-best arguments are subject to the same objections as to the infant industry argument. If, as in the model of Chao and Yu, the cause of the distortion is a policy-induced minimum wage, this should be abolished and no further action is required. If, as in the models of Richardson and Rodrik, the prior distortion is a tariff on the final manufacture, the first-best plan is to reduce the tariff. If, as in the models of Rodrik and Morrissey and Rai, it is an anti-competitive form of business conduct, the appropriate instrument is a competition law remedy. First-best reform avoids the by-product loss of welfare due to the increase in the price to consumers of the output of the protected sector and the distortions of the production structure of the industry. This is recognised by some of the authors but they accept that a tariff on the final good is unchangeable while an implicit tariff on its components is feasible. Again, the performance requirements have negative effects if they are pushed too far. A content plan provides no incentive for upstream firms to acquire more knowledge. The incentive is merely to increase their outputs. Finally, there is a lot of assumption about the structure in some of the models and the stylised facts do not fit many developing countries.

Indeed, these arguments have an old-fashioned ring. They ignored the benefits of technology and management from foreign investments, and they belong to the era when there was no pressure on developing countries to lower their existing tariffs and to not introduce new trade-restricting measures.

2.2 Technology Development

Some writers have advocated border assistance on the grounds of technology development. For example, Balasubramanyam (1991) bases his argument for content plans on the incentives provided to multinational companies to develop technology in the materials sector of the host economy. However, the previous section makes it clear that government interventions to develop technology should be technology based, not output-based.
With few exceptions, the technologies used by producers in developing countries are not the latest or most advanced in the world. Generally speaking, they can be classified as low- or middle-technology countries. When new industries or products are established they will, in most cases, use a technology already developed in some other more advanced or industrialised country.

In this context, foreign direct investment will be important as a vehicle for the transfer of technology. The literature has recognised that technology may be transferred in two ways:

- foreign technology has a higher total factor productivity which is transferred initially to the enterprise with foreign investment in the host economy
- knowledge of the enterprises with foreign investment spillovers to other firms in the same industries.

Each of these effects occurs within industries (appropriately defined), that is, they are intra-industry effects. The first will be called the direct technology transfer effect and the second the spillover effect.

The direct technology transfer effect derives from an old argument that foreign investors have a superior technology of production which is transferable to foreign affiliates. In recent years this effect has been incorporated in a number of models of technology catch-up or technology ladders. It views the technology differences across nations as given. They are the result of past R&D or other processes of technology acquisition and no attempt is usually made to explain these differences.

Another model has been developed since 1990 by a number of authors to endogenise technology transfer by linking FDI to technological improvement in the form of new varieties of the capital input (for a textbook treatment, see Barro and Sala-i-Martin (1993, chapter 6)). In this model, an economy produces a single good, y, using a Cobb-Douglas value added technology:

$$y = AH^\alpha K^{1-\alpha}$$  

where A is an efficiency parameter, H denotes the human capital input and K the physical capital input. The function exhibits constant returns to scale with respect to the two inputs. Physical capital is a composite of different varieties of the capital good, K:

$$K = \sum_{j} [(K_{j}^{t+a})]^{1/(1-\alpha)}$$  

The total number of varieties of capital good, N, is produced either by domestic firms, n, or by foreign firms, n*. Thus, N = n + n*. K may be regarded as units of effective capital. With this technology, the total effective capital stock increases as the number of varieties increases, for a given number of units of capital, say, machines. This is a special form of capital-augmenting technological change.

Expansion in the number of varieties occurs as a result of R & D. The cost of production of a new variety, therefore, has fixed set up costs, F, and constant marginal costs. It is assumed that these fixed costs are a decreasing function of n* and of n/n*, that is, F = F(n*, n/n*) where the partial derivatives with respect to both arguments are negative. The first of these variables captures the idea that foreign firms have an advantage in
producing new capital goods because of their accumulated knowledge. The second captures the idea that countries that are more backward technologically, as represented by the number of capital goods produced domestically, have an advantage in catching up. Moreover, the production function in Equation (1) ensures that the marginal product of an increase in the stock of capital is an increasing function of the stock of human capital in the economy. This model yields a regression equation for the economy growth rate which contains the level of FDI and an interaction variable, FDIxH, with a positive coefficient. In an empirical study of cross-country rates of growth, Borensztein, de Gregorio and Lee (1998) find that FDI itself has an insignificant effect on growth rates but the interaction terms is significant and positive.

An alternative model introduces technological change through the capital input again but in a different way. This model assumes there are a fixed number of capital input varieties, but each variety lies on a quality continuum and is subject to quality improvement over time (see Barro and Sala-i-Martin (1993, chapter 7)). This yields a positive relationship between FDI and growth, again with a positive interaction with human capital.

These models are simplistic with no international trade in goods and only one sector, but they are suggestive. They introduce two key ideas. The first is a relationship between the variety of the capital inputs, and output and the second is a complementarity effect between FDI and human capital accumulation in the host economy. With international trade, the composite capital input adds new varieties through the importation of new capital goods as the foreign varieties can only be supplied by foreign producers. This is one vehicle of technology improvement.

The notion that knowledge spills over from one firm to others has become popular in recent years. (Blomstrom, 1989) provides an early and influential statement, though the idea was put forward much earlier by Findlay, 1978 who called it “contagion”. This notion has an intuitive appeal but it has been modeled in different ways.

One strand of the literature makes the total factor productivity of a firm a function of cumulative industry output because of learning-by-doing. Grossman and Helpman (1995, section 2) survey these models. Suppose there are only two countries, the home (= host) country and the foreign (= source) country. Then the output of a good (= industry), industry i, in some country is given by the production function

\[ Y_i = A_i (\cdot) \phi_i(v_i) \]  

(3)

\( V_i \) is a vector of primary and intermediate inputs and \( A_i (\cdot) \) is the index of technical knowledge or know how in the country. The subscript for the firm is omitted on the assumption that the same value of the coefficients \( A_i \) and \( a \) apply to all producers of the good in one country.\(^4\) Knowledge is transmitted among producers by making \( A_i \) some function of cumulative outputs. The index \( A_i \) can be a function of the cumulative national output of the good, or the cumulative world output or sometimes of the output of a group of related outputs in an industry at the national or international level: that is, \( A_i = \)

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\(^4\) In these models it has usually been assumed that labour is the only factor of production but the specification is easily generalised.
\[ \alpha Y_i + \beta Y_i^\ast \] where \( Y \) denotes the cumulative output in the country, \( \ast \) denotes the foreign country and \( \delta_i \) is a constant. This generates a family of learning-by-doing spillovers models.

In these models, spillovers occur as a function of cumulative aggregate industry output at some level. It does not matter whether the output in a country is produced by home or by foreign firms. Alternatively, one could make the shift factor \( A_i (\cdot) \) some function of FDI or of the activities of the transferor enterprises.

Thus, there is some factor-disembodied kind of transfer among firms but the actual mode of transfer is not specified. Van and Wan (1999) introduce the idea that much technology transfer takes place through the establishment of new domestic firms staffed by workers who were previously employed by foreign firms and acquired work and production skills and knowledge of the technology of production from this employment. The new firms may be subcontractors for the foreign firm or competitors or even produce other goods that use a similar technology. New domestic firms have a technology that is superior to old domestic firms. This might be called the new firms effect.

These models do not provide much support for government subsidies or other interventions to promote industrial development. In the direct technology transfer models where the technology is assumed to be in the form of some firm-specific blueprint or asset and is transferred costlessly, the benefits of increased productivity are appropriated by the firms purchasing the new capital inputs. The same applies where the technology transfer occurs through the introduction of new varieties or new qualities of investment goods. The policy implication of this model is that governments should not impose tariffs or other restrictions on imports of these capital goods.

In the spillover models where the improvements in total factor productivity are associated with learning by doing, there is a kind of externality. However, the host country government has little possibility of capturing these benefits if they are associated with the aggregate industry output in the rest of the world or of the whole world. If there are spillovers associated instead with FDI in some industries, this is an added benefit of FDI but such benefits will be industry-specific and the government would have to know the mechanism by which the technology is transferred in order to capture them. For example, if they are due to the new firms effect, they will happen in the markets, provided there are no obstacles to the formation of new firms. FDI incentives will be a crude and generally ineffective way of capturing benefits of FDI as these benefits will be firm- or process-specific, where they exist. R & D subsidies are not warranted unless there is some general uniform externality associated with R & D. The best way to maximise the benefits of technology transfers associated with FDI is through the adoption of generic measures aimed at improving the overall regulatory and economic environment by enhancing competition, improving human capital skills and technological capacity.

