

## CHAPTER TWO

### TRADE THEORY AND ITS IMPLICATIONS FOR COMPETITIVENESS

#### 2.1 Introduction

International competitiveness, within the context of trade in goods and services, refers to a nation's trade advantage *vis-à-vis* the rest of the world. In this regard, trade advantage occurs whenever the economic welfare of a nation improves as a result of trade (Coldwell, 2000: 418). Trade theory asserts that economic welfare is dependent on the production of goods and services that a country has comparative advantage in. This in effect means that international competitiveness is secured when production is in line with a country's comparative advantage situation. This is the point of departure for this chapter. What does trade theory have to say about comparative advantage and hence international competitiveness? In summary, trade theory advocates that international competitiveness (comparative advantage) is *inter alia* determined by factor endowments, increased savings and investments, innovations in products and production processes and intensity of entrepreneurial activity. This chapter considers these issues in more detail.

#### 2.2 Brief overview of traditional trade theory

For analytical convenience, trade theory can be classified into two categories namely, traditional theory (which has a neoclassical foundation) and new trade theories. Traditional trade theory incorporates the principles of perfect competition, homogenous goods and constant returns to scale in production. This would include the trade theories of Smith, Ricardo, Heckscher and Ohlin and the modifications or extensions of the Heckscher-Ohlin theory.<sup>1</sup> The new theories of international trade on the other hand would include theories

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<sup>1</sup> The extension of the Heckscher-Ohlin theorem would in the main include the factor price equalisation theorem, Stolper-Samuelson Theorem, Specific factors theorem and Rybczynski theorem. For a good review of these theories, see *inter alia*, Chacholiades (1990).

characterised by product differentials, imperfect competition and increasing returns to scale.

Trade theories have *inter alia*, attempted to explain three issues:

- The pattern of trade where the emphasis has been on explaining the basis of trading relations;
- The sources of gain from trade where the emphasis has been on explaining how the gains from trade are distributed among trading partners; and
- The structure of production and returns to factors of production where the emphasis has been on explaining the implications of trade for the structure of production and returns to factors of production within each trading country.

Some of the basic assumptions underlying conventional trade theories include:

- Trading relations are restricted to two countries each having a fixed stock of factors of production;
- Factors of production are perfectly mobile among industries within a country but completely immobile internationally;
- There are no transport costs in trade;
- All traded products are final products;
- Both factor and product markets are characterised by perfect competition with producers maximising profits and factor returns at a level that ensures full employment of all factors;
- Technology is such that production is characterised by constant returns to scale; and
- Consumers everywhere have identical homothetic utility functions.

Given these assumptions the following predictions emanate from conventional trade theory:

- *Adam Smith's theory of absolute advantage:* For Smith, trade facilitates a more intense application of the division of labour in the production process, which, in turn provides the main underlying condition for economic growth. Hence, economies of scale in production is the main facilitator of trade.<sup>2</sup> According to the theory of absolute advantage, a country specialises in the production of those goods in which it has an absolute advantage and trades these for goods in which it does not have an absolute advantage. In an ideal Smithian world, there is an efficient allocation of resources with "*laissez-faire*" policies and production is specialised in the *single* product in which the country has an absolute advantage.
- *Ricardian model of comparative advantage:* In a Ricardian world, trade is determined by relative and not absolute efficiency in production. Unlike the theory of absolute advantage, it can be shown that it will be in the interests of every country to engage in trade since every country will find a product in which it has a comparative advantage. Once again specialisation in production would occur and because trading countries face the same relative prices, specialisation would occur in different goods, thus facilitating exchange between the two trading countries. *Laissez faire* policies would ensure production in goods in which the country has a comparative advantage. It is differences in technology that determine the goods in which the country has a comparative advantage.
- *Heckscher-Ohlin (H-O) model:* The assumption that technologies are identical across countries is basic to the H-O model and is a major point of departure from the Ricardian model. In the theories of absolute and comparative advantage, there is an implicit assumption of one factor of production, thus, leaving the question of the effects of trade on a country's factoral distribution of income unanswered. According to the

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<sup>2</sup> While Adam Smith acknowledged the importance of economies of scale as a motivation for trade between countries, his use and analysis of the concept was very rudimentary and lacked the rigor and comprehensiveness of the new trade theorists.