The critical question in this debate is the nature of the technology transfer. Grossman and Helpman (1995, p. 1334) concluded their survey of technology and trade with the
observation: “…what can the South do to encourage technology transfer to indigenous agents without causing the Northern innovators to take their business elsewhere? To answer these questions we will need models that pay closer attention to how knowledge is transmitted within and between firms.”

2.3 Strategic Trade Policy

Strategic trade policy is a set of cases developed in the 1980s that supposedly justify government interventions. The distinguishing feature of this body of theory is that the arguments hinge on the existence of strategic interdependence among a small number of firms. Brander (1995) surveys the theory.

The standard example is a model of two duopolists, each from a different country, competing in a third country market. If there are no home market effects, an export subsidy granted by the government of one of them may improve national welfare by allowing the domestic producer to earn additional profits in the export market that exceed the amount of the subsidy payment. Note that in this third country market model an output subsidy is equivalent to an export subsidy. The model can be extended to a fixed number of competitors greater than two. It can also be extended to markets in which the firms make domestic sales, though in this case the gain is less since the increase in profits is offset by the loss of consumer surplus and the optimal intervention by one country is now a tariff.

However, the outcome is extraordinarily fragile as it is subject to a number of conditions. It requires that firms’ decision variables be strategic substitutes in that greater output by the subsidised firm reduces the profits of its competitor. It is not robust with respect to the assumptions of the model; if the conditions of entry or the choice of decision variable (Cournot or Bertrand competition or whatever) or the presence of economies of scale or other features of the model change, the nature of the optimal intervention changes. The selection of the optimal level of the (optimal) instrument imposes high information requirements on the intervening government. This kind of intervention also lends itself to political manipulation with the possibility that the subsidies will go to producers that seek to protect themselves from foreign competitive pressures rather than the producers who can shift profits. Finally, such strategic policy interventions may be in the interests of one country intervening alone but if the second country retaliates, there is a prisoners’ dilemma - both lose. This is because the result stems from profit-shifting between markets. It is not efficient from the point of view of the world economy to have any intervention.

Other strategic policy cases with different assumptions about the nature of competition are subject to the same objections. Brander (1995, p. 1446), himself one of the architects of strategic trade policy theory, concluded his survey with the remark that “It seems natural to expect that strategic trade policy can only expand the scope for socially wasteful transfer-seeking…Even if free trade does not emerge as an optimal policy in normative strategic trade policy models, once political economy considerations are taken into account, perhaps it is the best we can do.”
There is another even more powerful objection to the theory. It ignores completely the rules of the WTO. These rule out export subsidies on manufactures and severely constrain the levels of tariff rates as most industrial tariffs are now bound. These rules have evolved over 50 years precisely in order to constrain national beggar-thy-neighbour policies. Moreover, as with the second–best argument for tariffs, one should not take the conditions of imperfect competition as given. The WTO has become more concerned with competition in world markets in recent years. Most small-number competition markets are the result of government-sanctioned restraints on entry (such as the tolerance of export cartels) rather than natural monopoly. Action in the WTO and other inter-governmental fora such as the OECD should be to remove barriers to entry and cross-border competition and thereby make markets competitive.

There is, therefore, nothing in strategic trade theory to recommend it to developing countries. In most markets, these countries are price-takers. If the market conditions should conform to some model of strategic trade policy intervention, developing countries do not satisfy the informational and political economy requirements for successful intervention. They would do better to take action to increase competition in such markets.

3. EXPERIENCE WITH INDUSTRIAL POLICY IN EAST ASIA

3.1 General Trends

There has always been an issue as to whether government interventions using various instruments ranging from credit and export subsidies, protection, and export promotion measures were effective in the spectacular growth experienced by East Asia. Some interventions were successful, and part of the success has been because interventions especially export promotion measures are performance based (Alice Amsden) or contest based (World Bank 1993), unlike government interventions without any performance requirements.

Table 1 summarizes the types of industrial policy pursued by East Asia over the last three decades and most of the East Asian economies have undergone three stages. The first state is import substitution and depending on the size of the country and its endowments, import substitution becomes saturated and the policy shifts to export orientation. Export orientation normally begins with assembly or OEM type manufacturing as well as light industries, and over time value added of exports increases. Often times export oriented policies will run parallel to import substitution policies as protection is only removed gradually. However, the increased need to attract FDI for technology and market access, pressures from major markets such as the US and Europe for market opening and reducing trade surpluses, becoming signatories to codes and implementation of the Uruguay Round, and unilateral moves to reform domestic economies as the need to adjust is recognized – have all led to greater deregulation and liberalization in all of the East Asian economies beginning in the mid 1980s onwards. The economic liberalization and deregulation trends in China and Vietnam also provided the greater push to liberalize.
Korea and Taiwan have also both been subject to a great deal of US pressure to liberalize. Countries wanting to join WTO have also faced the same set of pressures.

East Asian economies are also actively following a strategy of industrial upgrading, and some are selecting types of industry (e.g. technology intensive). However, the types of instruments used are somewhat different.

In general the Southeast Asian countries have adopted a more liberal and market oriented policy regime (Masuyama et al, 1997) compared with the Northeast Asian countries at the same level of development. This is evidently because the Southeast Asian economies followed later in the export oriented industrialization strategy in the late 1970s and early 1980s. For instance Indonesia had to abandon its export subsidy scheme in the mid 1980s. The export subsidy scheme comprised of a duty drawback scheme which due to the way it was calculated provided a subsidy to exporters and also of export credit at interest rates below market rates. To the extent that they still pursue industrial policy, the types of instruments will have to vary.

3.2 Industrial Policy and Implementation of Uruguay Round Commitments

Whether or not the East Asian success story is due to effective government intervention and use of various industrial policy instruments, as mentioned already the subsequent sets of countries undertaking a strategy of export oriented industrialization can no longer utilize the same instruments due to changing multilateral rules and in some cases because they were part of a structural adjustment program.

Singh (1996) provides a useful summary of the types of export promotion and import restrictions used by Korea and Japan which is often identified as industrial policy instruments (Box 1) and analyzes which ones would no longer be valid under the implementation of the Uruguay Round commitments. Table 2 provides a similar categorization for a number of Asian countries.

Many of these falling under the export promotion and import restrictions would not now be allowed under multilateral rules, and some of the other policies would violate the new Agreements especially under TRIMS, subsidies, and TRIPs. Only instruments such as government provision of information to exporters and changes in the exchange rate would still be allowed under the present Agreement. Export promotion agencies such as JETRO and KOTRA are also still allowed, as long as its task is only to provide information and not to provide export guarantees or insurance elements. Indeed all the Asian countries in Table 1 have an export promotion agency, but of course the quality and effectiveness vary across countries.

Another major instrument of subsidizing interest rates and preferential credit allocation used by Korea, was ruled out when linked to exports under the GATT Code on Subsidies and Countervailing Duties, and more generally by the Uruguay Round agreement. Foreign investment conditional on domestic content or trade balancing, would be in violation of TRIMS.
A number of instruments such as general fiscal concessions, provision of subsidized R&D up to a certain level, and measures to promote corporate investment and discourage payment of dividends are still acceptable.

**BOX 1  Instruments of Industrial and Export Promotion Policies: Korea and Japan**

**Export Promotion and Import Restrictions**
- Import restrictions, both general and specific;
- Favouring particular sectors for export promotion in some cases particular firms for that purpose;
- Seeking compliance for subsidies given to exporters by means of export targets for specific firms (the Korean Case);
- Interest rate subsidies and the availability of credit and foreign exchange to favoured firms that meet export targets;
- General export promotion, through JETRO (Japan) and KOTRA (Korea);
- Provision of infrastructure, including human capital, in support of exports;
- Taxation relief on imported inputs and on R&D expenditures;
- Allowing favoured conglomerates to import capital goods and foreign technology and to raise cheaper finance on international markets;

**Industrial Policy Measures**
- Lax enforcement of competition policy, including the extensive use of cartels;
- Government creation and promotion of conglomerates (in Korea);
  Tax concessions to corporations to increase investment;
- Promotion of a close, long-term relationship between finance and industry which was critical to the implementation of the industrial policy;
- Labor repression to ensure labour peace in a period of structural change (Korea);
- Establishment of state industries to enhance industrial development (Korea);
- Extensive administrative guidance.