Heckscher-Ohlin model the country exports those goods which intensively uses its abundant factor and imports those goods which are intensive in its scarce factor. This result emanates from the assumption that factor supplies determine factor prices - however, in the real world the relationship between factor supply and price may not be so simplistic.<sup>3</sup>

The following theorems following from the H-O model:

- *Factor price equalisation theorem*: Trade equalises factor prices internationally. Given identical technologies of production throughout the world, the equalisation of the domestic product price ratio with the international free trade price ratio will tend to equalize factor prices across trading countries.
- *Stolper-Samuelson theorem*: A small increase in the relative price of the capital-intensive product increases (reduces) the return to capital (labour) in terms of both products.
- At constant relative prices, small increases (reduction) in an economy's capital/labour endowment ratio will increase (reduce) the output of the relatively capital (labour) intensive good, relative to both factors. This is known as *Rybczynski's theorem* which attempts to highlight the link between changes in factor endowments and changes in the composition of output at given product prices.

### 2.2.1 Criticisms of Traditional (neoclassical) trade theories

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<sup>3</sup> It is possible, for example, that rigidities in the labour market (e.g strong trade union presence) or government policies (e.g. large depreciation allowances) designed to favour capital expenditures could call into question the factor endowment theorem for a labour abundant country.

The underlying assumptions supporting conventional trade theories have been called into question. In this section these assumptions are listed and then a brief overview of the criticisms is provided.

- Resources are country specific and constant in quality and in full employment across countries.
- Technology is either fixed (classical model) or similar and freely available (factor endowment model) to all nations.
- Perfect competition prevails. Factors of production are perfectly mobile between different production activities.
- Governments play no role in international economic relations so that trade is strictly carried out among anonymous producers who have as their sole motive the minimisation of costs and maximisation of profits. International prices are the result of the interaction of supply and demand.

Some of the criticisms emanating from these assumptions are elaborated on below.

- Factor resources

Conventional trade theory assumes that factor resources are fixed in quantity, constant in quality across nations, fully employed and not mobile across countries. As far as the mobility of factor resources is concerned, it is well recognised that one major phenomenon of production in the nineteenth and twentieth century relates to the mobility of factor resources. The proliferation of multi-national corporations (MNCs) over the last century has manifested itself in the transfer of capital, skilled labour and technology across nations. Trade has been one of the main determinants of unequal growth of productive resources in different nations. This is especially the case for resources such as physical capital, entrepreneurial abilities, scientific capacities and upgrading of technological skills of the labour force. Thus, factor endowments and comparative costs are subject to a state of change.

- Fixed technology

Rapid technological change is an important characteristic of our modern world economy. The development of synthetic substitutes (rubber, wool, cotton, sisal, jute, hides and skins) for example, by the developed countries have had a profound effect on third world economies. Hence the strict adherence to the principle of fixed technology would mean that the third world countries would continue producing primary goods for which world demand has decreased.

- Assumption of perfect competition.

Resource allocation between production activities is not instantaneous and costless as traditional theory would lead us to believe. Increasing returns to scale is a common feature of the production process. Similarly, monopolistic and oligopolistic market control of internationally traded commodities mean that large individual corporations are able to manipulate world prices and supplies. Thus, joint producer activities and oligopolistic bargaining among giant buyers and sellers are important determinants of price and quantity on the international market.

Also, the exclusion of risk under perfect competition is unrealistic. If developing countries, for example, were to specialise in primary commodities (goods in which they have a comparative advantage) then the risks associated with adverse movements in the terms of trade also has to be borne by them.

- Role of governments

It is because of the non-existence of perfect competition and instantaneous adjustment of product and factor markets that governments play an increasingly important role in international economic relations. The optimum tariff argument suggests that a country having a dominant role on the international market (in terms of manipulation of prices) may find it

advantageous to impose tariffs. As pointed out earlier, unemployment may also justify government intervention. It should also be noted that the benefits of trade may not be equitably distributed. Whether trade is beneficial or not depends on the nature of the export sector, the distribution of its benefits and its linkages with the rest of the economy. Hence government intervention may not only be justified, but also necessary to secure the benefits from trade. The existence of imperfect competition (a characteristic of the modern world) necessitates an increasingly important role for government in international economic relations (the nature of this intervention will be explored in more detail in the next chapter).