Source: Singh (1996: 163)

Since the mid 1980s most Southeast Asian countries adopted export oriented policies maintaining competitive real exchange rates (post 1995 with sharp movements of the yen, this changed somewhat) and promoting inward FDI. Most of the countries deregulated restrictions on FDI, Indonesia being one of the boldest ones with a dramatic FDI liberalization being introduced in 1994, the year Indonesia was host to APEC. Other than FDI, Southeast Asian countries have also been more flexible and open about other factors of production such as labour. Singapore has an open policy toward employing skilled and semi-skilled labour from outside of Singapore, and Malaysia has had to depend on foreign labor (many of which are Indonesians) to meet the shortage of labor domestically (Masuyama et al 1997).
Table 2 and other information indicate that prior to the crisis and as the Uruguay Round of commitments indicate that there is a strong trend towards economic liberalization. Second there has been a greater emphasis on complementary policies which will push the industrial restructuring. Trade and investment liberalization alone are not sufficient. A variety of policies have emerged to upgrade industrial structure. The types of policies which fall in this category include R&D, infrastructure, development of strategic industries, and policies aimed at forming industrial clusters. Republic of Korea and Taiwan for instance have emphasized government subsidies on R&D. Singapore has attempted to develop services, and then knowledge industries by providing incentives, including fiscal.

3.3 Changes Made Since the Uruguay Round

There has been a general decline in the use of tariffs for import protection. In the Uruguay Round, trade weighted bound MFN tariff averages declined substantially for Japan (from 3.9 to 1.7 percent), Korea (from 18 to 8.3 percent) and Thailand (from 37.3 to 28.0 percent); only slightly for Philippines (23.9 to 22.2 percent), and Malaysia (10.2 to 9.1 percent); and increased for Indonesia (20.4 to 36.9 percent) due to binding at a much higher level than applied rates. Even though the percentage bound increased substantially, the rate at which it was bound remained high for some countries. As expected tariffication of agriculture led to a jump in the average tariffs of the East Asian members after the Uruguay Round.

More recent data on applied tariffs for APEC (based on UNCTAD TRAINS data for 13 APEC economies) show that average tariffs for APEC have come down over time apart from agriculture as a whole which rose in 1995 and then fell in 1998. Average tariffs in agriculture are now higher than manufacturing. At the two digit level, agricultural related sectors of manufactures of food, beverages and tobacco, agriculture and hunting, textiles, and fisheries, have above average tariffs.

The incidence of core non tariff measures (NTMs) for the APEC economies have halved over the 1995-98 period. However, the NTMS in agriculture, and hunting, and chemicals went up slightly over the full period and are amongst the sectors with a high incidence of NTM, along with manufacture of food and forestry and logging.

Thus, while the average use of tariffs and NTMs have fallen, every country has a sensitive sector or a sector it wishes to promote for various reasons which retains peak tariffs or core NTMs. Not all NTMS are captured, for instance tariff quotas are not included. This sector typically not only has high tariffs but also subjected to other types of policy intervention. The automotive sector is a good example where tariffs are still high and there are often still content requirements in place.

Tariffs are the most transparent means of protection and as is well known, as tariffs come down, non tariff barriers or other measures emerge to the extent that countries wish to prolong the protection. Examples abound. The Malaysian government has recently
announced a wide range of financial incentives to promote its domestic automobile industry, justifying it on account of strong linkage effects (Mody (1999)).

Typically there has also been a correspondent increase in antidumping duties and as is well recognized, while the amount of trade subject to antidumping duties is not large, the simple threat of duties being imposed on a product is sufficient for there to be a substantial impact of exports. There has been a rise in antidumping actions since 1995 and in 1998 an estimated 300 cases were submitted compared with 225 in 1997. The rise in actions have been by both developed and developing economies.

The evidence on the effectiveness of export subsidies and promotion is not conclusive, with East Asia often being used as an example where it worked. Export promotion that uses incentives to encourage exports works in the same way as import protection and can be subject to the same abuses. Export subsidies can be abused through over invoicing, false shipments, and ad hoc subsidies that do not necessarily go to the most competitive exporters. In the World Bank East Asian Miracle study, the relative success of export promotion interventions in East Asia is because with exports, the criteria for performance was much easier to measure and be used as a performance criteria or contest based mechanism to ensure that it was effectively used. In studies that look at what determines exports, export subsidies showed little change in the years prior to the boom of East Asian exports (Rodrik (1993) as quoted in Mody (1999)). Furthermore, some of the East Asian economies, such as Indonesia, had in fact moved away from using export subsidies since the mid 1980s.

Obviously there are also other factors that influence exports. Supporting measures that complement export subsidies could be important. In Korea for instance detailed sectoral and firm specific export targets were monitored by the government and when targets were received they obtained credit. There were also benefits associate with agencies that developed new markets and testing and standards organization.

With regard to compliance with TRIMS, four of the ASEAN members submitted notification on local content policy in the automotive sector. In addition Indonesia also submitted local content rules for requirement for fresh milk and soybean cake production, and Thailand also submitted local content for manufactured goods. Notification means that they will phase out the measures in five years. However, there has been divergences in application as is evident from the national car policy of Indonesia described in the Annex.

The examination of rules under WTO and the East Asian experience to date would indicate that there are many instruments which are no longer valid. However, there are still instruments that could be used, and the usual caveats about specificity of policy to the objective or target applies. Furthermore, the instrument must be implemented in a transparent way, have built in performance requirements and have a clear exit point. There have been also many derogations pre crisis with the close relationship between business and the centre of power leading to special facilities and treatment.
Post crisis there is a lot of thinking going on as to how best develop and strengthen the market system, in particular the financial sector and the general big issue of corporate and public governance.

4. WTO RULES AND INDUSTRIAL POLICY

A number of provisions in the WTO rules deal with various measures that members can use to protect domestic suppliers and promote exports and technology transfer. Articles I and III of GATT 1994 lay down MFN and National Treatment for imported goods. However, up to the bound rate (if a tariff item has been bound), tariffs can still be used to protect infant industries and develop domestic capacity. Tariffs are often complemented with other tools of industrial policy such as subsidies, which used to both promote particular firms and industries and to penetrate foreign markets. In this section we examine how the WTO rules have constrained the flexibility of its members in its choice of instruments which may be used to pursue industrial policy objectives.

4.1 Import protection

Tariffs, non tariff measures and subsidies protect domestic firms from import competition. Although tariff protection has declined, there continue to be peak tariffs in some industries in both developed and developing countries. The dispersion of protection also still remains high in many countries.  

One particular policy, which used to be quite common, is local content protection. This policy was the hallmark of a number of countries as they tried to develop large-scale industries with externalities. In particular, automotive industries around the world have been heavily dependent on local content protection. There was much discussion during the Uruguay Round as to whether or not local content protection indeed had an impact on trade. Local content policies were formally included into the Multilateral Agreement (MTA) through the Agreement on Trade Related Investment Measures (TRIMS). The net effect is that this policy has to be phased out by WTO members at the latest by 1 January 2002, unless an extension can be granted.

Import protection can also be achieved by challenging the fairness of the competition by using anti-dumping or safeguard measures. In the context of industry policy both measures have often been used in declining industries. The Final Agreement on Implementation of Article VI had a few additional provisions in favour of developing countries as they try to develop their exports. More importantly, there are still systemic

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5 It is also useful to distinguish between sunset and infant industries. The former are industries, which are declining. The latter are industries, which are expanding and due to market failures require protection from competition.

6 Australia, for example, had a National Car program in place immediately after the end of World War II. The first “Australian Car” rolled off the line in 1948. However, protection in the industry only started to decline substantially in the early 1990s (Bora and Pomfret, 1996).