### 2.2.2 Relaxing some of the common assumptions

Relaxing some of the common assumptions give rise to the following:

- *Factor intensity reversals*: With factor intensity reversals (i.e. a product is relatively capital intensive at some factor price ratios and relatively labour intensive at others), the H-O theorem is violated since depending on factor returns, a labour intensive country could be exporting capital intensive goods at certain factor price ratios.
- *Differences in tastes*: If a labour abundant country has a large taste bias towards relatively labour intensive goods, then trade will be opposite to that predicted by the H-O theorem.
- *Differences in technological capabilities*: As pointed out earlier, the H-O model is based on the restrictive assumption of identical technology across countries. However, the influence of technological differences on the pattern of trade is well documented in the economic literature.<sup>4</sup> Technology differences can be divided into two major categories (Falvey, 1994)<sup>5</sup>:
  - *Product augmenting* technology differences exist when increased output can be produced from a given factor input

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<sup>4</sup> See Markusen and Svensson (1985) for a survey of the literature.

<sup>5</sup> It may very difficult distinguishing between the two in practice.

in some sector(s). The effects in this case are similar to changes in product prices.

- *Factor augmenting* differences exist where a factor(s) in one country is more productive than the same factor(s) in another country - this is independent of the sector in which the factor is employed. Factor augmenting technical changes act very much like factor endowment changes.

If technology differences are purely factor augmenting, the trade pattern could be explained in terms of “effective” factor endowments by adjusting units of measurement to take account of the effects of technology differences on factor productivity (Falvey, 1994). However, in the case of factor augmenting effects, the underlying motivation for trade may have more to do with technological differences than factor endowments.

- *Transport costs* could give rise to intra-industry trade (trade in similar products).
- The existence of *intermediate products* introduces the possibility of international trade in inputs (Ethier, 1979; Chacholiades, 1979) which is ignored in the traditional trade models.<sup>6</sup>

### **2.2.3 Implications of traditional theory for competitiveness**

Conventional theory advocates that trade is an important stimulant for economic growth. It enlarges a country’s consumption capacities and provides access to scarce resources and world markets, which in turn facilitates growth. There are potential gains to be derived from trade as long as the terms of trade differ from autarky relative prices.

The distribution of the gains from trade will depend on the pattern of factor use in production as well as the pattern of factor ownership. According to the



specific factors model (where one factor is sector specific and the other is mobile across sectors), an increase in the relative price of a product increases the real return to the factor specific to that sector and reduces the real return to the factor specific to the other sector. In essence this means that relative price changes result in a winner and loser (in terms of factor returns). The implication here is that a country can influence (through subsidies, tariffs, depreciation allowances, etc.) the pattern of income distribution by influencing the relative prices of goods. The alternative scenario is where trade is promoted but distributional mechanisms (e.g. tax policy) are set in place to ensure a fair and equitable distribution of the benefits.

Trade volumes will be positively correlated with differences in factor endowments (measured either in price or quantity terms as in the H-O model). Here it is asserted (H-O model) that the trade pattern will reflect differences in endowments on average. What this implies is that if a labour abundant country is not exporting labour intensive goods then it's trade policy is distorted. This distortion is due to restrictive trade practices. Stated differently, factor endowment theory would lead one to believe that free trade policies result in factor endowments being the main determinant of comparative advantage. International trade (international prices and costs of production) determines a country's trade pattern. Free trade (i.e. market forces) establishes a country's comparative advantage.

Thus, an outward looking international policy is required for economic growth. Self-reliance and autarky are asserted to be economically inferior to participation in a world of free trade. Trade promotes international and domestic equality by equalizing factor prices, raising real incomes (raising relative wages in labour-abundant countries and lowering them in labour

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<sup>6</sup> Thus, since factors are used in production both directly (in value added) and indirectly (through intermediate inputs) there are two measures of "factor intensity" direct (value added only) and total factor intensity (direct plus indirect).

scarce countries) of trading countries and promotes the efficient use of the country's resources. Thus, in essence, traditional trade theory advocates a "*laissez faire*" policy – market forces or free trade is the best determinant of trade patterns.