7 A WTO Dispute Panel decision on Indonesia’s local content protection policies made a clear statement that local content policies disadvantage imports. See the annex for more detail.
issues in the implementation of Article VI that can frustrate legitimate attempts by developing countries at exploiting export markets.  

4.2 Subsidies and export promotion

The Agreement on Subsidies and Countervailing Measures (SCM) increases disciplines on the use of subsidies and the use of countervailing measures to offset any injury caused by subsidised imports. The Agreement applies to non-agricultural products; there are separate (and more comprehensive) disciplines on agricultural products.

The SCM covers financial contributions that provide a benefit. It defines three areas of specificity, which would bring a subsidy under its rules. These are:

- Enterprise-specificity – a particular company or companies is targeted
- Industry-specificity – a particular sector is targeted
- Regional specificity – a particular region is targeted

If a subsidy fits the specificity definition, it is placed into one of three categories: prohibited, actionable, or non-actionable. The prohibited category comprises subsidies on exports and subsidies on the use of domestic over imported inputs. In addition to non-specific subsidies, the category of non-actionable subsidies includes the following exemptions:

- Disadvantaged regional initiatives
- Research and development
- Environment

The bulk of the subsidies fit into the categories of actionable and non-actionable rather than prohibited subsidies. Action under the SCM relies on proof that subsidies are having a negative effect on the trade of another member. This is done by showing that there is harm to another member in the form of injury, or serious prejudice or nullification and impairment of benefits. Once this has been proved, the subsidy must be removed or changed to conform to WTO regulations.

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8 See Laird (1997) for a discussion on anti-dumping.
9 The agreement contains a list of types of measures that would be considered to be financial contributions: grants, loans, equity infusions, loan guarantees, fiscal incentives and the provision of goods and services.
10 The definition includes any public body within the territory of a Member, hence sub-national governments, public bodies and state-owned companies are governed by the agreement.
11 The definition of a benefit has not been fully resolved in cases where indirect financial contributions.
12 Injury to a domestic industry caused by subsidized imports in the territory of the complaining member.
13 Adverse effects in the market of the subsidizing member or in a third market.
14 This can arise when improved market access from a bound tariff reduction is undercut by the subsidy.
The implications of the SCM for industrial policy are considerable. In the first instance developing countries, which did not sign the Subsidies Code during the Tokyo Round, are now bound by the agreement. Second, the SCM now extends to sub-national governments.

However, the SCM does not introduce discipline over subsidies based on production is weak. The main message of the SCM agreement is that subsidies that have a direct effect on trade are explicitly prohibited. This rules out the possibility of developing a sector by unfairly taking advantage of access in a trading partner’s market.

For developing countries the SCM is a two-edged sword. In the first instance there are a number of loopholes, which allow them to continue to use subsidies to promote industrial policy objectives. However, these loopholes also apply to developed countries. Hence, there are no prospects for them to use subsidies to gain a competitive advantage vis a vis the developed countries.

There is a grey area with respect to the use of incentives to attract foreign investment. The competition for FDI is intense and incentives are used widely by national and sub-national governments of developed and developing countries. Most direct and indirect FDI incentives come within the definition of subsidies in the SCM Agreement. However, the concepts of the Agreement were developed for subsidies affecting goods trade and may not be easily applied to FDI incentives. Again, developing countries do not have the resources to compete with developed countries, but are in need of the assets that foreign firms have to offer. Multilateral discipline on the use of FDI incentives would be in the interests of developing countries as their own incentives distort the allocation of capital formation and it would level the international FDI playing field. However, it would still be difficult for developing countries to develop a competitiveness in a targeted industry.

4.3 Agreement on Trade Related Investment Measures

Although regarded as a major initiative of the Uruguay Round, the final text of the Agreement on Trade Related Investment Measures (TRIMs) did not do much more than clarify some policies against the GATT 47 text. In particular the agreement used an illustrative list to identify policies that contravened GATT Articles III:4 and XI:1. Nevertheless the scant 5 pages of text that constitute the agreement may very well be the lightening rod for developing country objectives in the next round. There are a number of reasons for this:

- Developing countries have to phase out notified TRIMs

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15 Take for example Korea, which has been notorious for its use of targeted subsidies. Prior to 1995 it had offered 26 different types of subsidies with an annual total of 2.5 trillion won. In 1995 it reduced this to one subsidy to SMEs of only 15.2 billion Won. (WTO, 1996)

16 Developed countries had two years to phase out notified TRIMs.
• There is a perception from developing countries that the agreement is against their development interests, since the policies on the illustrative list have been considered important to meet their development objectives
• The five year transition period (seven years) was not enough time for the countries to benefit from these policies
• The 90 day notification period was not long enough for WTO members to examine their regimes for compatibility

These difficulties arose during a recent dispute settlement case involving Indonesia (annex 1). In that case the fundamental tension between Indonesia’s industrial policy objective of “self-reliance” and trade discrimination was quite clear. Policies that favoured domestic goods in favour of imported goods as a mechanism for promoting industrialisation were incompatible with the rules of the multilateral trading system. This could limit attempts to build up domestic capacity and increase the transmission and diffusion of technology.\(^{17}\)

Another concern about restricting TRIMs is the second-best argument that policies such as export restrictions and local content are needed to defend against anti-competitive practices (UNCTAD, 1999). While this argument has some supporters, there it also raises a number of concerns, not the least of which is implementation. The most fundamental problem about this line of argumentation is, as was raised in Section 2, that if it is anti-competitive practices that is the problem, then effort needs to be directed towards developing national and multilateral competition rules.

### 4.4 Trade Related Intellectual Property Rights (TRIPs)

The value of the TRIPs agreement to developing countries continues to be hotly debated. The agreement consists of the parts: standards, enforcement and dispute settlement. It involved, perhaps more so than any of the other agreements, substantial changes in national legislation. These changes are designed to strengthen the protection of intellectual property rights (IPR) and have a positive impact on local innovation, foreign direct investment and technology transfer. However, at the same time a number of negative impacts, at least as far as developing countries are concerned, were predicted (UNCTAD, 1996). These included: higher prices for protected technologies and products and restricted abilities for diffusion through reverse engineering. New legislation in developing countries also required a further examination on the balance between the degree of protection required for innovation against the restricted diffusion of such technologies.

The strengthened protection has implications for industrial policy objectives. In the case of domestic firms it means there is an incentive to innovate and compete dynamically. The SCM allows R&D subsidies and the output of this process can then be protected through the TRIPs agreement. For foreign firms it means that, where permitted, market

\(^{17}\) Moran (1998) cites evidence of the policy having a positive impact on the development of local capacity. In doing so, however, he does not mention the costs of the policies.
access through a commercial presence may now be viable since they have better IPR protection. Developing countries do not, in general, have a comparative advantage in innovation. Therefore, attempts to develop certain sectors within the context of the WTO means that they will have to rely heavily on the transfer and diffusion of technology from foreign countries instead of domestic innovation.

An important provision for developing countries is Article 66.2, which requires developed countries to provide incentives to promote technology transfer to LDCs. So far, little is known about the extent to which this provision has been implemented (UNCTAD, 1999). This is also accompanied by a transition period allowance for developing countries.

4.5 General Agreement on Trade in Services (GATS)

The legally-enforceable rules covering the international trade in services contained in the GATS can also affect industrial policy initiatives. Relative to disciplines on goods trade, the agreement as a whole is much less effective in terms of liberalisation. It has adopted a positive listing of sectoral commitments on market access and national treatment. The agreement allows sectoral bindings on four modes of supply: cross-border supply, consumption abroad, commercial presence and presence of natural persons.

By including commercial presence as a mode of supply, rules on foreign investment in services are now part of the multilateral trading system. Members, therefore, can use foreign investment liberalisation as tool of industrial policy. This has happened to some extent with bindings in tourism, but not in other sectors.

As with other forms of liberalisation, the effect of the GATS is twofold. First, market access makes it possible to develop export sectors. Second, bindings have the effect of inducing competition in home markets. Developing countries have an export interest in a limited range of sectors such as tourism and professional services. In these and other cases a key issue is the movement of natural persons (or mode 4). Horizontal barriers in this area make it difficult for developing countries to build export competitiveness in their comparative advantage areas.