In summary, the lessons of the conventional theories of international trade are that the specialisation in products of comparative advantage, accumulation of resources, innovation of productive processes and the intensity of entrepreneurial activity, determine a country's international competitiveness. In addition, the conventional models advocate free trade as the main proponent of improved competitiveness.

### **2.3 New trade theories**

Comparative advantage justifications for international trade imply a strong tendency for trade between countries with large differences in technology or factor endowments. However, it has been shown that this is not always the case – in many cases trade flows are greatest between countries with similar technological capabilities or factor endowments (Smith, 1994).<sup>7</sup> A large part of international trade is conducted between the countries of Western Europe, North America and Japan. The principle of comparative advantage (as advocated by conventional trade theory) does not allow for a country having both a comparative advantage and comparative disadvantage in the same goods. Even if one allows for statistical classifications (where dissimilar goods may be aggregated for statistical convenience) it is still not possible to dismiss the existence of intra industry trade with any degree of confidence (Smith, 1994: 44).

The last two decades have witnessed enormous growth in the literature on international trade. This recent literature has shifted the focus away from the conventional or traditional models based on the assumptions of perfect

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<sup>7</sup> This relates to the issue of intra- industry trade.

competition and constant returns in production to the implications of imperfect competition and economies of scale for international trade. The set of ideas contained in the recent literature of international trade has been termed the “new trade theory” and has been pioneered by Dixit and Norman (1980), Lancaster (1980), Krugman (1979b, 1980, 1981), Helpman (1981) and Ethier (1982). One of the main points of disagreements between new trade theories and conventional trade theory relates to the policy recommendations needed for industrial development. According to the new trade theory neutral incentives and *laissez faire* policies are not always conducive to industrial development as advocated by conventional trade theory.

The new trade theories have challenged three underlying assumptions of the conventional trade models. These includes:

- the assumption of perfect competition which is replaced by imperfect competition;
- constant returns (non increasing returns) to scale which is replaced by increasing returns to scale; and
- the definition of an industry in terms of homogeneous goods which is replaced by product differentiation.

However, it should be pointed out that these three assumptions are interrelated. Increasing returns to scale can explain the existence of specialisation and trade even in the absence of differences in technology (Ricardian model) or factor endowments (H-O model). Increasing returns to scale could mean that the domestic market may not be large enough to accommodate an industry’s output and hence the world market (trade) provides the necessary demand for the industry’s supply. In fact, the existence of increasing returns could be the motivation for specialisation or

even specialisation the motivation for increasing returns.<sup>8</sup> New trade theory has highlighted the existence of specialisation due to increasing returns by locating it in models of imperfect competition (Harris, 1992).

### **2.3.1 Imperfect competition**

New trade theories are based on monopolistic and oligopolistic competition models rather than perfect competition models as is the case in traditional trade theory. Under models of imperfect competition, firms are not simply price takers and do not face a horizontal demand curve. Part of the reason for firms not facing horizontal demand curves, is due to product differentiation. The Spence-Dixit-Stiglitz formulation of product differentiation (Spence, 1976; Dixit and Stiglitz, 1977) has formed the basis for models of monopolistic competition on trade. According to this model, each firm can costlessly differentiate its product from other firms, with each of these differentiated products entering symmetrically into the utility function of each consumer. This utility function is characterised by constant elasticity of substitution, and, if the number of products actually produced is sufficiently large, the demand for each product has a constant price elasticity. In this case, since product varieties enter utility functions symmetrically, the firm faces the same elasticity of demand no matter which product it produces, but as long as fewer products are being produced than the number that can potentially be produced, the firm would prefer to produce a new product rather than compete with firms producing existing products. Hence, the firm does not necessarily have to take the prevailing market price as given, it can choose to produce another variety at some other price (which it can determine).

Also, with trade and monopolistic competition, the increased market size (because of trade) induces specialisation. A gain from trade in this case is

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<sup>8</sup> The link between increasing returns and international specialisation was recognised early in the economic literature (Graham, 1923).

that with specialisation more varieties will be produced, and hence consumed, with a result that welfare (utility) is increased. The concept of specialisation is an illusive one. Very often specialisation of production in practice means specialisation in a particular product variety rather than in a particular product category.<sup>9</sup> Hence, production may be in a product category with more than one variety being produced. Hence, with competition the pattern of production can change with different varieties being produced.<sup>10</sup>

### **2.3.2 Economies of scale**

In the real world, economies of scale are mainly internal to firms. However, perfect competition models can only accommodate pure technological external economies since internal economies of scale imply imperfect competition. Beginning with the work of Dixit and Stiglitz (1977), formal models of increasing-returns that did not require assuming purely external economies were developed.