The competition effects of liberalisation in the area of infrastructure are extremely important for developing countries. As discussed above disciplines in the area of subsidies and performance requirements are forcing developing countries to think of more neutral ways to develop export capacity (Laird, 1997). One of these is infrastructure and, in particular, telecommunication, financial and transport services.

In addition to market access commitments, the GATS has a provision related to performance requirements. However, the prohibition of these measures relates only to a sector that has been inscribed. This means that developing countries that have taken the view that performance requirements need to be maintained in service industries, as a quid pro quo for liberalisation, cannot do so. It is also important to note the consistency of this provision with the SCM. There also, the quid pro quo argument has been ignored.
4.6 Special and Differential Treatment

In the GATT 1947 Article XVIII made specific mention of contracting parties in their “early stages of development” and allowed them to “maintain sufficient flexibility in their tariff structure”. Section B of this Article provided developing countries with flexibility to impose trade measures to protect their balance of payments and Section C enabled them to take such measures for the protection of infant industry. In 1966, Part IV was added to the GATT and the Tokyo Round adopted an Enabling Clause which gave “special and differential” (S&D) treatment to developing countries. The concept of S&D allowed non-reciprocal tariff preferences as implemented through GSP schemes.

Prior to the Uruguay Round, little use has been made of Article XVIII section C (infant industry) because of the use of this provision requires the payment of compensation. As a result since 1967, no country has specifically invoked it. Instead numerous countries have made use of section B (protection for balance of payments reasons) which does not require compensation.

Infant industry protection through invoking Article XVIII for infant industry or balance of payments is still possible under the WTO, but the new procedures for balance of payments consultation are likely to constrain the scope and duration of such exceptions (Singh p. 166). Furthermore, during the Uruguay Round a new approach to S&D developed, which essentially amounts to allowing for flexibility in nominating sectors for liberalisation and in most cases an extended transition period for meeting obligations under the agreements (Youssef, 1999).

The scope for S&D in the application of industrial policy exists in each of the agreements listed above. These include:

- Delays in implementation (TRIMs, SCM, Safeguards, TRIPs)
- Preferential disciplines (SCM, Safeguards)
- Flexibility to increase protection (temporarily) (Article XVIII)
- Flexibility in approaching liberalisation (GATS)

There is mounting concern on the part of developing countries that these provisions do not promote their interests (UNCTAD, 1999). Two issues need to be distinguished. The first is the existence of S&D provisions and second is their relevance. Take for example local content protection. The difficulties faced by developing countries in making the transition away from this instrument is recognised by allowing them a longer period. However, an argument is being made by some countries that this allowance is not significant.

4.7 Reviewing Implications of WTO Rules for Industrial Policy

The above review has identified a number of the WTO rules that discipline the use of government intervention to promote particular industries. Different countries have
different objectives, hence would require different sets of policy tools. Hence, the impact of the WTO rules on countries would differ accordingly. Nevertheless, there are some common features of the agreements, which deserve to be highlighted.

First, each of the agreements takes a trade approach to disciplining policies. Since Articles I and III are the cornerstones of the rules based system, any non-border policy that has an effect on the trade of goods and services is under discipline, or has been negotiated an exemption.

Second, the rules are ownership neutral. Aside from the GATS and TRIPs where a national treatment standard is applied, policies such as subsidies and local content protection do not distinguish between foreign affiliates and domestic enterprises. What is important is the “trade effect” of the instrument. This means that countries seeking to apply a particular policy to foreign owned firms, must first find a provision in the agreement that allows the use of the policy. Then they can apply it to a foreign firm as long as there is no “trade effect”.

Third, the promotion of industries for investment and export growth is being narrowed to generic instead of specific policy instruments. This has the effect of leveling the playing field for international trade. It does little to allow countries to develop specific industries through specific policy instruments.

Fourth, the approach to S&D treatment in the agreements has typically been in the form of transition arrangements. This means that the members have a certain length of time in which to bring their policies into conformity with WTO rules. In some cases members are exempt from these responsibilities.

5. REVISING WTO RULES: GOING FORWARD IN THE MILLENIUM ROUND

The present WTO rules have restricted the industrial policy instruments available to WTO members as discussed above. Use of border measures have declined and the discipline on the use of subsidies along with contingent protection and intellectual property rules have been strengthened. The direction of any revision of WTO rules depends on the net assessment of these changes. On the one hand there is evidence to show that a number of policies that distort trade are still allowed under existing rules. On the other hand, the added discipline imposed by the WTO rules has reduced the flexibility of national governments to pursue development objectives. In this section we examine some of the issues relating to the possible revision of WTO rules going forward as they relate to the pursuit of industrial policy objectives by developing countries.

5.1 Import Protection

The scope for import protection continues to diminish. Tariffs are declining, local content protection is on the verge of being prohibited and contingent protection is now somewhat more disciplined. What scope is there for continued import protection? The
answer is that it depends upon the ability of developing countries to negotiate a provision that will allow for greater flexibility of protection.

It is important to distinguish between import protection for the purposes of protecting a “sunset” or declining industry, and protection to promote infant industry or newly expanding industry which is being protected due to some perceived externality. Efforts at developing transparent and objective rules for both types of protection are needed.

However, the issue related to industrial policy that we wish to address here concerns local content protection and rules of origin in preferential trading agreements. The first point is to recognise they are prevalent only in large-scale industries where there is scope for significant linkages with domestic industries. The second is that there is evidence that this policy has been proven to be successful in establishing some industries in some countries. Australia, for example, used local content policies in the establishment of some manufacturing industries. However, it was an inefficient industry. The policy has recently been abandoned and tariff rates have also been reduced in that country (Bora and Pomfret, 1996). The end result is an industry that is more competitive, albeit after some structural adjustment. This abandonment vindicates those who would argue that the policies are not required for an efficient competitive industries (Pursell, 1999).

However, it is arguable that a content-protected industry would not exist at all if the local content policies had not been used in the first place. This appears to be the developing country position in this regard – that as newly industrialising economies they have not had the forty year grace period that say, the Australian automotive period had, nor did they have the degree of protection and market access afforded to Canada through the Canada-US Autopact.

Given these considerations, what is the best way to proceed? If developing countries have as their objective efficient national production, content plans distort the production within an industry and thereby lead to inefficiencies, as noted in Section 2. If there is a dynamic learning or cost reduction process, a tariff or subsidy assisting temporarily the processes in which the cost reduction occurs is much preferable to a continuation of content plans for the whole industry.

If developing countries have as their development objective something other than efficiency as in the Indonesian autos case (annex 1), or as argued by Venezuela, there will be an inconsistency with the fundamental rules of the trading system. For example, in the automobile case when a completely built up unit is imported for assembly it will

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18 Although Barbados, Colombia, Cyprus, Indonesia, India, Pakistan, Peru, Romania, Thailand, Uganda and South Africa notified local content in the agriculture industries (MITI, 1999).

19 Venezuela argues that there are policies which “not only induce growth of their traditional flows, but also to promote the structural transformation of their economies and the possibility to add more value to their exports”. The latter they argue are “development policy issues” and that it maybe possible to identify instruments, which could be used to promote development but that are consistent with the principles of non-discrimination. (WT/GC/W/279, 29 July, 1999).
usually be feasible to source at least 20 per cent of the products locally.\textsuperscript{20} This means that in order to increase local content further imports will have to be displaced. Here, one must question whether the development objective is compatible with efficient long run allocation of resources, or whether it favours some group at the expense of national development.

\section*{5.2 Export Promotion}

As shown direct intervention by governments to boost exports is being increasingly restricted by the WTO rules. This leaves little room to maneuver for developing countries. Nevertheless, there is a wide range of alternatives that are still pursued by governments. These include export credit and insurance schemes below market rates, concessional tax and duty provisions and export processing zones. While some of these remain WTO-consistent, developing countries need to reassess the extent to which these policies which discriminate in favour of particular producers are in their national interest. They should focus on reducing fiscal and procedural constraints to exports (Laird, 1997), trade facilitation, and generic policies to make the country more competitive such as infrastructure development and an appropriate exchange rate policy.

\section*{5.3 Competition Policy}

One area of generic producer-neutral policies which promote efficient production is that of competition policy. Competition policy is the set of policies which promote competition among producers in markets. Increasingly, as markets become globalised, competition is international. The aim is to make markets internationally contestable.

It has been suggested that the WTO could be the location of internationally enforceable multilateral competition law that could address anti-competitive behaviour which affected persons in other countries. At the First Ministerial Meeting of the WTO in December 1996, the members agreed to establish a Working Group to study issues relating to the interaction between trade and competition policy. In the Working Group, however, the major WTO members - EU, US and Japan - have exhibited fundamentally different views on the scope and approach of competition law. These views largely reflect differences in national and regional approaches to competition law. These differences cover the objectives of the law, methods of analysis and remedies as well as the substantive provisions of the laws. Given the diversity of views, it is unlikely that binding multilateral competition laws will develop in the foreseeable future.

However, the WTO still plays an important role in promoting competition. One of the most important determinant of competition in markets is the freedom of movement of goods across borders and, especially in the service industries, the freedom of movement of FDI. These are subject to WTO rules and discipline. One merit of the WTO rules in this context is that they are neutral between foreign and domestic producers (except to the extent that exceptions to national treatment are inscribed by members in their GATS

\textsuperscript{20} These would be generic components for which transport costs would be high such as tires and oil. See the references in Annex for more detail of the cost structure in the Indonesian autos case.
This helps to ensure that domestic and foreign producers are able to compete on equal terms.

Developing countries are sometimes concerned over the restrictive business practices of multinational corporations which establish affiliates in their economies; for example, price fixing and market allocation. This has led some to introduce requirements relating to domestic and export performance in an attempt to counter these practices. However, performance requirements are an inappropriate response as they apply to foreign investors irrespective of their market power and practices and they require the government of the host country to estimate the second-best level of the performance requirement. Foreign investors are subject to the laws of the host economy. When, therefore, the anti-competitive practices occur in the host economy, the appropriate response is the application, and if necessary the development, of national competition laws. This addresses the source of the problem directly and without by-product effects.

5.4 Market Access for Foreign Investors

Despite the progress made on extending multilateral disciplines into new areas, policies relating to foreign direct investment were not included in the Uruguay Round Agreements. The substantial growth in FDI during the past fifteen years makes it an important component of the global economy. In the context of industrial policy the inclusion of foreign direct investment rules, or a General Agreement on Investment (GAI) would have major implications for developing countries.

The precise impact would, of course, depend on the nature of the agreement; its architecture, scope and provisions. Currently there is no broad political support for a full and comprehensive multilateral agreement. However, in the context of the restrictions placed on industrial policy that were reviewed in the previous section, it maybe in developing countries’ interests to consider the possibility of a modest achievement in this area. The reason is that with reduced government intervention they may well have to rely more heavily on TNCs for the skills and inputs required to assist in restructuring.

There is skepticism on the part of many host national governments about putting in place rules on investment. Instead, this means investigating other avenues which allow the achievement of rules and the advancement of developing country interests. One way to tackle this problem is to split the contentious issue of market access for foreign investors from performance requirements.

5.5 Performance Requirements for Foreign Investors

Developing countries feel aggrieved over the outcome of the TRIMs. There are three issues here: first is the extent to which these instruments are related to foreign ownership;

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21 Apart from those in GATS dealing with FDI in services and some aspects of other agreements which impact on FDI. WTO (1996), chapter 4 surveys WTO Investment-related rules and disciplines.

22 For an excellent discussion of the package of assets that TNCs can contribute to host developing countries see UNCTAD (1995).
second extension of the list; and third, whether S&D treatment should be awarded to developing countries.

On the first issue—despite claims that by Developing Countries that the TRIMS is specifically a foreign investment issue, a WTO dispute panel has taken the opposite view. It interpreted the title literally and has concluded that:

“contrary to India’s argument, we find that nothing in the TRIMs Agreement suggests that the nationality of the ownership of enterprises subject to a particular measure is an element in deciding whether that measure is covered by the Agreement. We therefore find without textual support in the TRIMs Agreement the argument that since the TRIMs Agreement is basically designed to govern and provide a level playing field for foreign investment, measures relating to internal taxes or subsidies cannot be construed to be a trade-related investment measure” (WTO, 1999, page 339, paragraph 14.73).

This means that as the TRIMS text now stands, there is no scope to implement a performance requirement (based on the existing illustrative list) in a discriminatory fashion. Measures that are prohibited are prohibited regardless of ownership. If developing countries perceive that TRIMS on the illustrative list are required to meet other objectives and must be implemented on foreign firms this will need to be negotiated. Chances of succeeding are likely very low given that a measure will be prohibited because it distorts trade.

Second extending the illustrative list will involve intensive negotiations. As it now stands the illustrative list is very much a compromise from the initial negotiating positions. Furthermore, the investment provision of the North American Free Trade Agreement and the draft Multilateral Agreement on Investment (MAI) contained longer lists. Some developed countries will seek to extend the list, while developing countries will likely oppose such an initiative. An outcome of the negotiations would be difficult to predict. As with the Uruguay Round the negotiations will revolve around those performance requirements that are directly trade related.

Performance requirements within the context of the GATS should also not be ignored. Article XVI lists six measures that members are not allowed to maintain in sectors that they have inscribed. These measures are reasonably comprehensive, but are disciplined only if an inscription has been made in that sector. For the forthcoming negotiations developing countries may want to consider to what extent they may want to wish to delink this connection; that is to have a stand alone provision not allowing these measures.

Third, responding to handling developing country concerns within the context of TRIMS will not be easy. Some members have already flagged performance requirements as an important component of their development strategy. Furthermore, it is likely that some

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23 For example, see Youseff (1999), page 7.
members that have notified provisions under the TRIMS may take advantage of Article 5.3 of the Agreement and seek an extension of the transition period. While these are predictable and negotiable elements, the real difficulty will be attempts to allow a specific carve out for some policies. For example, the “traffic light approach” used in the subsidies agreement could be followed in the TRIMS agreement. Measures that directly affect trade could be prohibited (red light), those that are critical for development, even though they affect trade directly could be included in a permissible category (green light).

5.6 Special and Differential Treatment

The preamble to the Article VIII of GATT 1947 recognises both the possibility for developing countries to have protection for developing infant industries and a mechanism for allowing such protection. This provision was complemented during later years with various other provisions. Within the context of industrial policy and S&D treatment the crucial negotiating position will be the extent to which policies that are prohibited under WTO rules will be allowed for developing countries.

Again, consider the case of local content protection. Here, the WTO panel has concluded that without a doubt the Indonesian policy contravenes Article III of GATT 1947. Nevertheless, some members will take the position that the policy is critical. Furthermore, the transition period of five years was considered by Indonesia to be far less than what is required. If this is the case, the only way to handle the issue is to examine what the optimal length of time is for a developing country to achieve its objectives with the policy. A similar issue arises with respect to export subsidies. Developing countries maintain that, despite their disadvantage in competing with developed countries on a budget basis, export subsidies are needed to develop new markets.

Two other aspects of S&D treatment that need to be examined are how to determine qualification for S&D treatment and the optimal transition period.

- **Qualification** – The current approach to identifying members that would qualify for S&D treatment is to use the UN classification of Least Developed countries. In the subsidies agreement, a criterion in terms of GNP per capita is used. Given the ad hoc nature of some of these measures and the specific nature of industrial policy, the new negotiations may want to consider using performance based measures. These can be either export, or import measures. Another useful measure would be rates of assistance. This would have the affect of making transparent the policies that have been given S&D treatment.

- **Extensions of transition periods** – this point has been repeated a number of times in this paper, but again the issue is the appropriate length. For industrial policy exemption from obligations, it maybe useful to examine specific exemptions that fit the problems of developing countries. For example, the five years, which has been adopted in the TRIMS, does not seem to have been derived from any empirical work.

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24 Or to conclude that it is a failure.
and neither is the gap of two years in the transition period between developing and least developing countries.