Following Helpman and Krugman (1985), economies of scale can be classified in the following ways:

- static intra-firm technological economies of scale;
- static external economies; and
- dynamic economies of scale.

The implications of each for international trade will be considered.

#### *(a) Static intra-firm technological economies of scale*

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<sup>9</sup> Product category in this case refers to the categorisation of a number of varieties into one category whereas a product would refer to a specific variety. For example, cars would be a product category whereas brand names like Toyota or Volkswagen would refer to specific products. However, depending on the level of categorisation, one could go even further to consider a particular model (e.g. Toyota Camry) as the specific product variety.

<sup>10</sup> This point will be explored in more detail under the section on economies of scale.

This can be divided into “traditional economies of scale” and “economies of specialisation” (Ocampo, 1993). The former involves a decrease in the average cost of production with increases in production without there being any increase in fixed costs (e.g plant or machinery). Economies of scale emphasize the degree of specialisation that characterises the production process. In this case, the degree of specialisation rather than a large plant, gives rise to increasing returns.

Like factor endowments and disparities in technological abilities, traditional economies of scale give rise to inter-industry trade which is the focus of conventional trade models (Ocampo, 1993: 124). However, the focus of attention of the new trade models has been on economies of specialisation and its influence on intra-industry trade (Dixit and Norman, 1980; Ethier, 1982; Krugman, 1990; Lancaster, 1980). The new trade theory suggests that the gains from intra-industry trade is due to economies of scale in the production of particular designs rather than to specialisation in a particular product category. One source of inefficiency in production under protective conditions is due to the abundance of different designs which are the results of short production runs (Pack, 1988). It may be the case that there is a need for local or domestic designs to be adapted to suit specifications and tastes abroad in order to increase export levels. Sometimes, the cost associated with these modifications influence the structure of export production (Keasing and Lall, 1992, Ocampo, 1993: 125).

*(b) External economies*

In this case, scale economies are generated by input-output relationships manifested through either backward or forward linkages. Thus, a firm's access to inputs, its ability to take advantage of technological transfers and access to vital information may influence economies of scale in production.

Some of these scale economies may be of a macroeconomic nature or specific to certain industries. If the factors influencing economies of scale (e.g. access to inputs, technology and information) are specific to particular industries, then according to new trade theory, “*industrial complexes*” arise (Helpman and Krugman, 1989). This is also referred to as “clustering” (Richardson, 1969). These processes may encompass one or more industries, depending on the relative magnitude of the sectoral or macro economies. Due to the influence of external economies, differences in the initial level of development will tend to increase with development. This is referred to as “*uneven development*” in the new literature on trade (Krugman, 1990). If the economies are macroeconomic (sectoral) in nature this would be reflected in the development of the economy (sector).

The implications of uneven development for economic policy are that neutrality of incentives and *laissez-faire* industrial policy may not be the most desirable. Some degree of selectivity may be necessary which may include protection and active state involvement in the promotion of investment in some sectors. This has more to do with “creating winners” through the implementation of selective policy rather than “picking winners” as has been the conventional interpretation of the East Asian Experience (Stewart and Ghani, 1992: 147).

(c) *Dynamic economies of scale*

These economies are associated with the accumulation of knowledge and “human capital”. The process whereby these economies manifest themselves is through “learning by doing” and a conscious effort to educate and gain knowledge (Ocampo, 1993). According to the new models of trade, dynamic economies of scale have an impact on international trade because knowledge is not perfectly mobile across countries. Products are associated with some given technology, and hence, it may be the case that with trade, technological transfers may occur. The extent to which dynamic economies

manifest themselves depends on how much technology is transferred with trade in products, as well as the extent to which this technology can be further developed to suit local conditions. Dynamic economies of scale could thus provide a justification for infant industry protection, promotion of trade or even subsidies for the production of certain products.