6. CONCLUSIONS: IMPLICATIONS FOR DEVELOPING ECONOMIES

In today’s competitive environment developing countries are attempting to boost their competitiveness by selecting industries and products with the potential for high growth and high value added. The debate on the role of the government in achieving this objective continues. The theoretical literature surveyed in this paper shows that a case for government intervention is weak. On the other hand there is empirical evidence to show that some governments have had a role in the export and growth success of some countries. Thus it would seem that what matters is the type of intervention and as Mody (1999) pointed out, “Government interventions to stimulate industrial growth will not disappear but the emphasis has shifted towards measures that deal directly with increasing efficiency (e.g. competition policy and definition, and protection of IPR).

The upshot is that there is still room to pursue industrial policy in a more focused manner, and often on R&D and infrastructure. Furthermore as Singh (1996) points out given the limitations the rules and disciplines put on the various instruments, developing countries need to adopt a wider interpretation of industrial policy and the instruments to be used. In general they should be directed at creating strengthened market systems, balanced by competition policy and infrastructure and institutional development. There is a potential role for strengthened technical cooperation on the last issue.

In an effort to emulate this success some other developing countries have taken the view that the WTO rules are inhibiting their ability to pursue their development objectives. This paper has reviewed the extent to which this is the case and has found new disciplines on subsidies, local content protection, export restrictions and TRIPs reduce the flexibility of governments. These disciplines are ownership neutral in the sense that they apply to both foreign and domestic firms, but not country neutral in that some WTO members are exempted from obligations. Attempts to introduce a further asymmetry in the name of development may cause conflicts among members. The most efficient way for developing countries to articulate their development objectives with foreign direct investment or derogate from the ownership neutrality, is to develop national rules on foreign investment. Derogation of the second principle of being country neutral means that they need S&D and they have to justify it so that it is acceptable.

The prospects for including investment into the WTO either by way of a specific agreement on investment or allowing for ownership to matter within the context of WTO rules are poor. The WTO rules both in terms of their language and interpretations of panel dispute are ownership neutral. Efforts by developing countries to challenge this by allowing an exemption for foreign affiliates could create conflicts in the application of the MTAs. Developing countries may want to consider these implications further before advocating such a position.
References


Masuyama, S, Vanderbrink D., and Chia, S.Y (1997), Industrial Policies in East Asia (Published jointly by Nomura Institute and Institute of Southeast Asian Studies, Tokyo Club Foundation for Global Studies)


UNCTAD (1996), The TRIPs Agreement and Developing Countries, Geneva, United Nations, Sales No. 96.II.D.10


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World Bank, Global Development Prospects,


Annex 1 WTO Dispute Panel Case on Indonesia – Certain measures affecting the automobile industry

The range of tools employed by countries in the name of industrial policy is so broad and comprehensive that a taxonomy of such tools against WTO rules would prove to be cumbersome. In practice, industrial policy is not pursued within the context of selecting one particular tool against one particular objective. Typically a range of tools are used.

A simple way to examine how WTO rules affect industrial policy is to examine a case where a WTO member’s industrial policy has come under scrutiny from a WTO Dispute Panel ruling. Fortunately, (for us) such a case has just been completed. On the 2 July, 1998 a Dispute Panel reported its findings on Indonesia - Certain Measures Affecting the Automobile Industry. In this section this case is reviewed to examine how Indonesia’s objectives in its automobile industry were affected by WTO rules and the dispute panel’s interpretation of these rules. Lessons from this case are then drawn with a view to assessing their implications for the forthcoming negotiations.

Indonesia’s Automobile Policy

The basic issues here are Indonesia’s tax and tariff treatment of completely built up (CBUs) of motor vehicles that are imported into Indonesia. These units are subject to an import duty rate and when the product is sold it is subject to a sales tax. While import duties and sales tax are by themselves not actionable, Indonesia had in place a scheme which allowed from an exemption from these duties on the basis of the local content. The higher the local content, the higher the exemption.

The policy was also complicated by the fact that the specific program to develop the national industry relied heavily on an inter-firm agreement between an Indonesian company PT Timor Putra Nasional and a Korean company, Kia. This intra-firm agreement included the supply of CBUs until local assembly capabilities were expanded. This was facilitated by an exemption from tariff duties.

Objectives of the National Car Programme

Indonesia’s objectives for their National Car programme and the above policies can be listed as follows:

- To improve the competitiveness of local companies and strengthen overall industrial development;
- To develop the capacity of multiple-source auto parts and components;

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25 The document is listed as WT/DS54/R; WT/DS55/R; WT/DS59/R; WT/DS64/R. It can be retrieved from the WTO document dissemination system.

26 WTO (1998), paragraph 14.78, page 341. These are summary objectives were listed by Indonesia in a submission to the dispute panel.
To encourage the development of the automotive industry and the automotive component industry;
To bring about major structural change in the Indonesia automobile industry;
To encourage the transfer of technology and contribute to large-scale job creation;
To encourage car companies to increase their local content, resulting in a rapid growth of investment in the automobile industry.

In addition, precise statements of the objectives can be found in the various legislative changes. These include:

- Supporting and promoting the development of the automotive industry and/or the component industry
- Further strengthen domestic industrial development
- In the framework of further promoting of the development of the motor vehicles industry and/or domestically produced components
- Promote the growth of the domestic automotive industry
- Development of the national car is aimed at improving the nation’s self-reliance

Interestingly enough none of the above is consistent with the World Bank definition of industrial policy. In sum the statement refers to the desire to expand domestic production of an industry that is unable to compete without any assistance. Of the above the statements, the last one is the most telling and is at the root of much of the developing country anxiety about WTO rules. Indonesia had an intention of shifting into a large-scale industry with considerable potential for domestic linkages. The issue at stake is to what extent can WTO rules allow such a transition. In fact, one interpretation of the impact of WTO rules is that it in fact it is not “development” friendly in that it doesn’t allow its members the opportunity to implement policies that may have a positive impact on industrial restructuring. We shall return to this issue below.

Policies

The policies put in place by the Indonesian government to develop their “self-reliance” are the standard policies required to support a weak and infant sector: subsidies to lower the cost of production, local content restrictions to force domestic sourcing of inputs and protection to increase the market in which the product is sold.

In the area of subsidies the Indonesian government did not document the list of subsidies. However, it asserted there was still an issue with respect to the claims of Japan, the EU and the United States in relation to:

- Import duty exemption and a sales tax exemption on completely built up units from Korea
- Import duty exemptions on parts and components used or to be used in the assembly of the Timor in Indonesia

27 WTO (1998), pg339-341. The precise references to the government decrees can be found in this documents.
- Luxury sales tax exemption

WTO Rules affected by the Indonesian car program

The three complainants (European Communities, Japan and the United States) were concerned with the total effect of the Indonesian policies. In particular, their concern was in the following areas:

- Discrimination in favour of imports from Korea
- Discrimination in favour of domestic goods over imported goods
- Bias in the tax system in favour of domestically produced cars

These concerns were also supplemented in other areas, most notably the Agreement on Subsidies and Countervailing measures and the Agreement on Trade Related Intellectual Property (TRIPs) (annex table 1).

Ruling

The panel ruled on the measures in the following manner:

- Local content measures linked to the sales and customs duty benefits were inconsistent with Article 2 of the TRIMs Agreement.
- Sales tax discrimination of the National Cars violated Article III:2.
- The arrangement with Korea violated Article I
- The EC had demonstrated that the use of specific subsides caused serious prejudice within Article 5© of the SCM
- The US had not demonstrated serious prejudice under Article 5c
- Indonesia had not violated Article 28:2 of the SCM
- US had not demonstrated that Indonesia had violated Article 3, 20 or 65:5 of the TRIPs agreement.

State of play

On 21 October 1998 the parties informed the Director-General of the WTO that they had agreed on an arbitrator. This was after agreement could not be reached on a “reasonable time” for the implementation of the ruling. The positions on what constituted a “reasonable time” were interesting. Article 21:3 (c) says that a reasonable amount of time should not exceed 15 months. Indonesia, citing its economic difficulties, claimed that the full 15 months was required. In particular, it identified the hardship that compliance with the WTO rules was going to involve.