One of the fundamental statements of new trade theory is that trade is increasingly a result of increasing returns in production rather than to comparative advantage. The pattern of specialisation and trade is due to a combination of history, accident and past government policies rather than solely to the underlying differences in national resources and aptitudes (Krugman, 1992: 245).

It should be pointed out that the suggestion that increasing returns (rather than comparative advantage) may be an explanation for international trade could be found in the writings of Adam Smith and Ohlin. However, new trade theorists introduced three new dimensions to the analysis of the concept of increasing returns, which helped to dispel some of the limitations that existed previously. These included:

- an analysis of economies of scale under conditions of imperfect competition;
- the acceptance of scale economies *and* factor proportions theory being plausible explanations for trade; and
- provision of a clearer analysis of the concept of external economies.

### **2.3.3 Product differentiation**

Traditional trade theory with its convex production possibility frontier was the result of differences in factor intensities. However, with increasing returns, the convexity of the production possibility frontier is called into question and depending on the magnitude of economy of scales, even a concavity of the frontier is possible. While it is doubtful that scale economies are strong



enough to result in a concave production possibility frontier, but as Krugman (1992) notes, as long as one operates within a two sector by two factor model, comparative advantage (rather than increasing returns) will be the most plausible explanation of trade.

The new trade models do not restrict the choice between comparative advantage *or* increasing returns as the underlying causes for trade. Early models of intra-industry trade assumed that products could be grouped into “industries” where, at the aggregate level, factor proportions or comparative advantage explanations were responsible for “inter-industry” trade while “intra-industry” trade, which was due to specialisation within industries, was primarily driven by economies of scale in production. In this way, new trade theory offered a kind of synergy between comparative advantage and increasing returns.

#### **2.3.4 New trade theory: Some implications for the role of government**

New trade theory has elegantly proven that government intervention can secure efficient industrialisation. Some of the reasons for this will be explored below.

##### **(a) Rent extracting and rent shifting**

In their model, Brander and Spence (1984) consider a sole foreign owned monopolist operating in a market without any domestic competition. In this case, a tariff could be partly absorbed by the monopolist rather than passed onto domestic consumers. As long as the foreign seller is charging a price above marginal cost, and as long as s/he is able to discriminate between the domestic market and other markets, it will be possible for a tariff to lower prices. This would suggest a terms-of-trade justification for tariffs similar to the traditional optimum tariff argument with the difference being that the tariff imposing country need not be large relative to world markets (Krugman, 1994: 254). Rent shifting also reinforces rent extraction (Brander and

Spence, 1984). In other words, in the absence of domestic competitors, a tariff would be partly absorbed by foreign firms. The presence of domestic competitors will reinforce the case for a tariff.

(b) Reducing marginal cost

Protection of the domestic market can serve as a form of export promotion (Krugman, 1984). In this model, two competing firms with downward sloping marginal cost (rather than constant marginal cost) curves are considered. With protection, the domestic firm is able to increase its sales, and thus reduce its marginal cost relative to its foreign competitor's marginal cost. This could also lead to increased domestic firm's sales in unprotected third markets - that is, increased exports.

(c) Protection promotes additional entry and may lead to price decreases.

Venables (1991) considers a model with constant marginal cost curves and free entry and exit of firms into the industry. This would raise the profitability of domestic producers *vis-a-vis* foreign producers. Depending on the competitive pressures of the domestic markets, additional producers could enter the market which could reduce the price of the good (if a large number of new domestic producers enter into the production of the good).

(d) New trade theory – does it justify protection?

While new trade theory has proved that free trade may not lead to optimal resource allocation, the policy recommendations surrounding the issue of protection has been mixed. Some (Venables and Smith, 1986; Harris and Cox, 1984) have used new trade theory as a basis for the justification for free trade areas in Europe and North America.

Krugman (1992) advocates “very low tariff or subsidy rates” (10-20 percent) for strategic industries or industries subject to economies of scale.<sup>11</sup> Krugman (1992: 435) and others (Baldwin and Krugman, 1988; Cox and Harris, 1985; Dixit, 1988; Smith and Venables, 1988; Venables, 1991) have argued that while strategic trade policy appears to promote exports, the welfare conclusions are not very radical. One of the main concerns against strategic trade policy relates to the problems of identifying strategic sectors or industries. In Krugman’s (1992: 434) words: “...*a strategic policy for one (industry) is an anti-strategic policy for others, and only a very smart government could be sure of raising the average*”. This is so since “strategic industries” by their very definition require large outlays of capital and technology – resources that are scarce in developing countries.

The justification for protection on the basis of external economies is more forceful. “*What new (trade) theory tells us is that meaningful externalities occur not only when there are direct technological spillovers, but in any situation in which there are increasing returns and market size matters. That means almost everywhere...Now of course we do not know very well which are the good activities and which are the bad, nor do we have a good idea at*

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<sup>11</sup> The suggested rate is for a developed economy which raises the question of what the rate should be for less developed economies given the infrastructural and other constraints that are likely to confront the industrialist in a developing country. The level and scope of support that should be accorded to industries depends on the degree to which dynamic comparative advantage can be realised - note the emphasis on dynamic comparative advantage rather than the neoclassical notion of static comparative advantage. The economic environment may be such that there is a need for strong support (high level of protection) for the realisation of scale economies. The degree of support has to be at such a level so as to promote/encourage the production of the good in question. However, the question remains whether import protection (tariff) or some other form of support (training subsidy, R&D funding etc) should be given to the industry. The answer to this question is simply that the form and scale of support should provide the necessary incentive for domestic producers to increase production of the good(s) in question. Very often restricting the domestic market for domestic producers is more effective since training subsidies and R&D expenditures take some time before the benefits can be realised. This is not to suggest that tariff protection is always superior to other forms of intervention and should be favoured over other forms of support. It is very likely that there may be a need for tariff protection and other forms of intervention (training subsidies, R&D expenditures) to complement each other. In many instances the impetus that is needed to spur domestic production is a guarantee of a market for the output produced - this is particularly the case if the domestic market is large.

*all of how large external economies really are. We often imagine that this uncertainty is an argument against any action. But it is not clear why, at least on pure economic grounds. If I am not sure whether a dollar's worth of resources in an industry yields \$1.10 or \$2.00 of benefits, it does not improve matters to throw up my hands and offer the industry no subsidy at all. If a benevolent dictator were setting economic policy, she would make her best guess and establish a set of taxes and subsidies based on that guess; my guess is that her guess would typically involve subsidies at the rate of 20 percent or so for favoured sectors. And she would, of course, institute a major and lavishly funded program of economic research in order to improve that industrial policy.” (Krugman, 1992: 434-435).*

The view that there are difficulties in implementing effective trade (protection) policies is mainly due to the belief that protection (tariffs) reduces domestic demand and output and hence the negative effect on economies of scale in production. However, if tariffs were to increase domestic demand, then the introduction of new products will be stimulated and the gains from protection will be much larger than new trade theorists suggest (Kitson and Michie, 1995: 637). Kitson and Michie (1995) argue that where protection is viewed as a demand management tool under conditions of unemployment and slow growth rather than, as an industrial policy tool under conditions of full employment, then it is not necessary to identify strategic sectors but rather competitive imports *vis-a-vis* complementary imports.<sup>12</sup> In addition, if domestic demand were to increase with protection, employment, income and economic growth will be positively influenced.

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<sup>12</sup> The intention being to reduce competitive imports and not to intentionally reduce the actual volume of imports. Devaluation is not recommended since it raises the price of all imports not just competitive imports. For an analysis of British post-war economic policies see Kaldor (1971).

### 2.3.5 New Trade theory: some policy implications

One of the central tenets of the new trade theory is that the assertion that free trade is an optimum policy is not so straightforward. On the one hand, the existence of imperfect competition may call for increased competition (trade) to force a decrease in profit margins.<sup>13</sup> On the other hand, the potential of realising economies of scale in production may justify government intervention. The argument here is that without deliberate government intervention, there would be under-investment in production activities subject to high degrees of external economies relative to production activities with fewer external economies.