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29 This section is drawn from the following documents: WT/DS54/15, WT/DS55/14 WT/DS59/13, WT/DS64/12 (7 December 1998); WT/DS54/17, WT/DS55/16 WT/DS59/15, WT/DS64/14 (4 June 1999); WT/DS54/17 add.1, WT/DS55/16 add.1 WT/DS59/15 add.1, WT/DS64/14 add.1 (15 July 1999).
The US and EU took particularly strong views citing the fact that structural adjustment was a normal course of compliance with WTO rules. Hence, there was no scope for citing Indonesia’s particular circumstance as reasons for a lengthy transition period. Indonesia also had to consider internal consultations to comply with the ruling. This meant not only a simple abolition of the measures that were prohibited, but also developing a package which could meet their initial objectives, but also be WTO consistent. In the end the arbitrator accepted Indonesia’s position and awarded a 12 month period.

On 15 July 1999 Indonesia informed WTO members that it had put in place policies to comply with the WTO dispute panel ruling.

Lessons

There are a number of insights and implications for developing countries and for forthcoming negotiations. For the sake of brevity we cite these in dot point fashions, since they are taken up in the text.

- Local content protection is unambiguously trade distorting – this means that any attempt by developing countries to carve out local content protection would be futile. At best, they would have to try to negotiate an extended transition period.

- Lack of knowledge and capacity – the series of initiatives undertaken by Indonesia were nothing short of extraordinary. In the first place some of the policies under dispute were implemented after the WTO was in existence. Second, Indonesia tried to notify these measures under the TRIMs agreement to benefit from the transition period after the expiry of the notification period. Initiatives such as these support the argument that developing countries require technical assistance to implement the WTO MTAs

- An obligation is an obligation – once the Indonesian policies were found to violate WTO rules they had to brought into conformity immediately. The position of the US and the EU were quite extreme in this regard. Both cited “structural adjustment” as not being a defense for a longer transition period. This position means that prospects for an extended transition period in some cases will depend very much on a negotiated outcome.
Annex Table 1 Alleged breaches of MTA by Indonesia’s National Car program

<table>
<thead>
<tr>
<th>GATT 94</th>
<th></th>
<th>Most favoured nation</th>
</tr>
</thead>
<tbody>
<tr>
<td>III:2</td>
<td></td>
<td>National treatment on internal taxation and regulation</td>
</tr>
<tr>
<td>III:4</td>
<td></td>
<td>National treatment on like products</td>
</tr>
<tr>
<td>X:1</td>
<td></td>
<td>Publication of national laws</td>
</tr>
<tr>
<td>X:3(a)</td>
<td></td>
<td></td>
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<tr>
<td>TRIMs</td>
<td>2</td>
<td>National treatment and quantitative restrictions</td>
</tr>
<tr>
<td>SCM</td>
<td>1</td>
<td>Definition of a subsidy</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Specificity</td>
</tr>
<tr>
<td></td>
<td>3:1</td>
<td>Prohibition</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td>Special and differential treatment of developing country members</td>
</tr>
<tr>
<td></td>
<td>28(2)</td>
<td>Standstill on arrangements.</td>
</tr>
<tr>
<td>TRIPs</td>
<td>3</td>
<td>National treatment</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>Other requirements</td>
</tr>
<tr>
<td></td>
<td>65</td>
<td>Transitional arrangements</td>
</tr>
</tbody>
</table>

Source: WTO (1999)
### TABLE I EVOLUTION OF INDUSTRIAL POLICIES IN EAST ASIA

<table>
<thead>
<tr>
<th>Country</th>
<th>1950s</th>
<th>1960s</th>
<th>1970s</th>
<th>1980s</th>
<th>1990s</th>
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<tbody>
<tr>
<td>Japan</td>
<td>IS</td>
<td>EO</td>
<td>Liberalization</td>
<td>Deregulation</td>
<td></td>
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<tr>
<td></td>
<td>1953-57</td>
<td>1958-80</td>
<td>1981-</td>
<td>1986-</td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>IS</td>
<td>EO</td>
<td>Liberalization</td>
<td></td>
<td></td>
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<tr>
<td>Korea</td>
<td>EO</td>
<td>EO (Heavy ind)</td>
<td>Liberalization (trade, inv, finance)</td>
<td>Internationalization</td>
<td>Deregul since mid 80s - innov oriented</td>
</tr>
<tr>
<td>Thailand</td>
<td>IS</td>
<td>IS (cap gds beg. 1981)</td>
<td>Some EO</td>
<td>EO</td>
<td>Technology Intens. Industries</td>
</tr>
<tr>
<td></td>
<td>1950-70</td>
<td>1971-85</td>
<td>1986-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>Moderate IS</td>
<td>IS continue Add EO</td>
<td>Liberalization EO</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>1967-73</td>
<td>1974-85</td>
<td>1986-</td>
<td></td>
<td></td>
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<tr>
<td>Indonesia</td>
<td>Stabilization Beg. IS</td>
<td>Strongly IS</td>
<td>Liberalization EO</td>
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<td></td>
<td>1950-</td>
<td></td>
<td>1980s</td>
<td>1990s</td>
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<tr>
<td>Philippines</td>
<td>IS</td>
<td>Continue IS</td>
<td>Liberalization (polit. instab)</td>
<td>Continue Liberaliz (strengthened polit stability)</td>
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<tr>
<td></td>
<td>1965-76</td>
<td>1977-78</td>
<td>1980s</td>
<td>1990s</td>
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<tr>
<td>China</td>
<td>Defence Ind (heavy industrializ)</td>
<td>Plant Importation</td>
<td>Coastline Liberalization (light industries)</td>
<td>Infrastructure</td>
<td>High Technology</td>
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<tr>
<td></td>
<td>1950s</td>
<td>1960s</td>
<td>1990s</td>
<td></td>
<td></td>
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<tr>
<td>Singapore</td>
<td>IS (still pt Malay)</td>
<td>EO</td>
<td>Strategic Ind. (high tech&amp; serv)</td>
<td>Regionalization</td>
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<tr>
<td></td>
<td>1950-</td>
<td></td>
<td>1979-</td>
<td>1990s</td>
<td></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>EO (laissez faire, education, infrastruc, institutional support)</td>
<td>Improved</td>
<td>Institutional</td>
<td>Upgrade support for technology</td>
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<tr>
<td></td>
<td>1950-</td>
<td></td>
<td>1979-</td>
<td>1990s</td>
<td></td>
</tr>
</tbody>
</table>

IS = Import Substitution, EO = Export Orientation
Source: Table 1.1 in Masuyama, Vanderbrink and Chia (1997)
TABLE 2 POLICIES AND MEASURES TO PROMOTE EXPORTS IN ASIA

<table>
<thead>
<tr>
<th>TYPE OF MEASURE</th>
<th>India</th>
<th>Malaysia</th>
<th>Bangla-desh</th>
<th>Philip.</th>
<th>Thail.</th>
<th>ROK</th>
<th>S'pore</th>
<th>Indon.</th>
<th>HK</th>
<th>Japan</th>
</tr>
</thead>
</table>

1. MEASURES AFFECTING PRODUCTIVITY

- Industrial Development Policy
  - General: y y n y y y n y y
  - Specific/Industry Targeting
    - Strategic/domestic: y y y n n y y
    - Export industry: na na y y y n n np na

- Measures
  - Import protection: fall y na y y n n y n n
  - Price controls: fall y na n na n n y n na
  - Investment regulations: fall na na fall na n n fall n na
  - Credit subsidies/facilities: y y y na y y y y y y
  - Manpower training: na y y y na y y na y y

- Investment incentives
  - Deregulation: y y na na partly y na y na na
  - Tax concessions
    - Holiday/exemptions: y y y y y y y y na na na
    - Reduced rates: y y y y y y y y na na y
    - Accelerated depreciation: na y n n n y y na na y
  - Production subsidies
    - Input subsidy: y y y n y y y n y na y
    - Assistance for R&D: y y y y y y y y y y y
  - Pricing and marketing arrangements: y y y y y y y n y n y na na
  - Regional assistance
    - Adjustment assistance: y y n n y y y n y y

2. MEASURES AFFECTING EXPORTS

- Export incentives
  - Duty drawback & taxes on imported inputs: y y y y y y y y y y
  - Export: y y y y y y y y y y y
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<tr>
<th>Category</th>
<th>Yes</th>
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<td>- Export insurance &amp; guar</td>
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<td>- Export quality management</td>
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y=yes, n=no
Source: Singh (1996) annex II