Brander and Spence (1985) produced a model in which they show that strategic intervention by governments through, for example, the granting of export subsidies, results in the profitable use of excess capacity to increase output produced, and hence, increase the domestic producer's share of the international market. In this way, local firms (production) are favoured (promoted) *vis-a-vis* foreign competition. However, the Brander and Spence (1995) model was based on Cournot competition, where each firm sets its output, taking its competitor's output as given. Relaxing this assumption leads to different results. If firms, for example, compete in prices rather than output, then the optimal policy is an export tax (Eaton and Grossman, 1986). However, of crucial importance is whether there exists enough excess capacity in production to justify strategic trade policy intervention (Horstmann and Markusen, 1986). There is also the possibility that strategic trade policy could result in retaliatory action by foreign governments, which if it spirals out of control, could result in trade wars. In this case, there is a prisoners' dilemma where two countries protecting the same sector subject to external economies, could fragment the market and possibly result in both being worse off (Krugman, 1990). In the real world, industries have to compete for scarce resources, and hence, a strategic policy for one industry could mean

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<sup>13</sup> See Venables and Smith (1986) and Harris and Cox (1984).

less governmental resources or support for another (Dixit and Grossman, 1986). However, a country may have a dynamic comparative advantage in an industry (because of dynamic externalities) but be uncompetitive according to static comparative advantage calculations. In this case, intervention (e.g. through granting of a subsidy, imposition of a tariff, etc.) may be justified.

The new trade theories do not advocate across-the-board protectionism nor neutral incentives and *laissez-faire* industrial policy. Instead, the new theories corroborate the wisdom of maintaining some selectivity in terms of sectors and markets and state support for certain activities that are subject to significant economies of scale (Stewart and Ghani, 1992).<sup>14</sup>

According to new trade theory, comparative advantage is not solely dependent on factor endowments. The policy implication is that a country can, through selective interventions, influence the pattern of comparative advantage. New trade theory recognises that history, random events (wars, oil crisis, sanctions, etc) and past government policies are important factors shaping a country's trade pattern. A variety of factors (other than comparative advantage) could influence a country's industrial capability. The formulation (and implementation) of industrial policy has to take cognisance of these factors.

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<sup>14</sup> Once a case for government intervention becomes obvious, it then becomes necessary to determine the intensity of government support that would be accorded to the industry. *Mild* support may involve the granting of a 5 percent subsidy or tariff equivalent level of protection (Stewart and Ghani, 1992: 144). Higher level of protection would depict *strong* intervention. As mentioned earlier, the level of protection depends on the degree and extent to which dynamic comparative advantage is expected to be realised, for example, the economic environment may be such that there is a need for strong intervention (i.e. high level of protection) for the realisation of economies of scale. Strong intervention could be justified on the grounds of either expediting the realisation of economies of scale or the importance of the industry in terms of its linkage to other industries or potential for securing increased employment, export earnings, etc.

According to traditional trade theory, liberalisation (free trade) secures an efficient allocation of resources. However with imperfect competition, gains from liberalisation would only result if the liberalisation measures impart growth impulses to industries that are subject to economies of scale and a reduction in the profit margins of these industries. However, if liberalisation leads to the contraction of the industries subject to economies of scale, then the economic benefits would be reduced. Also, even if liberalisation places pressure on imperfect competitive forces in the economy, there is no guarantee that the economy is better off. In a situation of monopolistic competition for example, the reduction of profit margins (through liberalisation) may force the closure of firms whose production designs are geared for a particular segment of the domestic market (e.g. low income consumers). In this case, the liberalisation measures could have large distributive effects (especially if the industry employed a large number of workers as well).

## **2.4 Conclusion**

If production according to a country's comparative advantage situation is needed to secure international competitiveness, then trade policy should facilitate such production. The fundamental policy issue is then the role of government in this process. It is widely accepted that the fundamental role of government is to "create an enabling environment". The appropriate role of trade policy in the industrialisation process has been the subject of much debate in the economic literature. Much of this debate has centred on the causes of international trade and its implications for trade policy. In this chapter, theories that advocate free trade as a basis for securing comparative advantage are surveyed. However, it was also shown that economies of scale, externalities and imperfect competition do not rule out the possibility of using interventionist strategies as a means of promoting comparative advantage. This in effect means that free trade may not necessarily be the optimum policy choice. Given this status quo, what is the

role of Government in influencing the structure and extent of industrial production? A critical appraisal of the implications of protection for production according to a country's comparative advantage situation, and hence, competitiveness, provides a convenient analytical context to appraise government's role in international trade. This is the focus of the next chapter.